Self Implementing On-Site Cleanup and Disposal of PCB Remediation Waste Notification
Long Falls Paperboard
161 Wellington Road, Brattleboro, Vermont 05301

EPA Brownfields RFA 19093
Vermont DEC Site #2018-4828

January 27, 2021
Revised May 13, 2021

Prepared For:
Brattleboro Development Credit Corporation
76 Cotton Mill Hill
Brattleboro VT 05301
Contact: Bobbi Kilburn, Director of Finance and Management
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LE·Environmental

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1.0 INTRODUCTION

LE Environmental LLC of Waterbury, Vermont (LEE) prepared this Self Implementing On-Site Cleanup and Disposal Plan (Plan) for the disposal of polychlorinated biphenyl (PCB) containing wastewater sludge at Long Falls Paperboard, 161 Wellington Road, Brattleboro, Vermont (Site, Vermont Department of Environmental Conservation (DEC) Site #2018-4828). This Plan was prepared on behalf of the Brattleboro Development Credit Corporation (BDCC), the landowner, to meet the Notification and Certification requirements specified in 40 CFR Part 761.61(a)(3) of the Toxic Substances Control Act (TSCA) Regulations. The cleanup work is funded via EPA Brownfields Cleanup Grant 00A00502.

The Site includes a paperboard manufacturing plant and a lagoon wastewater plant for paper plant process water treatment. The wastewater treatment plant includes four aerated treatment lagoons and a clarifier. The lagoons are approximately 160 feet wide each and are oriented parallel to the Connecticut River. Influent is conveyed to the wastewater treatment plant via piping, and the effluent is discharged to the Connecticut River. The clarifier is a large (75 foot diameter) cylindrical tank adjacent to a cinder block building, which houses a sludge conveyor, wastewater effluent treatment monitoring equipment, and treatment reagents. A schematic diagram of the wastewater treatment system is in Appendix A.

At the south end of the wastewater lagoons is a holding basin lagoon that contains residual sludge with low levels of total PCBs. The sludge is loose, friable and has no free liquid. Analytical results showed the sludge to be 60-65% solids when tested in 2020. LFP has not utilized the holding basin lagoon since it began operating the plant, and does not intend to utilize it in the future. Cleanup planning efforts are underway (funded by the EPA Brownfields Cleanup Grant and as described in Section 2.1) to decommission the unused holding basin lagoon including removing and disposing of residual sludge. During the Phase II ESA and a subsequent Cleanup Investigation, the sludge was sampled and analyzed via EPA Method 8082 with Soxhlet extraction. Total PCBs were detected in the sludge at concentrations ranging from 0.38 parts per million (ppm) to 3.5 ppm (Section 3).

The sludge is considered “PCB Remediation Waste” per 40 CFR § 761.3 at definition subpart (2), “industrial sludge contaminated as the result of a spill of PCBs, including sludges removed from any pollution control device.” The PCB concentrations are likely to be the result of historic spills from a PCB source within the plant and the date and source concentrations of PCBs are unknown.

The sludge is approximately 1-2 foot thick at the bottom of the lagoon and there is a thin approximately 4-6 inch thick silty clay liner beneath the sludge. The liner extends up the holding basin lagoon side walls, but only small amounts of sludge are present up to 8 feet above the base of the lagoon. A contractor to be hired by BDCC will decommission the holding basin lagoon by removing the sludge and liner. In

addition to containing low levels of PCBs, the sludge also contains detectable poly and perfluoroalkyl substances (PFAs). Although total PCB concentrations are less than 50 ppm, discussions with waste management facilities indicate that due to the presence of PFAs, the sludge will have to be disposed of as hazardous waste under Vermont Waste Code VT20/VT21. A permitted hazardous waste incineration facility will be utilized for the disposal.

The terms of EPA Brownfields Cleanup Grant 00A00502 require that EPA competitive procurement rules apply to the cleanup. An open bidding process will be required to identify and select a cleanup contractor. This process is underway as of April 2021. It will be the contractor's responsibility to identify and contract with a permitted hazardous waste incineration facility for the waste disposal. The identities of the contractor and disposal facility are not yet known. This plan will be updated and submitted to EPA, DEC and the Town of Brattleboro once a contractor has been selected and the disposal facility is known.

The contact responsible for activities associated with this Plan is:

Bobbi Kilburn - Director of Finance & Grant Management
Brattleboro Development Credit Corporation
76 Cotton Mill Hill
Brattleboro VT 05301
802 257-7731

Owner certification required by 40 CFR 761.61 is provided in Section 6.

In accordance with 40 CFR 761(a)(3), notifications must be made to EPA, DEC, and the Town of Brattleboro Health Officer at least 30 days prior to the cleanup start date. Copies of this Plan will be delivered to EPA, DEC, and the Town of Brattleboro Health Officer, and receipt of the approved Plan will serve as notification to the above mentioned departments.

2.0 SITE DESCRIPTION

The property consists of a 39.52-acre parcel with an active paperboard manufacturing facility, at the north end of Wellington Road in Brattleboro, Vermont (see Appendix A). The eastern Site boundary is the Connecticut River. A paper manufacturing plant has operated on-Site since 1960. A number of different entities have operated the plant over the years, including Case Brothers, Boise Cascade, Specialty Paperboard, and FiberMark. Long Falls Paperboard (LFP) began operating on the Site in late 2018, and continues to operate as of the date of this Plan.

The property was undeveloped and in agricultural use until 1960. The 1893, 1935 and 1954 USGS maps show no development on the Site. The only adjoining development was the railway line. A 1951 air photo shows the Site was cleared and

undeveloped at that time. The first building (main plant) was constructed in 1960-61. Additions to the building were made in 1967, 1973, 1974, 1978, 1982, 1988, and 1996.

Historically, the town land records indicate that the Site was owned by a succession of individuals through 1958, and then BDCC acquired the Site for development as a paper manufacturing plant. The Site was sold by BDCC in 1960, and was owned by a number of corporate entities until December 21, 2018 when BDCC re-acquired the Site.

2.1 Previous Investigations

A Phase I Environmental Site Assessment (ESA) report[1], a Phase II ESA report[2], a Corrective Action Investigation report[3], an Evaluation of Corrective Action Alternatives report[4], and a Corrective Action Plan[5] have been completed. These documents are being provided via Drop Box Link due to their size. The Phase II ESA responded to Recognized Environmental Conditions (RECs) identified in the Phase I ESA report, and included soil, groundwater, and sludge sampling and testing. The Corrective Action Investigation included additional holding basin sludge and berm sand sampling and testing, and additional groundwater sampling and testing. The Corrective Action Investigation followed up on recommendations of the Phase II ESA, and the following conclusions were made.

1. Sampling and laboratory analysis indicates no contamination above residential screening levels in the sand berm surrounding the holding basin lagoon. This suggests that overtopping in the past was not a frequent or significant occurrence.
2. Holding basin sludge testing indicates the presence of dioxin, PCBs, metals and PFAs. The reported PFA concentrations in the sludge are 1-2 orders of magnitude less than the DEC's residential soil standard; however, their presence at any concentration in waste sludge will influence the available disposal options. Metals are present at concentrations above I-Rule residential soil standards. Samples showing elevated concentrations of metals, including lead, cadmium, and mercury, were evaluated using Toxicity Characteristic Leaching Procedure (TCLP) methods, and the results indicate the sludge is non-hazardous for metals concentrations. PCBs above 1 ppm were detected. Dioxin was detected in the sludge at concentrations above I-Rule residential soil standards.
3. Groundwater PFAs concentrations are uniformly below state standards.

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[1] LE Environmental, December 12, 2018.
[2] Stone Environmental, October 2019.
[3] LE Environmental, August 14, 2020.
[4] LE Environmental, November 18, 2020.
[5] LE Environmental, February 2, 2021.

4. Results of the background vanadium soil review indicate that vanadium concentrations in Site soils are not abnormally elevated with respect to other locations, and are toward the low end of reported concentration ranges at other Vermont locations.[6]

The corrective action strategy recommended in the Evaluation of Corrective Action Alternatives (ECAA) approved by the DEC on December 14, 2020, and the Corrective Action Plan approved by the DEC on February 2, 2021 included:

1. The active cleanup is focused on decommissioning the out-of-service wastewater holding basin and disposing of its contents (sludge and silty clay liner).
2. Shallow soils near the railway spur and railway line are impacted with polycyclic aromatic hydrocarbons (PAHs) at levels above residential soil standards, and below industrial (non-residential) soil standards. An activity and use limitation should be included in the Certificate of Completion, restricting use of the Site to non-residential uses.
3. Soils in the vicinity of removed underground storage tanks (USTs) are impacted with #6 fuel oil. The fuel oil contamination appears to be stable and there are no identified sensitive receptors. An engineering control (pavement) is already in place. The Certificate of Completion should address the engineering control via periodic inspections, and should include an activity and use limitation restricting excavation in this part of the Site without prior DEC approval.

3.0 IMPACTED MEDIA CHARACTERIZATION

The wastewater holding basin is a silty clay-lined containment vessel that was formerly used to store overflow process water until treatment could take place. Interviews with long-term plant employees currently employed by LFP indicate that the holding basin lagoon was last used in the 1990's. Its purpose was to contain liquid and sludge pumped out of the clarifier during annual shutdowns, when maintenance and cleaning was performed on the clarifier. The clarifier contents were pumped to the holding basin lagoon via a 12 inch diameter buried plastic pipe that enters the holding basin lagoon via the bottom of its east side ("clarifier pipe"). The holding basin lagoon was not filled via overland flow. Once the clarifier maintenance was completed, the holding basin lagoon contents were pumped back to the clarifier via the clarifier pipe. An 18 inch diameter galvanized steel pipe at the top of the north berm ("overflow pipe") allowed the holding basin lagoon to overflow into the south aerated lagoon if needed. It is not known whether the overflow pipe was ever used. The clarifier pipe is terminated and no longer allows wastewater to flow into or out of the holding basin lagoon. LEE visually examined

[6] See Corrective Action Investigation Report, Long Falls Paperboard, Section 13, August 14, 2020.

both pipes on April 20, 2021 and found that the clarifier pipe has accumulated sediment inside it (approximately 2-3 inches deep where visible). The overflow pipe has minor visible sediment (1-2 inches thick in the pipe corrugations).

A shallow sample and duplicate were collected from the center of the holding basin during the Phase II ESA (IP-06-0.5 and IP-06-0.5-FD). Four additional sludge samples were collected for disposal characterization testing during the Corrective Action Investigation (LF-1, -2, -3 and -4). A tabular summary of the sludge analytical results, maps showing the characterization sampling locations, and the laboratory data are included in Appendix B.

Location	Compound	Concentrations	Estimated Quantity
Holding basin sludge[7]	Aroclor-1254 Aroclor-1260	0.38-2.66 mg/kg <0.12 -0.87 mg/kg	500 tons

4.0 NATURE AND EXTENT OF CONTAMINATION

The holding basin sludge is dry, loose soil-like material with no free liquids; 1-2 feet thick and there is a thin 4-6 inch thick silty clay liner beneath the sludge. Both the sludge and liner will be removed during excavation. Below the liner is medium sand that is visually distinct from the liner and the sludge. The sand beneath the holding basin will be tested for PCBs following the sludge and silty clay liner removal to verify that sufficient excavation has taken place to meet the Cleanup Level for Bulk PCB Remediation Waste in High Occupancy Areas in 40 CFR Part 761.61 (a)(4)(i)(A).

5.0 CLEANUP PLAN

This Plan has been developed based on applicable federal and state regulations. Work performed under this plan will be conducted in conjunction with the decommissioning of the holding basin lagoon. The following describes the basis of the cleanup plan, identified PCB-containing materials that will be remediated, the remedial activities to be performed, management of remediation wastes, and verification sampling post-remediation.

5.1 Basis of the Cleanup Plan

The Holding Basin Lagoon Excavation Plan and Cross Section in Appendix A shows the current ground contours and a cross-sectional view of the current and proposed configuration. A self-implementing cleanup will be performed pursuant to 40 CFR

[7] Sand beneath the holding basin was not tested during the Phase II ESA or the Corrective Action investigation and will be tested following waste removal.

761.61(a). PCB contaminated materials will be excavated, removed from the Site and disposed of properly during the cleanup. The clarifier pipe will be removed, cleaned and tested. The overflow pipe will be left in place, cleaned, tested and sealed.

The holding basin lagoon will be decommissioned by removing the sludge and the silty clay liner beneath the sludge. Beneath the sludge and the liner is sand that will remain on-Site.

Verification sampling and analysis of remaining sand will be conducted in accordance with Section 5.2 to confirm that the cleanup standard has been met.

5.2 Work Plan

The goal of the work is to remove contaminated media to the extent necessary to leave this portion of the Site in usable condition for future use, with a minimum of restrictions on future use. The area of proposed active remediation will be the holding basin lagoon. A map showing the proposed excavation area is included in Appendix A.

The sludge and liner will be excavated from the holding basin lagoon using a small front end loader and/or excavator, and direct loaded into lined rolloff containers for transport and disposal. The quantity of sludge and associated silty clay liner removal is approximately 500 tons based on visual observations of the extent of the waste (horizontal and vertical during soil borings) and engineering CAD calculations based on a site survey. The sludge is visually distinct compared to the silty clay liner and sand beneath the liner, and visual observation will be the primary means used to gauge the extent of removal during the excavation. It is expected that the removal of the sludge and liner will take 3-5 days to complete depending on the availability of trucks and roll-off containers. The final grading plans call for 8-10 foot of clean sand fill over the base of the holding basin lagoon, which could serve as a cap if one were needed.

LEE will perform verification sampling, consisting of sampling and testing of sand samples from beneath the holding basin lagoon, after the sludge and liner are removed. The samples will be collected in accord with 40 CFR 761.61 Sub-part O. The approximate area of sludge coverage is 6,520 square feet below the 295 foot elevation contour as shown on the Confirmation Sampling Map in Appendix A (approximately 130 feet long and 50 feet wide).

LEE will perform the verification sampling according to Subpart O requirements including 7.5 cm sample depth and 2-3 cm diameter disposable sampling syringes. We request that the 10’ sampling grid be approved as a modification of the verification sampling procedure specified in Subpart O. We request the modification due to the relatively low PCB concentrations in the sludge (<1 ppm- 3.5 ppm), the

presence of a silty clay liner that likely inhibited downward migration of PCBs, and the large size of the area to be sampled. We also request permission to composite verification samples in groups of three adjacent sub-samples for verification analysis. Justification for the composite sampling is provided below

A ten-foot grid will be laid out, with a total of 105 nodes. A discrete sand sample will be collected from 0-3 inches depth at each node using a disposable plastic sampling syringe (EasyDraw Syringe and Power-Stop Handle). Composite samples will be prepared by mixing 3 adjoining discrete sand samples in a stainless steel compositing bowl. The bowl will be cleaned before and after mixing with an Alconox water solution and deionized water rinse. The composited confirmation samples will be containerized (amber 4-ounce jars), labeled, and shipped to Eastern Analytical Inc. of Concord NH (EAI) using chain of custody procedures for testing of PCBs via EPA Method 8082, with Soxhlet extraction via EPA Method 3540C. Results will be requested on a one-week turnaround time. Laboratory SOPs are included in Appendix C.

The proposal to composite three adjacent verification samples is based on the following analysis:

- The selected laboratory (Eastern Analytical) normally achieves a reporting limit of 0.02 ppm for each of 9 Aroclor PCBs, relating to a total per sample reporting limit of 0.18 ppm total PCBs. Three samples composited together would result in a total PCBs reporting limit of 0.54 ppm. This is below the EPA Cleanup Level for bulk PCB remediation waste in high occupancy areas of 1 ppm. Thus, if a composite sample result were to have no reported PCBs, we would be confident that the concentration of total PCBs in any of the sub-samples does not exceed 0.54 ppm.
- If one of the three sub-samples were to have PCBs at 1 ppm and the other two had no reported PCB concentrations, the reported PCB concentration for the composite would be 0.45 ppm. Therefore, if a verification sample were to have reported total PCBs at or above 0.45 ppm, it would be possible that one of the sub-samples had PCBs at 1 ppm, and consultation with EPA would be required.
- The attached Sampling plan depicts a total of 105 discrete sampling locations that will be composited into 35 samples for laboratory analysis. Two duplicate samples will be collected from randomly selected locations. Each duplicate will include three sub-samples from one composite location.

The verification results will be tabularized and compared with the relevant regulatory criteria in 40 CFR Part 761.61 (a)(4)(i)(A) to determine conclusions and appropriate outcomes:

PCB Composite Verification Sample Test Result	Conclusion	Outcome
No PCBs detected, (<0.02 ppm for each individual Aroclor and <0.18 ppm total PCBs)	Remaining sand meets Cleanup Level for Bulk PCB Remediation Waste in High Occupancy Areas	No further removal or verification testing required to meet EPA requirements.
PCBs detected, Total PCBs < 0.45 ppm		
PCBs detected, Total PCBs > 0.45 ppm	Remaining sand may not meet Cleanup Level for Bulk PCB Remediation Waste in High Occupancy Areas	Discussions with EPA would be required. Further removal, and/or verification testing, and/or capping, could be needed.

BDCC proposes to address the piping in the following manner. The clarifier pipe is 110 feet long and will be excavated and removed for cleaning and testing. The overflow pipe is 20 feet long and will be closed in-place because it is within the wall of an active lagoon and excavation there could damage the lagoon.

The pipes will be physically cleaned with brushes or rods, and washed with detergent and water. The solids will be managed as PCB remediation waste and will be added to the containerized sludge waste for off-Site disposal. Cleaning water will be containerized on Site for PCB testing. The cleaned clarifier pipe sections will be set aside to dry. The length of each clarifier pipe section is not known but is assumed to be 10 feet. If the clarifier pipe sections are longer than 10 feet, the contractor will be directed to clean the pipe, then cut into no more than 10 foot long sections for testing.

Once they are dry, the inside of each clarifier pipe section and the overflow pipe will be tested for PCBs using criteria in 40 CFR Subpart P. Two wipe tests will be performed in the overflow pipe (one at each end) and one wipe test will be performed on each clarifier pipe section. A 10 cm x 10 cm area will be designated within reaching distance of the end of each section of pipe. The Standard Wipe Test will be performed as specified in 40 CFR § 761.123. The wipes will be supplied by and analyzed by Eastern Analytical. Assuming there are 11, 10 foot long clarifier pipe sections, and two wipe tests inside the overflow pipe, 13 wipe samples and one duplicate sample (>5%) will also be collected. The results will be compared with the high occupancy area surface cleanup standard of <10 micrograms per 100 cm^2 of surface area (40 CFR 761.61 (a)(4)(ii)). If the test results indicate that the standard is met, the clarifier pipe will be released for disposal at a permitted

municipal solid waste facility. The overflow pipe will be abandoned in place with concrete. If the standard is not met the pipe will be re-cleaned and re-tested until it passes.

Cleaning water will be sampled and tested for PCBs using EPA Method 8082, with extraction via EPA Method 3510 for aqueous samples. EAI's Standard Operating Procedure for EPA Method 8082 analysis indicates that a reporting limit of 0.2 micrograms per liter will be attained using a 1 liter aqueous sample. The testing results will be compared with the decontamination standards for water containing PCB for unrestricted use of 0.5 micrograms per liter, specified in 40 CFR § 761.79 (b)(1)(iii). If the PCB concentration were below 0.5 micrograms per liter then the cleaning water would not be TSCA regulated and a local disposal destination would be specified. PCB concentration in the cleaning water equal to or higher than 0.5 micrograms per liter would warrant consultation with EPA Region 1 TSCA staff for alternative disposal options.

During clarifier pipe excavation, if it is found that the pipe is not intact, the breeched area will be visually examined for evidence of a release of potentially PCB containing sludge to the surrounding soils. If visual evidence of a small release were identified, the contractor would be directed to excavate the sludge and add it to the sludge inside the lagoon for disposal. A verification soil sample would be collected from the underlying soils and tested for PCBs via EPA Method 8082 with Soxhlet extraction. It is possible that a larger release could be identified that would warrant more extensive verification sampling and testing in accord with 40 CFR § 761, Subpart O. If this occurs, EPA Region 1 TSCA staff would be notified and consulted on management strategy. If no visual evidence of a release were found, the breech would be documented and no further testing would be performed.

5.3 Air Monitoring

Due to the low reported PCB concentrations in the residual sludge, and the short duration of waste removal, air sampling for fugitive dust is not specified. Laboratory results would not arrive in time to inform the site cleanup. Dust will be minimized by application of water and/or calcium chloride, as needed.

5.4 Remediation and Waste Management Plan

The following items describe the remediation process, decontamination protocols, and waste management procedures.

1. Competitive procurement for a cleanup contractor and disposal facility, including development of bid documents and final specifications.
2. Pre-construction Site meeting with stakeholders (BDCC, DEC, EPA, LEE, contractor) to review work plan, health and safety procedures, and Site conditions.

3. Mobilization of labor and equipment.
4. Contractor will hold daily tailgate meetings to discuss health and safety issues. OSHA 40 Hour HAZWOPER trained personnel will perform excavation, loading, and supervision. Standard personal protective equipment will include Modified Level D. At a minimum, workers in contact with sludge shall have suitable work clothing that covers all exposed skin, gloves, hardhats, hearing protection, and safety glasses. Used PPE and contaminated gear will be collected and disposed of at a permitted municipal solid waste facility per § 761.61(a)(5)(v).
5. Once the sludge and liner are removed to the visual extent required to initiate verification sampling, all equipment used in the sludge removal will be decontaminated with detergent and water, using a pressure washer. A containment pad will be prepared and used to contain the sludge and soil caught in tire treads, equipment tracks, buckets, blades and other construction equipment. The decontamination solid residuals will be added to the containerized sludge and liner for off-Site disposal. The decontamination water will be containerized for PCB testing as described in Section 5.2.
6. All paperwork generated during the remediation (waste manifests, health and safety documentation, etc.) will be collected and included in the Brownfields Construction Completion Report.
7. Waste management of all materials generated during the cleanup will be tracked and accounted for. All waste will be handled and shipped according to state and federal regulations.
8. The identity of the contractor and the disposal facility will be determined during EPA-required competitive procurement for the cleanup. This plan will be updated accordingly.
9. The current schedule to complete this work is:
    a. Contractor procurement/plan approvals March - May 2021
    b. Mobilization June 2021
    c. Excavation, disposal, verification and completion June-July 2021

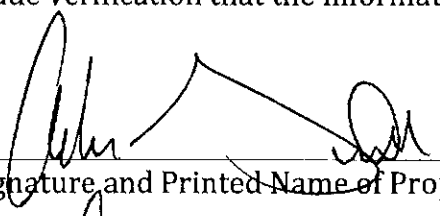
6.0 CERTIFICATION

All sampling plans, sample collection procedures, extraction procedures and analytical procedures used to assess and characterize PCB contamination at the Site are contained in this report and are on-file at the location designated in the certificate and at the Site during remedial operations. They will be available for EPA inspection at either location and digitally upon request.

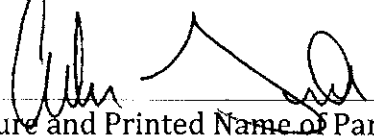
Files will be located at the following location:

Brattleboro Development Credit Corporation
76 Cotton Mill Hill
Brattleboro VT 05301

Under civil and criminal penalties of the law for the making or submission of false or fraudulent statements or representations (18 USC 1001 and 15 USC 2615), I certify that the information contained in or accompanying this document is true, accurate and complete. As to the identified sections of this document for which I cannot personally verify the truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instruction, made verification that the information is true, accurate and complete.



Signature and Printed Name of Property Owner — Date: 5/14/21



Signature and Printed Name of Party Conducting Cleanup — Date: 5/14/21

APPENDIX A

MAPS
Site Location Map
Characterization Sampling Map
Holding Basin Lagoon Remedial Plan and Cross Section and
Confirmation Sampling Plan
Wastewater Treatment System Schematic Diagram

Long Falls Paperboard

161 Wellington Road, Brattleboro, Vermont

LE Environmental

2018 USGS Map

LE #: 18-122
Date: March 16, 2020
Source: USGS Store

LEE
LE·Environmental

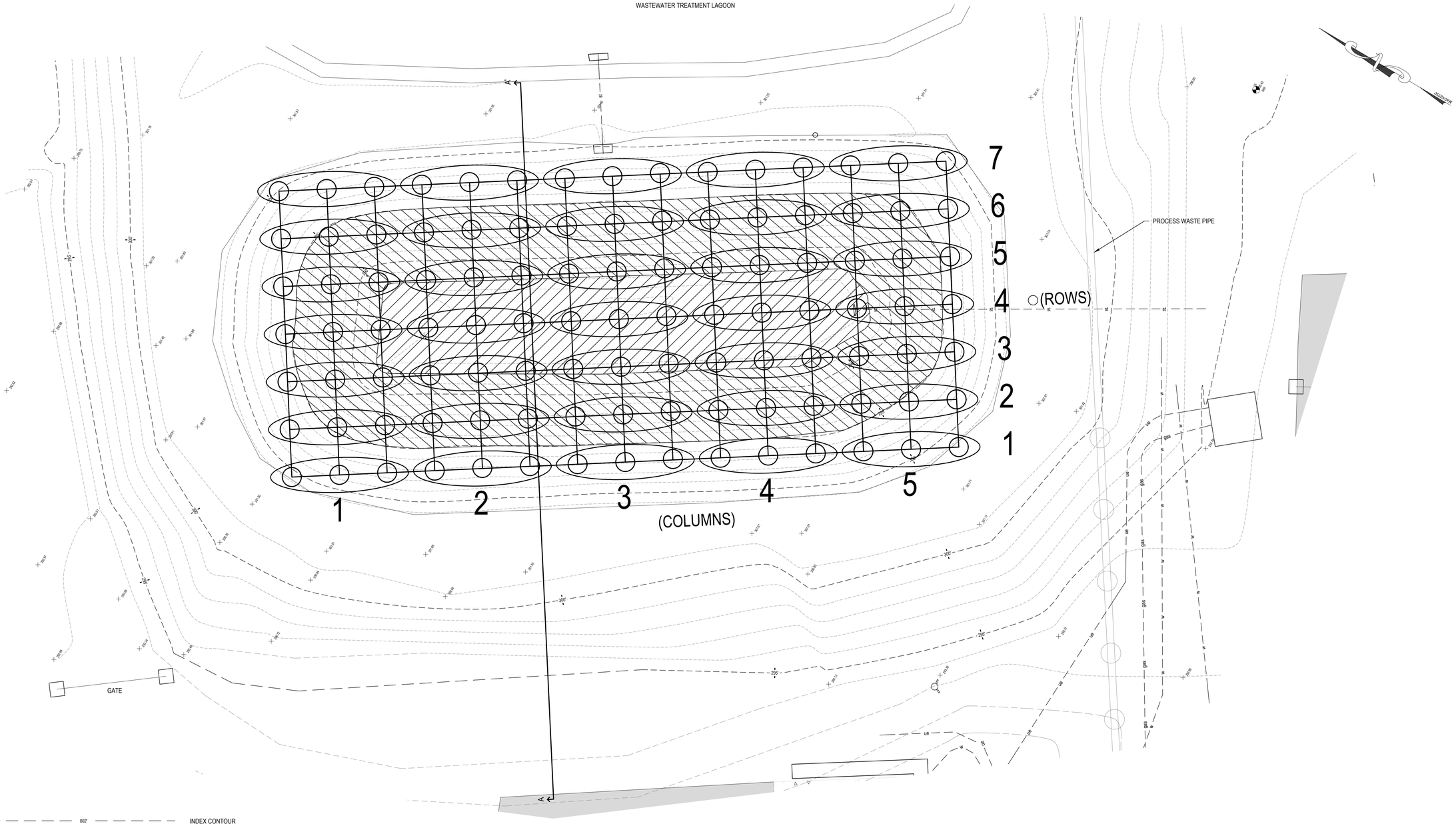
21 North Main Street Unit #1
Waterbury, Vermont
Phone: 802-917-2001
www.leenv.net

Holding Basin Sampling Map
Long Falls Paperboard
161 Wellington Road
Brattleboro, Vermont

Legend
- Soil Boring/Soil Sample
- Sludge Sample
- Paper Sludge Piles

Drawing Date: 8/13/20
LEE Project #: 18-122

WASTEWATER TREATMENT LAGOON



802' INDEX CONTOUR
802' MINOR CONTOUR
RAILROAD TRACKS
PAVED ROAD/DRIVE
GRAVEL ROAD/DRIVE
WATER
DRAIN
UNDERGROUND ELECTRIC
GAS
HYDRANT
MONITOR WELL

GRAPHIC SCALE

10 0 5 10 20 40

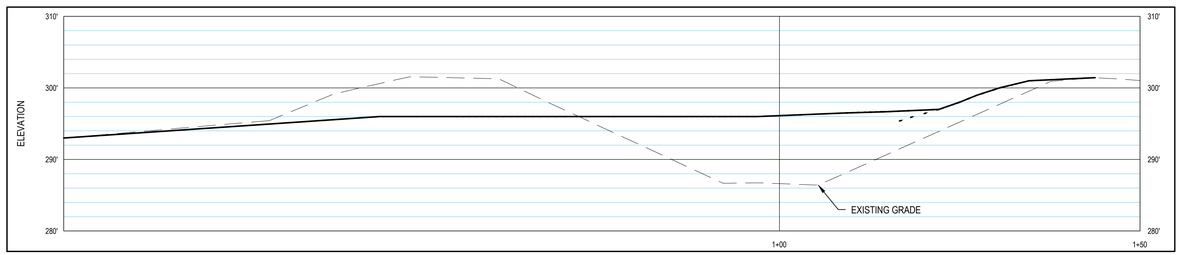
(IN FEET)

AREA OF ACCUMULATED SLUDGE

A B C
COMPOSITE SAMPLE

COMPOSITE SAMPLE LOCATIONS

(COLUMN, ROW) S.S.



SITE SECTION A-A'
H: 1"=10'
V: 1"=10'

REV.	DATE	DESCRIPTION	BY

1438 SOUTH BROWNELL ROAD
WILLISTON, VERMONT 05495
PHONE: (802)862-3500
FAX: (802)862-1568

GREEN MOUNTAIN ENGINEERING
CIVIL
WATER
WASTEWATER

DRAWING TITLE: LONG FALLS PAPERBOARD CONFIRMATION SAMPLING PLAN - HOLDING BASIN LAGOON

PROJECT: LONG FALLS PAPERBOARD LAGOON REMEDIATION

CLIENT: BRATTLEBORO DEVELOPMENT CREDIT CORPORATION

DESIGNED: AH	PLOT DATE: 04/22/21
DRAWN: JJB	SCALE: 1" = 10'
CHECKED: AH	DATE: FEB. 2021

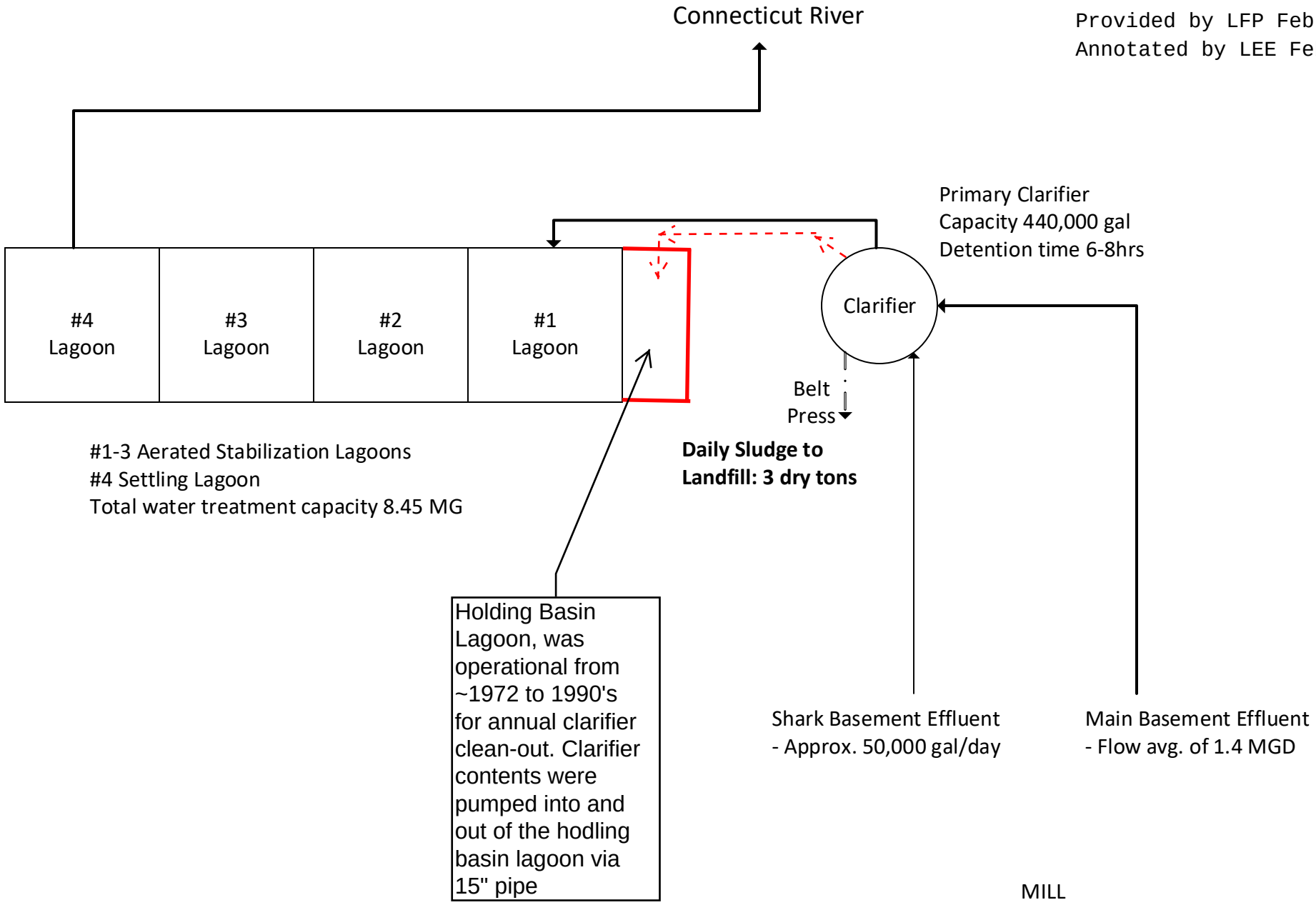
PROJECT NO.
25-005.18

DRAWING NO.
3

SHEET 3 OF 3

FILE: S:\ME PROJECT FILES\25-005\25-005.18 ENVIRONMENTAL\25-005.18 BDS\LONG FALLS PAPER MILL\DRAWINGS\FINAL DRAWING 4-16-21 EPA CHANGES.DWG

Long Falls Paperboard
Brattleboro, VT
Current Wastewater Treatment
Provided by LFP February 2020
Annotated by LEE February 2020



APPENDIX B

Analytical Reports and Data

Brownfields Cleanup Site Investigation
Holding Basin Sludge Sample Results
Long Falls Paperboard
161 Wellington Road, Brattleboro, Vermont

Sample ID	*IP-6A (mg/kg)*	*IP-06FD (mg/kg)*	*LF-1*	*LF-2*	*LF-3*	*LF-4*	*Duplicate LF-2*	*TCLP "Rule of 20"*	EPA/DEC TCLP Threshold (mg/l) (2)
Sample Date	*8/15/19*		*5/8/20*						
Collected by/Laboratory	*Stone/Alpha (1)*		*LEE/Con-Test Analytical*						
PID (ppm)	*NT*	*NT*	*0.0*	*0.1*	*0.1*	*0.0*	*0.1*		
Arsenic (Total, mg/kg, dry)	**16**	**6.8**	ND <5.1	ND<4.9	ND<5.4	ND<6.0	ND<5.0	100	---
Arsenic (TCLP, mg/l)	NT	NT	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	---	5.0
Barium (Total, mg/kg, dry)	**156**	**143**	**130**	**93**	**110**	**93**	**85**	2000	---
Barium (TCLP)	NT	NT	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	---	100.0
Benzene	ND	ND	ND<0.11	ND<0.12	ND<0.12	ND<0.13	ND<0.10	10	0.5
Cadmium (Total, mg/kg, dry)	**8.55**	**3.66**	ND<0.51	ND<0.49	ND<.0.54	ND<0.60	ND<0.5	20	---
Cadmium (TCLP)	NT	NT	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	---	1.0
Carbon tetrachloride	ND	ND	ND<0.11	ND<0.12	ND<0.12	ND<0.13	ND<0.10	10	0.5
Chlordane	NT	NT	NT	NT	NT	NT	NT	1	0.03
Chlorobenzene	ND	ND	ND<0.11	ND<0.12	ND<0.12	ND<0.13	ND<0.10	2000	100.0
Chloroform	**0.0013**	**0.004**	ND<0.22	ND<0.23	ND<0.24	ND<0.26	ND<0.20	120	6.0
Chromium (Total, mg/kg, dry)	**311**	**140**	**45**	**42**	**44**	**29**	**47**	100	---
Chromium (TCLP)	NT	NT	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	---	5.0
o-Cresol (2-methylphenol)	ND	ND	ND<1.0	ND<1.0	ND<2.2	ND<1.2	ND<1.0	4000	200.0
m-Cresol (3-methylphenol)	ND	ND	ND<1.0	ND<1.0	ND<2.2	ND<1.2	ND<1.0	4000	200.0
p-Cresol (4-methylphenol)	ND	ND	ND<1.0	ND<1.0	ND<2.2	ND<1.2	ND<1.0	4000	200.0
Cresol (total)	NT	NT	NT	NT	NT	NT	NT	4000	200.0
2,4-D	NT	NT	NT	NT	NT	NT	NT	200	10.0
1,4-Dichlorobenzene	ND	ND	ND<0.11	ND<0.12	ND<0.12	ND<0.13	ND<0.10	150	7.5
1,2-Dichloroethane	ND	ND	ND<0.11	ND<0.12	ND<0.12	ND<0.13	ND<0.10	10	0.5
1 ,1-Dichloroethene	ND	ND	ND<0.11	ND<0.12	ND<0.12	ND<0.13	ND<0.10	14	0.7
2,4-Dinitrotoluene	NT	NT	ND<1.0	ND<1.0	ND<2.2	ND<1.2	ND<1.0	3	0.13
Endrin	NT	NT	NT	NT	NT	NT	NT	0.4	0.02
Heptachlor/Heptachlor Epoxide	NT	NT	NT	NT	NT	NT	NT	0	0.008
Hexachlorobenzene	ND	ND	ND<1.0	ND<1.0	ND<2.2	ND<1.2	ND<1.0	3	0.13
Hexachlorobutadiene	ND	ND	ND<0.11	ND<0.12	ND<0.12	ND<0.13	ND<0.10	10	0.5
Hexachloroethane	ND	ND	ND<1.0	ND<1.0	ND<2.2	ND<1.2	ND<1.0	60	3.0
Lead (Total, mg/kg, dry)	**633**	**555**	**65**	**60**	**43**	**32**	**56**	100	---
Lead (TCLP)	NT	NT	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	---	5.0
Lindane	NT	NT	NT	NT	NT	NT	NT	8	0.4
Mercury (Total, mg/kg, dry)	**3.45**	**3.04**	**0.22**	**0.47**	**0.18**	**0.12**	**0.45**	4	---
Mercury (TCLP)	NT	NT	ND<0.00010	ND<0.00010	ND<0.00010	ND<0.00010	ND<0.00010	---	0.2
Methoxychlor	NT	NT	NT	NT	NT	NT	NT	200	10.0
2-Butanone(MEK)	ND	ND	ND<2.2	ND<2.3	ND<2.4	ND<2.6	ND<2.0	4000	200.0
Nitrobenzene	ND	ND	ND<1.0	ND<1.0	ND<2.2	ND<1.2	ND<1.0	40	2.0
Pentachlorophenol	ND	ND	ND<1.0	ND<1.0	ND<2.2	ND<1.2	ND<1.0	2000	100.0

NOTES:
(1) Stone/Alpha Data from Phase II Environmental Site Assessment Report, Long Falls Paperboard, October 2019
(2) TCLP Thresholds from EPA Hazardous Waste Characteristics, October 2009 and Vermont DEC Hazardous Waste Management Regulations, December 31, 2016
(3) PFAs values per DEC I-Rule, sum of PFOS, PFOA, PFHxS, PFHpA, PFNA (ug/kg)

Brownfields Cleanup Site Investigation
Holding Basin Sludge Sample Results
Long Falls Paperboard
161 Wellington Road, Brattleboro, Vermont
Page 1 of 2

Sample ID	*IP-6A (mg/kg)*	*IP-06FD (mg/kg)*	*LF-1*	*LF-2*	*LF-3*	*LF-4*	*Duplicate LF-2*	*TCLP "Rule of 20"*	EPA/DEC TCLP Threshold (mg/l) (2)
Sample Date	*8/15/19*		*5/8/20*						
Collected by/Laboratory	*Stone/Alpha (1)*		*LEE/Con-Test Analytical*						
PID (ppm)	*NT*	*NT*	*0.0*	*0.1*	*0.1*	*0.0*	*0.1*		
Pyridine	ND	ND	ND<1.0	ND<1.0	ND<2.2	ND<1.2	ND<1.0	100	5.0
Selenium (Total, mg/kg, dry)	**1.08**	**0.62**	ND<5.1	ND<4.9	ND<5.4	ND<6.0	ND<5.0	20	---
Selenium (TCLP)	NT	NT	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	---	1.0
Silver (Total, mg/kg, dry)	**0.811**	**0.71**	**0.68**	ND<0.49	**0.54**	**0.80**	ND<0.5	100	---
Silver (TCLP)	NT	NT	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	---	5.0
Tetrachloroethene (PCE)	ND	ND	ND<0.11	ND<0.12	ND<0.12	ND<0.13	ND<0.10	14	0.7
Toxaphene	NT	NT	NT	NT	NT	NT	NT	10	0.5
Trichloroethene (TCE)	ND	ND	ND<0.11	ND<0.12	ND<0.12	ND<0.13	ND<0.10	10	0.5
2,4,5-Trichlorophenol	NT	NT	ND<1.0	ND<1.0	ND<2.2	ND<1.2	ND<1.0	8000	400.0
2,4,6-Trichlorophenol	NT	NT	ND<1.0	ND<1.0	ND<2.2	ND<1.2	ND<1.0	40	2.0
2,4,5-TP Silvex	NT	NT	NT	NT	NT	NT	NT	20	1.0
Vinyl Chloride	ND	ND	ND<0.22	ND<0.23	ND<0.24	ND<0.26	ND<0.20	4	0.2

Sample ID	*IP-6A (mg/kg)*	*IP-06FD (mg/kg)*	*LF-1*	*LF-2*	*LF-3*	*LF-4*	*Duplicate LF-2*	EPA/DEC HW Threshold (mg/kg) (2)
Sample Date	*8/15/19*		*5/8/20*					
Collected by/Laboratory	*Stone/Alpha (1)*		*LEE/Con-Test Analytical*					
PID (ppm)	*NT*	*NT*	*0.0*	*0.1*	*0.1*	*0.0*	*0.1*	
Aroclor - 1016	ND	ND	ND<0.12	ND<0.12	ND<0.12	ND<0.14	ND<0.12	
Aroclor - 1221	ND	ND	ND<0.12	ND<0.12	ND<0.12	ND<0.14	ND<0.12	
Aroclor - 1232	ND	ND	ND<0.12	ND<0.12	ND<0.12	ND<0.14	ND<0.12	
Aroclor - 1242	ND	ND	ND<0.12	ND<0.12	ND<0.12	ND<0.14	ND<0.12	
Aroclor - 1248	ND	ND	ND<0.12	ND<0.12	ND<0.12	ND<0.14	ND<0.12	
Aroclor - 1254	**2.66**	**1.68**	**0.38**	**0.47**	**0.38**	**0.38**	**0.67**	50 (total)
Aroclor - 1260	**0.865**	**1.04**	ND<0.12	**0.20**	**0.18**	**0.19**	**0.56**	
Aroclor - 1262	ND	ND	ND<0.12	ND<0.12	ND<0.12	ND<0.14	ND<0.12	
Aroclor - 1268	ND	ND	ND<0.12	ND<0.12	ND<0.12	ND<0.14	ND<0.12	
pH	NT	NT	5.1	4.6	4.6	4.3	4.7	≤2 or ≥10
Percent Solids	58	62	65.5	65.2	59.8	55.5	65.3	None
Reactivity (CN/S)	NT	NT	ND	ND	ND	ND	ND	250 / 500
Per- and polyfluoroalkyl substances (PFAS)(mg/kg)	**0.165**	**0.142**	**0.097**	**0.110**	**0.096**	**0.152**	**0.096**	
2,3,7,8-TCDD Toxicity Equivalency	**1.14E-06**	**1.14E-06**	**1.24E-05**	**2.38E-05**	**1.60E-05**	**1.15E-05**	**1.64E-05**	
TPH	NT	NT	2,900	3,100	4,300	5,200	3,300	50,000
Ignitibility/Flashpoint	NT	NT	Absent	Absent	Absent	Absent	Absent	Present/Absent

NOTES:
(1) Stone/Alpha Data from Phase II Environmental Site Assessment Report, Long Falls Paperboard, October 2019
(2) TCLP Thresholds from EPA Hazardous Waste Characteristics, October 2009 and Vermont DEC Hazardous Waste Management Regulations, December 31, 2016

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

July 16, 2020

Alan Liptak
LE Environmental
21 North Main Street #1
Waterbury, VT 05676

Project Location: 161 Wellington Street, Brattleboro, VT
Client Job Number:
Project Number: Brattleboro Brownfields
Laboratory Work Order Number: 20E0343

Enclosed are results of analyses for samples received by the laboratory on May 8, 2020. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Raymond J. McCarthy
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

LE Environmental
21 North Main Street #1
Waterbury, VT 05676
ATTN: Alan Liptak

REPORT DATE: 7/16/2020

PURCHASE ORDER NUMBER:

PROJECT NUMBER: Brattleboro Brownfields

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 20E0343

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: 161 Wellington Street, Brattleboro, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
LF-1	20E0343-01	Sludge		SM 2540G	
				SOP-466 PFAS	
				SW-846 1030	
				SW-846 1311	
				SW-846 6010D	
				SW-846 7470A	
				SW-846 7471B	
				SW-846 8082A	
				SW-846 8100 Modified	
				SW-846 8260C-D	
				SW-846 8270D-E	
				SW-846 9014	
				SW-846 9030A	
				SW-846 9045C	
LF-2	20E0343-02	Sludge		SM 2540G	
				SOP-466 PFAS	
				SW-846 1030	
				SW-846 1311	
				SW-846 6010D	
				SW-846 7470A	
				SW-846 7471B	
				SW-846 8082A	
				SW-846 8100 Modified	
				SW-846 8260C-D	
				SW-846 8270D-E	
				SW-846 9014	
				SW-846 9030A	
				SW-846 9045C	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

LE Environmental
21 North Main Street #1
Waterbury, VT 05676
ATTN: Alan Liptak

REPORT DATE: 7/16/2020

PURCHASE ORDER NUMBER:

PROJECT NUMBER: Brattleboro Brownfields

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 20E0343

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: 161 Wellington Street, Brattleboro, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
LF-3	20E0343-03	Sludge		SM 2540G	
				SOP-466 PFAS	
				SW-846 1030	
				SW-846 1311	
				SW-846 6010D	
				SW-846 7470A	
				SW-846 7471B	
				SW-846 8082A	
				SW-846 8100 Modified	
				SW-846 8260C-D	
				SW-846 8270D-E	
				SW-846 9014	
				SW-846 9030A	
				SW-846 9045C	
LF-4	20E0343-04	Sludge		SM 2540G	
				SOP-466 PFAS	
				SW-846 1030	
				SW-846 1311	
				SW-846 6010D	
				SW-846 7470A	
				SW-846 7471B	
				SW-846 8082A	
				SW-846 8100 Modified	
				SW-846 8260C-D	
				SW-846 8270D-E	
				SW-846 9014	
				SW-846 9030A	
				SW-846 9045C	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

LE Environmental
21 North Main Street #1
Waterbury, VT 05676
ATTN: Alan Liptak

REPORT DATE: 7/16/2020

PURCHASE ORDER NUMBER:

PROJECT NUMBER: Brattleboro Brownfields

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 20E0343

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: 161 Wellington Street, Brattleboro, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Duplicate	20E0343-05	Sludge		SM 2540G	
				SOP-466 PFAS	
				SW-846 1030	
				SW-846 1311	
				SW-846 6010D	
				SW-846 7470A	
				SW-846 7471B	
				SW-846 8082A	
				SW-846 8100 Modified	
				SW-846 8260C-D	
				SW-846 8270D-E	
				SW-846 9014	
				SW-846 9030A	
				SW-846 9045C	
LF-5	20E0343-06	Sludge		SM 2540G	
				SW-846 6010D	
				SW-846 7471B	
				SW-846 8082A	
				SW-846 8260C-D	
				SW-846 8270D-E	
LF-6	20E0343-07	Sludge		SM 2540G	
				SW-846 6010D	
				SW-846 7471B	
				SW-846 8082A	
				SW-846 8260C-D	
				SW-846 8270D-E	
LF-7	20E0343-08	Sludge		SM 2540G	
				SW-846 6010D	
				SW-846 7471B	
				SW-846 8082A	
				SW-846 8260C-D	
				SW-846 8270D-E	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

For method 8270E, only PAHs were requested and reported for samples 20E0343-06, -07, -08.

REVISED 7/16/2020: Additional compounds reported on PFAS subcontracted analyses, per client request.

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SW-846 6010D

Qualifications:

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

Selenium

B257841-BSD1

SW-846 8100 Modified

Qualifications:

MS-07A

Matrix spike and spike duplicate recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possiblity of matrix effects that lead to low bias or non-homogeneous sample aliquot cannot be eliminated.

Analyte & Samples(s) Qualified:

TPH (C9-C36)

20E0343-01[LF-1], B258014-MS1, B258014-MSD1

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

2-Fluorobiphenyl

20E0343-04RE1[LF-4]

SW-846 8260C-D

Qualifications:

L-02

Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.

Analyte & Samples(s) Qualified:

Methyl Acetate

B257753-BS1, B257753-BSD1

PR-03

Sample preserved in the laboratory, not in the field as required by the method.

Analyte & Samples(s) Qualified:

20E0343-01[LF-1], 20E0343-02[LF-2], 20E0343-03[LF-3], 20E0343-04[LF-4], 20E0343-05[Duplicate]

V-05

Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

Analyte & Samples(s) Qualified:

Bromoform

20E0343-01[LF-1], 20E0343-02[LF-2], 20E0343-03[LF-3], 20E0343-04[LF-4], 20E0343-05[Duplicate], B257753-BLK1, B257753-BS1, B257753-BSD1

Dichlorodifluoromethane (Freon 12

20E0343-01[LF-1], 20E0343-02[LF-2], 20E0343-03[LF-3], 20E0343-04[LF-4], 20E0343-05[Duplicate], B257753-BLK1, B257753-BS1, B257753-BSD1

Naphthalene

20E0343-06[LF-5], 20E0343-07[LF-6], 20E0343-08[LF-7], B257772-BLK1, B257772-BS1, B257772-BSD1

tert-Butyl Alcohol (TBA)

20E0343-01[LF-1], 20E0343-02[LF-2], 20E0343-03[LF-3], 20E0343-04[LF-4], 20E0343-05[Duplicate], B257753-BLK1, B257753-BS1, B257753-BSD1

V-20

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

Bromomethane

B257753-BS1, B257753-BSD1

Methyl Acetate

B257753-BS1, B257753-BSD1

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

V-34

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

Analyte & Samples(s) Qualified:

Bromomethane

20E0343-06[LF-5], 20E0343-07[LF-6], 20E0343-08[LF-7], B257772-BLK1, B257772-BS1, B257772-BSD1

SW-846 8270D-E

Qualifications:

RL-12

Elevated reporting limit due to matrix interference.

Analyte & Samples(s) Qualified:

20E0343-01[LF-1], 20E0343-02[LF-2], 20E0343-03[LF-3], 20E0343-04[LF-4], 20E0343-05[Duplicate]

S-07

One associated surrogate standard recovery is outside of control limits but the other(s) is/are within limits. All recoveries are > 10%.

Analyte & Samples(s) Qualified:

2-Fluorophenol

20E0343-04[LF-4]

V-04

Initial calibration did not meet method specifications. Compound was calibrated using a response factor where %RSD is outside of method specified criteria. Reported result is estimated.

Analyte & Samples(s) Qualified:

2,4-Dinitrophenol

B258013-BLK1, B258013-BS1, B258013-BSD1

Benzidine

20E0343-01[LF-1], 20E0343-02[LF-2], 20E0343-03[LF-3], 20E0343-04[LF-4], 20E0343-05[Duplicate], B258013-BLK1, B258013-BS1, B258013-BSD1

V-05

Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

Analyte & Samples(s) Qualified:

Aniline

20E0343-01[LF-1], 20E0343-02[LF-2], 20E0343-03[LF-3], 20E0343-04[LF-4], 20E0343-05[Duplicate], B258013-BLK1, B258013-BS1, B258013-BSD1

Benzidine

20E0343-01[LF-1], 20E0343-02[LF-2], 20E0343-03[LF-3], 20E0343-04[LF-4], 20E0343-05[Duplicate], B258013-BLK1, B258013-BS1, B258013-BSD1

V-06

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.

Analyte & Samples(s) Qualified:

2,4-Dinitrophenol

B258013-BLK1, B258013-BS1, B258013-BSD1

2-Nitrophenol

B258013-BLK1, B258013-BS1, B258013-BSD1

V-20

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

2,4-Dinitrophenol

20E0343-01[LF-1], 20E0343-02[LF-2], 20E0343-03[LF-3], 20E0343-04[LF-4], 20E0343-05[Duplicate]

2-Nitrophenol

20E0343-01[LF-1], 20E0343-02[LF-2], 20E0343-03[LF-3], 20E0343-04[LF-4], 20E0343-05[Duplicate]

V-34

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

Analyte & Samples(s) Qualified:

4-Chloroaniline

20E0343-01[LF-1], 20E0343-02[LF-2], 20E0343-03[LF-3], 20E0343-04[LF-4], 20E0343-05[Duplicate]

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V-35

Initial calibration verification (ICV) did not meet method specifications and was biased on the high side for this compound. Reported result is estimated.

Analyte & Samples(s) Qualified:

2-Nitroaniline

20E0343-01[LF-1], 20E0343-02[LF-2], 20E0343-03[LF-3], 20E0343-04[LF-4], 20E0343-05[Duplicate], B258013-BLK1, B258013-BS1, B258013-BSD1

Benzidine

20E0343-01[LF-1], 20E0343-02[LF-2], 20E0343-03[LF-3], 20E0343-04[LF-4], 20E0343-05[Duplicate], B258013-BLK1, B258013-BS1, B258013-BSD1

SW-846 8100 Modified

TPH (C9-C36) is quantitated against a calibration made with a diesel standard.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Raymond J. McCarthy
Air Lab Prep

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-1 Sampled: 5/8/2020 11:35

Sample ID: 20E0343-01

Sample Matrix: Sludge

Sample Flags: PR-03

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	5.4	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Acrylonitrile	ND	0.54	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.054	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Benzene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Bromobenzene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Bromochloromethane	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Bromodichloromethane	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Bromoform	ND	0.11	mg/Kg dry	1	V-05	SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Bromomethane	ND	0.22	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
2-Butanone (MEK)	ND	2.2	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
tert-Butyl Alcohol (TBA)	ND	2.2	mg/Kg dry	1	V-05	SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
n-Butylbenzene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
sec-Butylbenzene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
tert-Butylbenzene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.054	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Carbon Disulfide	ND	0.54	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Carbon Tetrachloride	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Chlorobenzene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Chlorodibromomethane	ND	0.054	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Chloroethane	ND	0.22	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Chloroform	ND	0.22	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Chloromethane	ND	0.22	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
2-Chlorotoluene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
4-Chlorotoluene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.54	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,2-Dibromoethane (EDB)	ND	0.054	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Dibromomethane	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,2-Dichlorobenzene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,3-Dichlorobenzene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,4-Dichlorobenzene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
trans-1,4-Dichloro-2-butene	ND	0.22	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.22	mg/Kg dry	1	V-05	SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,1-Dichloroethane	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,2-Dichloroethane	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,1-Dichloroethylene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
cis-1,2-Dichloroethylene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
trans-1,2-Dichloroethylene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,2-Dichloropropane	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,3-Dichloropropane	ND	0.054	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
2,2-Dichloropropane	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,1-Dichloropropene	ND	0.22	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
cis-1,3-Dichloropropene	ND	0.054	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
trans-1,3-Dichloropropene	ND	0.054	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Diethyl Ether	ND	0.22	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-1 Sampled: 5/8/2020 11:35

Sample ID: 20E0343-01

Sample Matrix: Sludge

Sample Flags: PR-03

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.054	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,4-Dioxane	ND	5.4	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Ethylbenzene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Hexachlorobutadiene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
2-Hexanone (MBK)	ND	1.1	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Isopropylbenzene (Cumene)	ND	0.22	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.22	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Methyl Acetate	ND	1.1	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Methyl Cyclohexane	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Methylene Chloride	ND	0.54	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
4-Methyl-2-pentanone (MIBK)	ND	1.1	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Naphthalene	ND	0.54	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
n-Propylbenzene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Styrene	ND	0.22	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,1,1,2-Tetrachloroethane	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,1,2,2-Tetrachloroethane	ND	0.054	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Tetrachloroethylene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Tetrahydrofuran	ND	1.1	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Toluene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,2,3-Trichlorobenzene	ND	0.54	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,2,4-Trichlorobenzene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,3,5-Trichlorobenzene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,1,1-Trichloroethane	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,1,2-Trichloroethane	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Trichloroethylene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Trichlorofluoromethane (Freon 11)	ND	0.22	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,2,3-Trichloropropane	ND	0.22	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,2,4-Trimethylbenzene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
1,3,5-Trimethylbenzene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
Vinyl Chloride	ND	0.22	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
m+p Xylene	ND	0.22	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF
o-Xylene	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:08	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	109	70-130		5/11/20 19:08
Toluene-d8	96.2	70-130		5/11/20 19:08
4-Bromofluorobenzene	101	70-130		5/11/20 19:08

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-1 Sampled: 5/8/2020 11:35

Sample ID: 20E0343-01

Sample Matrix: Sludge

Sample Flags: RL-12

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.51	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Acenaphthylene	ND	0.51	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Acetophenone	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Aniline	ND	1.0	mg/Kg dry	2	V-05	SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Anthracene	ND	0.51	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Benzidine	ND	2.0	mg/Kg dry	2	V-04, V-05, V-35	SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Benzo(a)anthracene	ND	0.51	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Benzo(a)pyrene	ND	0.51	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Benzo(b)fluoranthene	ND	0.51	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Benzo(g,h,i)perylene	ND	0.51	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Benzo(k)fluoranthene	ND	0.51	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Benzoic Acid	ND	3.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Bis(2-chloroethoxy)methane	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Bis(2-chloroethyl)ether	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Bis(2-chloroisopropyl)ether	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Bis(2-Ethylhexyl)phthalate	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
4-Bromophenylphenylether	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Butylbenzylphthalate	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Carbazole	ND	0.51	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
4-Chloroaniline	ND	2.0	mg/Kg dry	2	V-34	SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
4-Chloro-3-methylphenol	ND	2.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
2-Chloronaphthalene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
2-Chlorophenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
4-Chlorophenylphenylether	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Chrysene	ND	0.51	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Dibenz(a,h)anthracene	ND	0.51	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Dibenzofuran	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Di-n-butylphthalate	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
1,2-Dichlorobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
1,3-Dichlorobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
1,4-Dichlorobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
3,3-Dichlorobenzidine	ND	0.51	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
2,4-Dichlorophenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Diethylphthalate	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
2,4-Dimethylphenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Dimethylphthalate	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
4,6-Dinitro-2-methylphenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
2,4-Dinitrophenol	ND	2.0	mg/Kg dry	2	V-20	SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
2,4-Dinitrotoluene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
2,6-Dinitrotoluene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Di-n-octylphthalate	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
1,2-Diphenylhydrazine/Azobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Fluoranthene	ND	0.51	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Fluorene	ND	0.51	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-1 Sampled: 5/8/2020 11:35

Sample ID: 20E0343-01

Sample Matrix: Sludge

Sample Flags: RL-12

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Hexachlorobutadiene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Hexachlorocyclopentadiene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Hexachloroethane	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Indeno(1,2,3-cd)pyrene	ND	0.51	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Isophorone	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
1-Methylnaphthalene	ND	0.51	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
2-Methylnaphthalene	ND	0.51	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
2-Methylphenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
3/4-Methylphenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Naphthalene	ND	0.51	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
2-Nitroaniline	ND	1.0	mg/Kg dry	2	V-35	SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
3-Nitroaniline	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
4-Nitroaniline	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Nitrobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
2-Nitrophenol	ND	1.0	mg/Kg dry	2	V-20	SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
4-Nitrophenol	ND	2.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
N-Nitrosodimethylamine	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
N-Nitrosodiphenylamine/Diphenylamine	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
N-Nitrosodi-n-propylamine	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Pentachloronitrobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Pentachlorophenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Phenanthrene	ND	0.51	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Phenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Pyrene	ND	0.51	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
Pyridine	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
1,2,4,5-Tetrachlorobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
1,2,4-Trichlorobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
2,4,5-Trichlorophenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB
2,4,6-Trichlorophenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:08	KLB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	34.5	30-130		5/18/20 12:08
Phenol-d6	37.2	30-130		5/18/20 12:08
Nitrobenzene-d5	40.0	30-130		5/18/20 12:08
2-Fluorobiphenyl	43.7	30-130		5/18/20 12:08
2,4,6-Tribromophenol	39.9	30-130		5/18/20 12:08
p-Terphenyl-d14	55.9	30-130		5/18/20 12:08

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-1 Sampled: 5/8/2020 11:35

Sample ID: 20E0343-01

Sample Matrix: Sludge

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 16:51	TG
Aroclor-1221 [1]	ND	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 16:51	TG
Aroclor-1232 [1]	ND	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 16:51	TG
Aroclor-1242 [1]	ND	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 16:51	TG
Aroclor-1248 [1]	ND	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 16:51	TG
Aroclor-1254 [1]	0.38	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 16:51	TG
Aroclor-1260 [2]	ND	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 16:51	TG
Aroclor-1262 [1]	ND	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 16:51	TG
Aroclor-1268 [1]	ND	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 16:51	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	87.7	30-150		5/14/20 16:51
Decachlorobiphenyl [2]	86.7	30-150		5/14/20 16:51
Tetrachloro-m-xylene [1]	98.4	30-150		5/14/20 16:51
Tetrachloro-m-xylene [2]	91.2	30-150		5/14/20 16:51

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-1 Sampled: 5/8/2020 11:35

Sample ID: 20E0343-01

Sample Matrix: Sludge

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	2900	130	mg/Kg dry	10	MS-07A	SW-846 8100 Modified	5/14/20	5/18/20 12:57	RMW

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorobiphenyl	44.9	40-140		5/18/20 12:57

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-1 Sampled: 5/8/2020 11:35

Sample ID: 20E0343-01

Sample Matrix: Sludge

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	5.1	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:04	MJH
Barium	130	2.5	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:04	MJH
Cadmium	ND	0.51	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:04	MJH
Chromium	45	1.0	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:04	MJH
Lead	65	0.76	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:04	MJH
Mercury	0.22	0.038	mg/Kg dry	1		SW-846 7471B	5/18/20	5/20/20 13:26	CJV
Selenium	ND	5.1	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:04	MJH
Silver	0.68	0.51	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:04	MJH
Vanadium	180	1.0	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:04	MJH

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-1 Sampled: 5/8/2020 11:35

Sample ID: 20E0343-01

Sample Matrix: Sludge

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	65.5		% Wt	1		SM 2540G	5/11/20	5/11/20 12:29	CJT
Ignitability	Absent		present/absent	1		SW-846 1030	5/14/20	5/14/20 17:50	DJM
pH @18.1°C	5.1		pH Units	1		SW-846 9045C	5/8/20	5/8/20 21:30	DJM
Reactive Cyanide	ND	4.0	mg/Kg	1		SW-846 9014	5/15/20	5/16/20 13:05	EC
Reactive Sulfide	ND	20	mg/Kg	1		SW-846 9030A	5/15/20	5/16/20 15:05	EC

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-1 Sampled: 5/8/2020 11:35

Sample ID: 20E0343-01

Sample Matrix: Sludge

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	0.050	mg/L	1		SW-846 6010D	5/12/20	5/12/20 21:52	QNW
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	5/12/20	5/13/20 11:16	CJV
Vanadium	0.019	0.010	mg/L	1		SW-846 6010D	5/12/20	5/12/20 21:52	QNW
Barium	ND	0.50	mg/L	1		SW-846 6010D	5/12/20	5/12/20 21:52	QNW
Cadmium	ND	0.010	mg/L	1		SW-846 6010D	5/12/20	5/12/20 21:52	QNW
Chromium	ND	0.050	mg/L	1		SW-846 6010D	5/12/20	5/12/20 21:52	QNW
Lead	ND	0.10	mg/L	1		SW-846 6010D	5/12/20	5/12/20 21:52	QNW
Selenium	ND	0.050	mg/L	1		SW-846 6010D	5/12/20	5/13/20 14:52	MJH
Silver	ND	0.050	mg/L	1		SW-846 6010D	5/12/20	5/13/20 14:52	MJH

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro
Sample Description:
Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-1
Sampled: 5/8/2020 11:35

Sample ID: 20E0343-01

Sample Matrix: Sludge

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
See Attached Subcontract Report	-	-		µg/kg	1		SOP-466 PFAS		5/20/20 0:00	

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-2 Sampled: 5/8/2020 11:15

Sample ID: 20E0343-02

Sample Matrix: Sludge

Sample Flags: PR-03

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	5.9	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Acrylonitrile	ND	0.59	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.059	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Benzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Bromobenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Bromochloromethane	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Bromodichloromethane	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Bromoform	ND	0.12	mg/Kg dry	1	V-05	SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Bromomethane	ND	0.23	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
2-Butanone (MEK)	ND	2.3	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
tert-Butyl Alcohol (TBA)	ND	2.3	mg/Kg dry	1	V-05	SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
n-Butylbenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
sec-Butylbenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
tert-Butylbenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.059	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Carbon Disulfide	ND	0.59	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Carbon Tetrachloride	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Chlorobenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Chlorodibromomethane	ND	0.059	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Chloroethane	ND	0.23	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Chloroform	ND	0.23	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Chloromethane	ND	0.23	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
2-Chlorotoluene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
4-Chlorotoluene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.59	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,2-Dibromoethane (EDB)	ND	0.059	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Dibromomethane	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,2-Dichlorobenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,3-Dichlorobenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,4-Dichlorobenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
trans-1,4-Dichloro-2-butene	ND	0.23	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.23	mg/Kg dry	1	V-05	SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,1-Dichloroethane	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,2-Dichloroethane	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,1-Dichloroethylene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
cis-1,2-Dichloroethylene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
trans-1,2-Dichloroethylene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,2-Dichloropropane	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,3-Dichloropropane	ND	0.059	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
2,2-Dichloropropane	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,1-Dichloropropene	ND	0.23	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
cis-1,3-Dichloropropene	ND	0.059	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
trans-1,3-Dichloropropene	ND	0.059	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Diethyl Ether	ND	0.23	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-2 Sampled: 5/8/2020 11:15

Sample ID: 20E0343-02

Sample Matrix: Sludge

Sample Flags: PR-03

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.059	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,4-Dioxane	ND	5.9	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Ethylbenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Hexachlorobutadiene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
2-Hexanone (MBK)	ND	1.2	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Isopropylbenzene (Cumene)	ND	0.23	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.23	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Methyl Acetate	ND	1.2	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Methyl Cyclohexane	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Methylene Chloride	ND	0.59	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
4-Methyl-2-pentanone (MIBK)	ND	1.2	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Naphthalene	ND	0.59	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
n-Propylbenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Styrene	ND	0.23	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,1,1,2-Tetrachloroethane	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,1,2,2-Tetrachloroethane	ND	0.059	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Tetrachloroethylene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Tetrahydrofuran	ND	1.2	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Toluene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,2,3-Trichlorobenzene	ND	0.59	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,2,4-Trichlorobenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,3,5-Trichlorobenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,1,1-Trichloroethane	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,1,2-Trichloroethane	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Trichloroethylene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Trichlorofluoromethane (Freon 11)	ND	0.23	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,2,3-Trichloropropane	ND	0.23	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,2,4-Trimethylbenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
1,3,5-Trimethylbenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
Vinyl Chloride	ND	0.23	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
m+p Xylene	ND	0.23	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF
o-Xylene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:31	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	110	70-130		5/11/20 19:31
Toluene-d8	95.2	70-130		5/11/20 19:31
4-Bromofluorobenzene	103	70-130		5/11/20 19:31

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-2 Sampled: 5/8/2020 11:15

Sample ID: 20E0343-02

Sample Matrix: Sludge

Sample Flags: RL-12

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Acenaphthylene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Acetophenone	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Aniline	ND	1.0	mg/Kg dry	2	V-05	SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Anthracene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Benzidine	ND	2.0	mg/Kg dry	2	V-04, V-05, V-35	SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Benzo(a)anthracene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Benzo(a)pyrene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Benzo(b)fluoranthene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Benzo(g,h,i)perylene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Benzo(k)fluoranthene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Benzoic Acid	ND	3.1	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Bis(2-chloroethoxy)methane	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Bis(2-chloroethyl)ether	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Bis(2-chloroisopropyl)ether	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Bis(2-Ethylhexyl)phthalate	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
4-Bromophenylphenylether	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Butylbenzylphthalate	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Carbazole	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
4-Chloroaniline	ND	2.0	mg/Kg dry	2	V-34	SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
4-Chloro-3-methylphenol	ND	2.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
2-Chloronaphthalene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
2-Chlorophenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
4-Chlorophenylphenylether	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Chrysene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Dibenz(a,h)anthracene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Dibenzofuran	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Di-n-butylphthalate	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
1,2-Dichlorobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
1,3-Dichlorobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
1,4-Dichlorobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
3,3-Dichlorobenzidine	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
2,4-Dichlorophenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Diethylphthalate	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
2,4-Dimethylphenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Dimethylphthalate	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
4,6-Dinitro-2-methylphenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
2,4-Dinitrophenol	ND	2.0	mg/Kg dry	2	V-20	SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
2,4-Dinitrotoluene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
2,6-Dinitrotoluene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Di-n-octylphthalate	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
1,2-Diphenylhydrazine/Azobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Fluoranthene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Fluorene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-2 Sampled: 5/8/2020 11:15

Sample ID: 20E0343-02

Sample Matrix: Sludge

Sample Flags: RL-12

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Hexachlorobutadiene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Hexachlorocyclopentadiene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Hexachloroethane	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Indeno(1,2,3-cd)pyrene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Isophorone	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
1-Methylnaphthalene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
2-Methylnaphthalene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
2-Methylphenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
3/4-Methylphenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Naphthalene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
2-Nitroaniline	ND	1.0	mg/Kg dry	2	V-35	SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
3-Nitroaniline	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
4-Nitroaniline	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Nitrobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
2-Nitrophenol	ND	1.0	mg/Kg dry	2	V-20	SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
4-Nitrophenol	ND	2.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
N-Nitrosodimethylamine	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
N-Nitrosodiphenylamine/Diphenylamine	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
N-Nitrosodi-n-propylamine	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Pentachloronitrobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Pentachlorophenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Phenanthrene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Phenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Pyrene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
Pyridine	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
1,2,4,5-Tetrachlorobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
1,2,4-Trichlorobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
2,4,5-Trichlorophenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB
2,4,6-Trichlorophenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 12:35	KLB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	40.4	30-130		5/18/20 12:35
Phenol-d6	42.1	30-130		5/18/20 12:35
Nitrobenzene-d5	45.6	30-130		5/18/20 12:35
2-Fluorobiphenyl	48.1	30-130		5/18/20 12:35
2,4,6-Tribromophenol	46.8	30-130		5/18/20 12:35
p-Terphenyl-d14	57.5	30-130		5/18/20 12:35

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-2 Sampled: 5/8/2020 11:15

Sample ID: 20E0343-02

Sample Matrix: Sludge

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:08	TG
Aroclor-1221 [1]	ND	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:08	TG
Aroclor-1232 [1]	ND	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:08	TG
Aroclor-1242 [1]	ND	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:08	TG
Aroclor-1248 [1]	ND	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:08	TG
Aroclor-1254 [2]	0.47	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:08	TG
Aroclor-1260 [1]	0.20	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:08	TG
Aroclor-1262 [1]	ND	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:08	TG
Aroclor-1268 [1]	ND	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:08	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	83.3	30-150		5/14/20 17:08
Decachlorobiphenyl [2]	83.6	30-150		5/14/20 17:08
Tetrachloro-m-xylene [1]	96.6	30-150		5/14/20 17:08
Tetrachloro-m-xylene [2]	86.9	30-150		5/14/20 17:08

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-2 Sampled: 5/8/2020 11:15

Sample ID: 20E0343-02

Sample Matrix: Sludge

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	3100	130	mg/Kg dry	10		SW-846 8100 Modified	5/14/20	5/18/20 13:58	RMW

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorobiphenyl	49.0	40-140		5/18/20 13:58

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-2 Sampled: 5/8/2020 11:15

Sample ID: 20E0343-02

Sample Matrix: Sludge

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	4.9	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:08	MJH
Barium	93	2.4	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:08	MJH
Cadmium	ND	0.49	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:08	MJH
Chromium	42	0.98	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:08	MJH
Lead	60	0.73	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:08	MJH
Mercury	0.47	0.039	mg/Kg dry	1		SW-846 7471B	5/18/20	5/20/20 13:32	CJV
Selenium	ND	4.9	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:08	MJH
Silver	ND	0.49	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:08	MJH
Vanadium	200	0.98	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:08	MJH

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-2 Sampled: 5/8/2020 11:15

Sample ID: 20E0343-02

Sample Matrix: Sludge

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	65.2		% Wt	1		SM 2540G	5/11/20	5/11/20 12:30	CJT
Ignitability	Absent		present/absent	1		SW-846 1030	5/14/20	5/14/20 17:50	DJM
pH @18.4°C	4.6		pH Units	1		SW-846 9045C	5/8/20	5/8/20 21:30	DJM
Reactive Cyanide	ND	3.9	mg/Kg	1		SW-846 9014	5/15/20	5/16/20 13:05	EC
Reactive Sulfide	ND	20	mg/Kg	1		SW-846 9030A	5/15/20	5/16/20 15:05	EC

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-2 Sampled: 5/8/2020 11:15

Sample ID: 20E0343-02

Sample Matrix: Sludge

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	0.050	mg/L	1		SW-846 6010D	5/12/20	5/12/20 21:59	QNW
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	5/12/20	5/13/20 11:21	CJV
Vanadium	0.058	0.010	mg/L	1		SW-846 6010D	5/12/20	5/12/20 21:59	QNW
Barium	ND	0.50	mg/L	1		SW-846 6010D	5/12/20	5/12/20 21:59	QNW
Cadmium	ND	0.010	mg/L	1		SW-846 6010D	5/12/20	5/12/20 21:59	QNW
Chromium	ND	0.050	mg/L	1		SW-846 6010D	5/12/20	5/12/20 21:59	QNW
Lead	ND	0.10	mg/L	1		SW-846 6010D	5/12/20	5/12/20 21:59	QNW
Selenium	ND	0.050	mg/L	1		SW-846 6010D	5/12/20	5/13/20 14:58	MJH
Silver	ND	0.050	mg/L	1		SW-846 6010D	5/12/20	5/13/20 14:58	MJH

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro
Sample Description:
Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-2
Sampled: 5/8/2020 11:15

Sample ID: 20E0343-02

Sample Matrix: Sludge

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
See Attached Subcontract Report	-	-		µg/kg	1		SOP-466 PFAS		5/20/20 0:00	

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-3 Sampled: 5/8/2020 11:00

Sample ID: 20E0343-03

Sample Matrix: Sludge

Sample Flags: PR-03

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	5.9	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Acrylonitrile	ND	0.59	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.059	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Benzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Bromobenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Bromochloromethane	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Bromodichloromethane	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Bromoform	ND	0.12	mg/Kg dry	1	V-05	SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Bromomethane	ND	0.24	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
2-Butanone (MEK)	ND	2.4	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
tert-Butyl Alcohol (TBA)	ND	2.4	mg/Kg dry	1	V-05	SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
n-Butylbenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
sec-Butylbenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
tert-Butylbenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.059	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Carbon Disulfide	ND	0.59	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Carbon Tetrachloride	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Chlorobenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Chlorodibromomethane	ND	0.059	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Chloroethane	ND	0.24	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Chloroform	ND	0.24	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Chloromethane	ND	0.24	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
2-Chlorotoluene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
4-Chlorotoluene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.59	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,2-Dibromoethane (EDB)	ND	0.059	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Dibromomethane	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,2-Dichlorobenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,3-Dichlorobenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,4-Dichlorobenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
trans-1,4-Dichloro-2-butene	ND	0.24	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.24	mg/Kg dry	1	V-05	SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,1-Dichloroethane	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,2-Dichloroethane	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,1-Dichloroethylene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
cis-1,2-Dichloroethylene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
trans-1,2-Dichloroethylene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,2-Dichloropropane	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,3-Dichloropropane	ND	0.059	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
2,2-Dichloropropane	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,1-Dichloropropene	ND	0.24	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
cis-1,3-Dichloropropene	ND	0.059	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
trans-1,3-Dichloropropene	ND	0.059	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Diethyl Ether	ND	0.24	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-3 Sampled: 5/8/2020 11:00

Sample ID: 20E0343-03

Sample Matrix: Sludge

Sample Flags: PR-03

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.059	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,4-Dioxane	ND	5.9	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Ethylbenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Hexachlorobutadiene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
2-Hexanone (MBK)	ND	1.2	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Isopropylbenzene (Cumene)	ND	0.24	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.24	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Methyl Acetate	ND	1.2	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Methyl Cyclohexane	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Methylene Chloride	ND	0.59	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
4-Methyl-2-pentanone (MIBK)	ND	1.2	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Naphthalene	ND	0.59	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
n-Propylbenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Styrene	ND	0.24	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,1,1,2-Tetrachloroethane	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,1,2,2-Tetrachloroethane	ND	0.059	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Tetrachloroethylene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Tetrahydrofuran	ND	1.2	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Toluene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,2,3-Trichlorobenzene	ND	0.59	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,2,4-Trichlorobenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,3,5-Trichlorobenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,1,1-Trichloroethane	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,1,2-Trichloroethane	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Trichloroethylene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Trichlorofluoromethane (Freon 11)	ND	0.24	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,2,3-Trichloropropane	ND	0.24	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,2,4-Trimethylbenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
1,3,5-Trimethylbenzene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
Vinyl Chloride	ND	0.24	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
m+p Xylene	ND	0.24	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF
o-Xylene	ND	0.12	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 19:55	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	111	70-130		5/11/20 19:55
Toluene-d8	95.7	70-130		5/11/20 19:55
4-Bromofluorobenzene	101	70-130		5/11/20 19:55

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-3 Sampled: 5/8/2020 11:00

Sample ID: 20E0343-03

Sample Matrix: Sludge

Sample Flags: RL-12

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	1.1	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Acenaphthylene	ND	1.1	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Acetophenone	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Aniline	ND	2.2	mg/Kg dry	2	V-05	SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Anthracene	ND	1.1	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Benzidine	ND	4.3	mg/Kg dry	2	V-04, V-05, V-35	SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Benzo(a)anthracene	ND	1.1	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Benzo(a)pyrene	ND	1.1	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Benzo(b)fluoranthene	ND	1.1	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Benzo(g,h,i)perylene	ND	1.1	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Benzo(k)fluoranthene	ND	1.1	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Benzoic Acid	ND	6.6	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Bis(2-chloroethoxy)methane	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Bis(2-chloroethyl)ether	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Bis(2-chloroisopropyl)ether	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Bis(2-Ethylhexyl)phthalate	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
4-Bromophenylphenylether	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Butylbenzylphthalate	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Carbazole	ND	1.1	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
4-Chloroaniline	ND	4.3	mg/Kg dry	2	V-34	SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
4-Chloro-3-methylphenol	ND	4.3	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
2-Chloronaphthalene	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
2-Chlorophenol	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
4-Chlorophenylphenylether	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Chrysene	ND	1.1	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Dibenz(a,h)anthracene	ND	1.1	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Dibenzofuran	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Di-n-butylphthalate	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
1,2-Dichlorobenzene	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
1,3-Dichlorobenzene	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
1,4-Dichlorobenzene	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
3,3-Dichlorobenzidine	ND	1.1	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
2,4-Dichlorophenol	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Diethylphthalate	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
2,4-Dimethylphenol	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Dimethylphthalate	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
4,6-Dinitro-2-methylphenol	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
2,4-Dinitrophenol	ND	4.3	mg/Kg dry	2	V-20	SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
2,4-Dinitrotoluene	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
2,6-Dinitrotoluene	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Di-n-octylphthalate	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
1,2-Diphenylhydrazine/Azobenzene	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Fluoranthene	ND	1.1	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Fluorene	ND	1.1	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-3 Sampled: 5/8/2020 11:00

Sample ID: 20E0343-03

Sample Matrix: Sludge

Sample Flags: RL-12

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobenzene	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Hexachlorobutadiene	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Hexachlorocyclopentadiene	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Hexachloroethane	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Indeno(1,2,3-cd)pyrene	ND	1.1	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Isophorone	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
1-Methylnaphthalene	ND	1.1	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
2-Methylnaphthalene	ND	1.1	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
2-Methylphenol	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
3/4-Methylphenol	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Naphthalene	ND	1.1	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
2-Nitroaniline	ND	2.2	mg/Kg dry	2	V-35	SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
3-Nitroaniline	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
4-Nitroaniline	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Nitrobenzene	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
2-Nitrophenol	ND	2.2	mg/Kg dry	2	V-20	SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
4-Nitrophenol	ND	4.3	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
N-Nitrosodimethylamine	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
N-Nitrosodiphenylamine/Diphenylamine	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
N-Nitrosodi-n-propylamine	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Pentachloronitrobenzene	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Pentachlorophenol	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Phenanthrene	ND	1.1	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Phenol	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Pyrene	ND	1.1	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
Pyridine	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
1,2,4,5-Tetrachlorobenzene	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
1,2,4-Trichlorobenzene	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
2,4,5-Trichlorophenol	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB
2,4,6-Trichlorophenol	ND	2.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:00	KLB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	50.9	30-130		5/18/20 13:00
Phenol-d6	54.0	30-130		5/18/20 13:00
Nitrobenzene-d5	57.0	30-130		5/18/20 13:00
2-Fluorobiphenyl	60.6	30-130		5/18/20 13:00
2,4,6-Tribromophenol	57.9	30-130		5/18/20 13:00
p-Terphenyl-d14	69.2	30-130		5/18/20 13:00

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-3 Sampled: 5/8/2020 11:00

Sample ID: 20E0343-03

Sample Matrix: Sludge

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.13	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:26	TG
Aroclor-1221 [1]	ND	0.13	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:26	TG
Aroclor-1232 [1]	ND	0.13	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:26	TG
Aroclor-1242 [1]	ND	0.13	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:26	TG
Aroclor-1248 [1]	ND	0.13	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:26	TG
Aroclor-1254 [2]	0.38	0.13	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:26	TG
Aroclor-1260 [1]	0.18	0.13	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:26	TG
Aroclor-1262 [1]	ND	0.13	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:26	TG
Aroclor-1268 [1]	ND	0.13	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:26	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	85.6	30-150		5/14/20 17:26
Decachlorobiphenyl [2]	83.3	30-150		5/14/20 17:26
Tetrachloro-m-xylene [1]	93.6	30-150		5/14/20 17:26
Tetrachloro-m-xylene [2]	87.1	30-150		5/14/20 17:26

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-3 Sampled: 5/8/2020 11:00

Sample ID: 20E0343-03

Sample Matrix: Sludge

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	4300	270	mg/Kg dry	10		SW-846 8100 Modified	5/14/20	5/18/20 14:19	RMW

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorobiphenyl	50.7	40-140		5/18/20 14:19

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-3 Sampled: 5/8/2020 11:00

Sample ID: 20E0343-03

Sample Matrix: Sludge

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	5.4	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:12	MJH
Barium	110	2.7	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:12	MJH
Cadmium	ND	0.54	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:12	MJH
Chromium	44	1.1	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:12	MJH
Lead	43	0.82	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:12	MJH
Mercury	0.18	0.040	mg/Kg dry	1		SW-846 7471B	5/18/20	5/20/20 13:34	CJV
Selenium	ND	5.4	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:12	MJH
Silver	0.54	0.54	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:12	MJH
Vanadium	340	1.1	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:12	MJH

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-3 Sampled: 5/8/2020 11:00

Sample ID: 20E0343-03

Sample Matrix: Sludge

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	59.8		% Wt	1		SM 2540G	5/11/20	5/11/20 12:30	CJT
Ignitability	Absent		present/absent	1		SW-846 1030	5/14/20	5/14/20 17:50	DJM
pH @17.8°C	4.6		pH Units	1		SW-846 9045C	5/8/20	5/8/20 21:30	DJM
Reactive Cyanide	ND	3.9	mg/Kg	1		SW-846 9014	5/15/20	5/16/20 13:05	EC
Reactive Sulfide	ND	20	mg/Kg	1		SW-846 9030A	5/15/20	5/16/20 15:05	EC

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-3 Sampled: 5/8/2020 11:00

Sample ID: 20E0343-03

Sample Matrix: Sludge

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	0.050	mg/L	1		SW-846 6010D	5/12/20	5/12/20 22:06	QNW
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	5/12/20	5/13/20 11:22	CJV
Vanadium	0.10	0.010	mg/L	1		SW-846 6010D	5/12/20	5/12/20 22:06	QNW
Barium	ND	0.50	mg/L	1		SW-846 6010D	5/12/20	5/12/20 22:06	QNW
Cadmium	ND	0.010	mg/L	1		SW-846 6010D	5/12/20	5/12/20 22:06	QNW
Chromium	ND	0.050	mg/L	1		SW-846 6010D	5/12/20	5/12/20 22:06	QNW
Lead	ND	0.10	mg/L	1		SW-846 6010D	5/12/20	5/12/20 22:06	QNW
Selenium	ND	0.050	mg/L	1		SW-846 6010D	5/12/20	5/13/20 15:06	MJH
Silver	ND	0.050	mg/L	1		SW-846 6010D	5/12/20	5/13/20 15:06	MJH

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro
Sample Description:
Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-3
Sampled: 5/8/2020 11:00

Sample ID: 20E0343-03

Sample Matrix: Sludge

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
See Attached Subcontract Report	-	-		µg/kg	1		SOP-466 PFAS		5/20/20 0:00	

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-4 Sampled: 5/8/2020 10:45

Sample ID: 20E0343-04

Sample Matrix: Sludge

Sample Flags: PR-03

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	6.6	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Acrylonitrile	ND	0.66	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.066	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Benzene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Bromobenzene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Bromochloromethane	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Bromodichloromethane	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Bromoform	ND	0.13	mg/Kg dry	1	V-05	SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Bromomethane	ND	0.26	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
2-Butanone (MEK)	ND	2.6	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
tert-Butyl Alcohol (TBA)	ND	2.6	mg/Kg dry	1	V-05	SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
n-Butylbenzene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
sec-Butylbenzene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
tert-Butylbenzene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.066	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Carbon Disulfide	ND	0.66	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Carbon Tetrachloride	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Chlorobenzene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Chlorodibromomethane	ND	0.066	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Chloroethane	ND	0.26	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Chloroform	ND	0.26	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Chloromethane	ND	0.26	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
2-Chlorotoluene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
4-Chlorotoluene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.66	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,2-Dibromoethane (EDB)	ND	0.066	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Dibromomethane	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,2-Dichlorobenzene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,3-Dichlorobenzene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,4-Dichlorobenzene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
trans-1,4-Dichloro-2-butene	ND	0.26	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.26	mg/Kg dry	1	V-05	SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,1-Dichloroethane	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,2-Dichloroethane	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,1-Dichloroethylene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
cis-1,2-Dichloroethylene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
trans-1,2-Dichloroethylene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,2-Dichloropropane	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,3-Dichloropropane	ND	0.066	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
2,2-Dichloropropane	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,1-Dichloropropene	ND	0.26	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
cis-1,3-Dichloropropene	ND	0.066	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
trans-1,3-Dichloropropene	ND	0.066	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Diethyl Ether	ND	0.26	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro | Sample Description: | Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-4 | Sampled: 5/8/2020 10:45

Sample ID: 20E0343-04

Sample Matrix: Sludge

Sample Flags: PR-03

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.066	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,4-Dioxane	ND	6.6	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Ethylbenzene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Hexachlorobutadiene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
2-Hexanone (MBK)	ND	1.3	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Isopropylbenzene (Cumene)	ND	0.26	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.26	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Methyl Acetate	ND	1.3	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Methyl Cyclohexane	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Methylene Chloride	ND	0.66	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
4-Methyl-2-pentanone (MIBK)	ND	1.3	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Naphthalene	ND	0.66	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
n-Propylbenzene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Styrene	ND	0.26	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,1,1,2-Tetrachloroethane	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,1,2,2-Tetrachloroethane	ND	0.066	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Tetrachloroethylene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Tetrahydrofuran	ND	1.3	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Toluene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,2,3-Trichlorobenzene	ND	0.66	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,2,4-Trichlorobenzene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,3,5-Trichlorobenzene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,1,1-Trichloroethane	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,1,2-Trichloroethane	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Trichloroethylene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Trichlorofluoromethane (Freon 11)	ND	0.26	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,2,3-Trichloropropane	ND	0.26	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,2,4-Trimethylbenzene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
1,3,5-Trimethylbenzene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
Vinyl Chloride	ND	0.26	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
m+p Xylene	ND	0.26	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF
o-Xylene	ND	0.13	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:18	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	107	70-130		5/11/20 20:18
Toluene-d8	96.4	70-130		5/11/20 20:18
4-Bromofluorobenzene	102	70-130		5/11/20 20:18

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-4 Sampled: 5/8/2020 10:45

Sample ID: 20E0343-04

Sample Matrix: Sludge

Sample Flags: RL-12

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.61	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Acenaphthylene	ND	0.61	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Acetophenone	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Aniline	ND	1.2	mg/Kg dry	2	V-05	SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Anthracene	ND	0.61	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Benzidine	ND	2.4	mg/Kg dry	2	V-04, V-05, V-35	SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Benzo(a)anthracene	ND	0.61	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Benzo(a)pyrene	ND	0.61	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Benzo(b)fluoranthene	ND	0.61	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Benzo(g,h,i)perylene	ND	0.61	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Benzo(k)fluoranthene	ND	0.61	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Benzoic Acid	ND	3.6	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Bis(2-chloroethoxy)methane	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Bis(2-chloroethyl)ether	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Bis(2-chloroisopropyl)ether	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Bis(2-Ethylhexyl)phthalate	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
4-Bromophenylphenylether	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Butylbenzylphthalate	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Carbazole	ND	0.61	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
4-Chloroaniline	ND	2.4	mg/Kg dry	2	V-34	SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
4-Chloro-3-methylphenol	ND	2.4	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
2-Chloronaphthalene	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
2-Chlorophenol	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
4-Chlorophenylphenylether	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Chrysene	ND	0.61	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Dibenz(a,h)anthracene	ND	0.61	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Dibenzofuran	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Di-n-butylphthalate	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
1,2-Dichlorobenzene	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
1,3-Dichlorobenzene	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
1,4-Dichlorobenzene	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
3,3-Dichlorobenzidine	ND	0.61	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
2,4-Dichlorophenol	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Diethylphthalate	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
2,4-Dimethylphenol	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Dimethylphthalate	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
4,6-Dinitro-2-methylphenol	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
2,4-Dinitrophenol	ND	2.4	mg/Kg dry	2	V-20	SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
2,4-Dinitrotoluene	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
2,6-Dinitrotoluene	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Di-n-octylphthalate	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
1,2-Diphenylhydrazine/Azobenzene	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Fluoranthene	ND	0.61	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Fluorene	ND	0.61	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro | Sample Description: | Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-4 | Sampled: 5/8/2020 10:45

Sample ID: 20E0343-04

Sample Matrix: Sludge

Sample Flags: RL-12

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobenzene	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Hexachlorobutadiene	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Hexachlorocyclopentadiene	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Hexachloroethane	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Indeno(1,2,3-cd)pyrene	ND	0.61	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Isophorone	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
1-Methylnaphthalene	ND	0.61	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
2-Methylnaphthalene	ND	0.61	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
2-Methylphenol	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
3/4-Methylphenol	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Naphthalene	ND	0.61	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
2-Nitroaniline	ND	1.2	mg/Kg dry	2	V-35	SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
3-Nitroaniline	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
4-Nitroaniline	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Nitrobenzene	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
2-Nitrophenol	ND	1.2	mg/Kg dry	2	V-20	SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
4-Nitrophenol	ND	2.4	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
N-Nitrosodimethylamine	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
N-Nitrosodiphenylamine/Diphenylamine	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
N-Nitrosodi-n-propylamine	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Pentachloronitrobenzene	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Pentachlorophenol	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Phenanthrene	ND	0.61	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Phenol	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Pyrene	ND	0.61	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
Pyridine	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
1,2,4,5-Tetrachlorobenzene	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
1,2,4-Trichlorobenzene	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
2,4,5-Trichlorophenol	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB
2,4,6-Trichlorophenol	ND	1.2	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:25	KLB

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
2-Fluorophenol	**28.6**	*	30-130	S-07	5/18/20 13:25
Phenol-d6	30.0		30-130		5/18/20 13:25
Nitrobenzene-d5	33.1		30-130		5/18/20 13:25
2-Fluorobiphenyl	34.8		30-130		5/18/20 13:25
2,4,6-Tribromophenol	31.9		30-130		5/18/20 13:25
p-Terphenyl-d14	40.5		30-130		5/18/20 13:25

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-4 Sampled: 5/8/2020 10:45

Sample ID: 20E0343-04

Sample Matrix: Sludge

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.14	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:43	TG
Aroclor-1221 [1]	ND	0.14	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:43	TG
Aroclor-1232 [1]	ND	0.14	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:43	TG
Aroclor-1242 [1]	ND	0.14	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:43	TG
Aroclor-1248 [1]	ND	0.14	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:43	TG
Aroclor-1254 [2]	0.38	0.14	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:43	TG
Aroclor-1260 [1]	0.19	0.14	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:43	TG
Aroclor-1262 [1]	ND	0.14	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:43	TG
Aroclor-1268 [1]	ND	0.14	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 17:43	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	87.7	30-150		5/14/20 17:43
Decachlorobiphenyl [2]	85.7	30-150		5/14/20 17:43
Tetrachloro-m-xylene [1]	98.2	30-150		5/14/20 17:43
Tetrachloro-m-xylene [2]	91.1	30-150		5/14/20 17:43

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-4 Sampled: 5/8/2020 10:45

Sample ID: 20E0343-04

Sample Matrix: Sludge

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	5200	570	mg/Kg dry	20		SW-846 8100 Modified	5/18/20	5/19/20 18:13	RMW

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorobiphenyl	*	40-140	S-01	5/19/20 18:13

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-4 Sampled: 5/8/2020 10:45

Sample ID: 20E0343-04

Sample Matrix: Sludge

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	6.0	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:16	MJH
Barium	93	3.0	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:16	MJH
Cadmium	ND	0.60	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:16	MJH
Chromium	29	1.2	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:16	MJH
Lead	32	0.90	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:16	MJH
Mercury	0.12	0.046	mg/Kg dry	1		SW-846 7471B	5/18/20	5/20/20 13:35	CJV
Selenium	ND	6.0	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:16	MJH
Silver	0.80	0.60	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:16	MJH
Vanadium	140	1.2	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:16	MJH

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-4 Sampled: 5/8/2020 10:45

Sample ID: 20E0343-04

Sample Matrix: Sludge

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	55.5		% Wt	1		SM 2540G	5/11/20	5/11/20 12:30	CJT
Ignitability	Absent		present/absent	1		SW-846 1030	5/14/20	5/14/20 17:50	DJM
pH @17.6°C	4.3		pH Units	1		SW-846 9045C	5/8/20	5/8/20 21:30	DJM
Reactive Cyanide	ND	4.0	mg/Kg	1		SW-846 9014	5/15/20	5/16/20 13:05	EC
Reactive Sulfide	ND	20	mg/Kg	1		SW-846 9030A	5/15/20	5/16/20 15:05	EC

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-4 Sampled: 5/8/2020 10:45

Sample ID: 20E0343-04

Sample Matrix: Sludge

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	0.050	mg/L	1		SW-846 6010D	5/12/20	5/12/20 22:13	QNW
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	5/12/20	5/13/20 11:28	CJV
Vanadium	0.022	0.010	mg/L	1		SW-846 6010D	5/12/20	5/12/20 22:13	QNW
Barium	ND	0.50	mg/L	1		SW-846 6010D	5/12/20	5/12/20 22:13	QNW
Cadmium	ND	0.010	mg/L	1		SW-846 6010D	5/12/20	5/12/20 22:13	QNW
Chromium	ND	0.050	mg/L	1		SW-846 6010D	5/12/20	5/12/20 22:13	QNW
Lead	ND	0.10	mg/L	1		SW-846 6010D	5/12/20	5/12/20 22:13	QNW
Selenium	ND	0.050	mg/L	1		SW-846 6010D	5/12/20	5/13/20 15:13	MJH
Silver	ND	0.050	mg/L	1		SW-846 6010D	5/12/20	5/13/20 15:13	MJH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro | Sample Description: | Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-4 | Sampled: 5/8/2020 10:45

Sample ID: 20E0343-04

Sample Matrix: Sludge

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
See Attached Subcontract Report	-	-		µg/kg	1		SOP-466 PFAS		5/20/20 0:00	

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: Duplicate Sampled: 5/8/2020 11:15

Sample ID: 20E0343-05

Sample Matrix: Sludge

Sample Flags: PR-03

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	5.1	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Acrylonitrile	ND	0.51	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.051	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Benzene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Bromobenzene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Bromochloromethane	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Bromodichloromethane	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Bromoform	ND	0.10	mg/Kg dry	1	V-05	SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Bromomethane	ND	0.20	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
2-Butanone (MEK)	ND	2.0	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
tert-Butyl Alcohol (TBA)	ND	2.0	mg/Kg dry	1	V-05	SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
n-Butylbenzene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
sec-Butylbenzene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
tert-Butylbenzene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.051	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Carbon Disulfide	ND	0.51	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Carbon Tetrachloride	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Chlorobenzene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Chlorodibromomethane	ND	0.051	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Chloroethane	ND	0.20	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Chloroform	ND	0.20	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Chloromethane	ND	0.20	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
2-Chlorotoluene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
4-Chlorotoluene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.51	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,2-Dibromoethane (EDB)	ND	0.051	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Dibromomethane	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,2-Dichlorobenzene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,3-Dichlorobenzene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,4-Dichlorobenzene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
trans-1,4-Dichloro-2-butene	ND	0.20	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.20	mg/Kg dry	1	V-05	SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,1-Dichloroethane	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,2-Dichloroethane	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,1-Dichloroethylene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
cis-1,2-Dichloroethylene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
trans-1,2-Dichloroethylene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,2-Dichloropropane	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,3-Dichloropropane	ND	0.051	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
2,2-Dichloropropane	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,1-Dichloropropene	ND	0.20	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
cis-1,3-Dichloropropene	ND	0.051	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
trans-1,3-Dichloropropene	ND	0.051	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Diethyl Ether	ND	0.20	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro | Sample Description: | Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: Duplicate | Sampled: 5/8/2020 11:15

Sample ID: 20E0343-05

Sample Matrix: Sludge

Sample Flags: PR-03

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.051	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,4-Dioxane	ND	5.1	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Ethylbenzene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Hexachlorobutadiene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
2-Hexanone (MBK)	ND	1.0	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Isopropylbenzene (Cumene)	ND	0.20	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.20	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Methyl Acetate	ND	1.0	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Methyl Cyclohexane	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Methylene Chloride	ND	0.51	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
4-Methyl-2-pentanone (MIBK)	ND	1.0	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Naphthalene	ND	0.51	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
n-Propylbenzene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Styrene	ND	0.20	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,1,1,2-Tetrachloroethane	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,1,2,2-Tetrachloroethane	ND	0.051	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Tetrachloroethylene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Tetrahydrofuran	ND	1.0	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Toluene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,2,3-Trichlorobenzene	ND	0.51	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,2,4-Trichlorobenzene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,3,5-Trichlorobenzene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,1,1-Trichloroethane	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,1,2-Trichloroethane	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Trichloroethylene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Trichlorofluoromethane (Freon 11)	ND	0.20	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,2,3-Trichloropropane	ND	0.20	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,2,4-Trimethylbenzene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
1,3,5-Trimethylbenzene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
Vinyl Chloride	ND	0.20	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
m+p Xylene	ND	0.20	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF
o-Xylene	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 20:42	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	107	70-130		5/11/20 20:42
Toluene-d8	94.9	70-130		5/11/20 20:42
4-Bromofluorobenzene	99.4	70-130		5/11/20 20:42

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: Duplicate Sampled: 5/8/2020 11:15

Sample ID: 20E0343-05

Sample Matrix: Sludge

Sample Flags: RL-12

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Acenaphthylene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Acetophenone	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Aniline	ND	1.0	mg/Kg dry	2	V-05	SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Anthracene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Benzidine	ND	2.0	mg/Kg dry	2	V-04, V-05, V-35	SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Benzo(a)anthracene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Benzo(a)pyrene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Benzo(b)fluoranthene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Benzo(g,h,i)perylene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Benzo(k)fluoranthene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Benzoic Acid	ND	3.1	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Bis(2-chloroethoxy)methane	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Bis(2-chloroethyl)ether	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Bis(2-chloroisopropyl)ether	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Bis(2-Ethylhexyl)phthalate	1.2	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
4-Bromophenylphenylether	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Butylbenzylphthalate	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Carbazole	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
4-Chloroaniline	ND	2.0	mg/Kg dry	2	V-34	SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
4-Chloro-3-methylphenol	ND	2.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
2-Chloronaphthalene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
2-Chlorophenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
4-Chlorophenylphenylether	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Chrysene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Dibenz(a,h)anthracene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Dibenzofuran	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Di-n-butylphthalate	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
1,2-Dichlorobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
1,3-Dichlorobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
1,4-Dichlorobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
3,3-Dichlorobenzidine	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
2,4-Dichlorophenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Diethylphthalate	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
2,4-Dimethylphenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Dimethylphthalate	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
4,6-Dinitro-2-methylphenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
2,4-Dinitrophenol	ND	2.0	mg/Kg dry	2	V-20	SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
2,4-Dinitrotoluene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
2,6-Dinitrotoluene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Di-n-octylphthalate	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
1,2-Diphenylhydrazine/Azobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Fluoranthene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Fluorene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro | Sample Description: | Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: Duplicate | Sampled: 5/8/2020 11:15

Sample ID: 20E0343-05

Sample Matrix: Sludge

Sample Flags: RL-12

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Hexachlorobutadiene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Hexachlorocyclopentadiene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Hexachloroethane	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Indeno(1,2,3-cd)pyrene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Isophorone	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
1-Methylnaphthalene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
2-Methylnaphthalene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
2-Methylphenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
3/4-Methylphenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Naphthalene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
2-Nitroaniline	ND	1.0	mg/Kg dry	2	V-35	SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
3-Nitroaniline	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
4-Nitroaniline	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Nitrobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
2-Nitrophenol	ND	1.0	mg/Kg dry	2	V-20	SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
4-Nitrophenol	ND	2.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
N-Nitrosodimethylamine	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
N-Nitrosodiphenylamine/Diphenylamine	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
N-Nitrosodi-n-propylamine	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Pentachloronitrobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Pentachlorophenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Phenanthrene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Phenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Pyrene	ND	0.52	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
Pyridine	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
1,2,4,5-Tetrachlorobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
1,2,4-Trichlorobenzene	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
2,4,5-Trichlorophenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB
2,4,6-Trichlorophenol	ND	1.0	mg/Kg dry	2		SW-846 8270D-E	5/14/20	5/18/20 13:50	KLB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	37.9	30-130		5/18/20 13:50
Phenol-d6	40.8	30-130		5/18/20 13:50
Nitrobenzene-d5	42.9	30-130		5/18/20 13:50
2-Fluorobiphenyl	45.8	30-130		5/18/20 13:50
2,4,6-Tribromophenol	44.4	30-130		5/18/20 13:50
p-Terphenyl-d14	51.3	30-130		5/18/20 13:50

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: Duplicate Sampled: 5/8/2020 11:15

Sample ID: 20E0343-05

Sample Matrix: Sludge

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:01	TG
Aroclor-1221 [1]	ND	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:01	TG
Aroclor-1232 [1]	ND	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:01	TG
Aroclor-1242 [1]	ND	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:01	TG
Aroclor-1248 [1]	ND	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:01	TG
Aroclor-1254 [1]	0.67	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:01	TG
Aroclor-1260 [1]	0.56	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:01	TG
Aroclor-1262 [1]	ND	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:01	TG
Aroclor-1268 [1]	ND	0.12	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:01	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	85.6	30-150		5/14/20 18:01
Decachlorobiphenyl [2]	83.9	30-150		5/14/20 18:01
Tetrachloro-m-xylene [1]	97.0	30-150		5/14/20 18:01
Tetrachloro-m-xylene [2]	88.2	30-150		5/14/20 18:01

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: Duplicate Sampled: 5/8/2020 11:15

Sample ID: 20E0343-05

Sample Matrix: Sludge

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	3300	130	mg/Kg dry	10		SW-846 8100 Modified	5/14/20	5/18/20 15:00	RMW

Surrogates	% Recovery	Recovery Limits	Flag/Qual				
2-Fluorobiphenyl	53.1	40-140					5/18/20 15:00

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: Duplicate Sampled: 5/8/2020 11:15

Sample ID: 20E0343-05

Sample Matrix: Sludge

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	5.0	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:21	MJH
Barium	85	2.5	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:21	MJH
Cadmium	ND	0.50	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:21	MJH
Chromium	47	1.0	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:21	MJH
Lead	56	0.76	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:21	MJH
Mercury	0.45	0.037	mg/Kg dry	1		SW-846 7471B	5/18/20	5/20/20 13:37	CJV
Selenium	ND	5.0	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:21	MJH
Silver	ND	0.50	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:21	MJH
Vanadium	180	1.0	mg/Kg dry	1		SW-846 6010D	5/18/20	5/19/20 17:21	MJH

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: Duplicate Sampled: 5/8/2020 11:15

Sample ID: 20E0343-05

Sample Matrix: Sludge

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	65.3		% Wt	1		SM 2540G	5/11/20	5/11/20 12:30	CJT
Ignitability	Absent		present/absent	1		SW-846 1030	5/14/20	5/14/20 17:50	DJM
pH @17.6°C	4.7		pH Units	1		SW-846 9045C	5/8/20	5/8/20 21:30	DJM
Reactive Cyanide	ND	3.9	mg/Kg	1		SW-846 9014	5/15/20	5/16/20 13:05	EC
Reactive Sulfide	ND	20	mg/Kg	1		SW-846 9030A	5/15/20	5/16/20 15:05	EC

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: Duplicate Sampled: 5/8/2020 11:15

Sample ID: 20E0343-05

Sample Matrix: Sludge

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	0.050	mg/L	1		SW-846 6010D	5/12/20	5/12/20 22:20	QNW
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	5/12/20	5/13/20 11:30	CJV
Vanadium	0.045	0.010	mg/L	1		SW-846 6010D	5/12/20	5/12/20 22:20	QNW
Barium	ND	0.50	mg/L	1		SW-846 6010D	5/12/20	5/12/20 22:20	QNW
Cadmium	ND	0.010	mg/L	1		SW-846 6010D	5/12/20	5/12/20 22:20	QNW
Chromium	ND	0.050	mg/L	1		SW-846 6010D	5/12/20	5/12/20 22:20	QNW
Lead	ND	0.10	mg/L	1		SW-846 6010D	5/12/20	5/12/20 22:20	QNW
Selenium	ND	0.050	mg/L	1		SW-846 6010D	5/12/20	5/13/20 15:21	MJH
Silver	ND	0.050	mg/L	1		SW-846 6010D	5/12/20	5/13/20 15:21	MJH

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro
Sample Description:
Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: Duplicate
Sampled: 5/8/2020 11:15

Sample ID: 20E0343-05

Sample Matrix: Sludge

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
See Attached Subcontract Report	-	-		µg/kg	1		SOP-466 PFAS		5/20/20 0:00	

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-5 Sampled: 5/8/2020 09:15

Sample ID: 20E0343-06

Sample Matrix: Sludge

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.090	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Acrylonitrile	ND	0.0054	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00090	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Benzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Bromobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Bromochloromethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Bromodichloromethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Bromoform	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Bromomethane	ND	0.0090	mg/Kg dry	1	V-34	SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
2-Butanone (MEK)	ND	0.036	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
tert-Butyl Alcohol (TBA)	ND	0.036	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
n-Butylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
sec-Butylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
tert-Butylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00090	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Carbon Disulfide	ND	0.0054	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Carbon Tetrachloride	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Chlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Chlorodibromomethane	ND	0.00090	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Chloroethane	ND	0.018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Chloroform	ND	0.0036	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Chloromethane	ND	0.0090	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
2-Chlorotoluene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
4-Chlorotoluene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,2-Dibromoethane (EDB)	ND	0.00090	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Dibromomethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,2-Dichlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,3-Dichlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,4-Dichlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
trans-1,4-Dichloro-2-butene	ND	0.0036	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,1-Dichloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,2-Dichloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,1-Dichloroethylene	ND	0.0036	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
cis-1,2-Dichloroethylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
trans-1,2-Dichloroethylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,2-Dichloropropane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,3-Dichloropropane	ND	0.00090	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
2,2-Dichloropropane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,1-Dichloropropene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
cis-1,3-Dichloropropene	ND	0.00090	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
trans-1,3-Dichloropropene	ND	0.00090	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Diethyl Ether	ND	0.018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-5 Sampled: 5/8/2020 09:15

Sample ID: 20E0343-06

Sample Matrix: Sludge

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.00090	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,4-Dioxane	ND	0.090	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Ethylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Hexachlorobutadiene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
2-Hexanone (MBK)	ND	0.018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Isopropylbenzene (Cumene)	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Methyl Acetate	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0036	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Methyl Cyclohexane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Methylene Chloride	ND	0.018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Naphthalene	ND	0.0036	mg/Kg dry	1	V-05	SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
n-Propylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Styrene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,1,1,2-Tetrachloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,1,2,2-Tetrachloroethane	ND	0.00090	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Tetrachloroethylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Tetrahydrofuran	ND	0.0090	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Toluene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,2,3-Trichlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,2,4-Trichlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,3,5-Trichlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,1,1-Trichloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,1,2-Trichloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Trichloroethylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0090	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,2,3-Trichloropropane	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.0090	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,2,4-Trimethylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
1,3,5-Trimethylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
Vinyl Chloride	ND	0.0090	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
m+p Xylene	ND	0.0036	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF
o-Xylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:00	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	104	70-130		5/11/20 9:00
Toluene-d8	102	70-130		5/11/20 9:00
4-Bromofluorobenzene	98.4	70-130		5/11/20 9:00

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-5 Sampled: 5/8/2020 09:15

Sample ID: 20E0343-06

Sample Matrix: Sludge

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 15:38	IMR
Acenaphthylene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 15:38	IMR
Anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 15:38	IMR
Benzo(a)anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 15:38	IMR
Benzo(a)pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 15:38	IMR
Benzo(b)fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 15:38	IMR
Benzo(g,h,i)perylene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 15:38	IMR
Benzo(k)fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 15:38	IMR
Chrysene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 15:38	IMR
Dibenz(a,h)anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 15:38	IMR
Fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 15:38	IMR
Fluorene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 15:38	IMR
Indeno(1,2,3-cd)pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 15:38	IMR
2-Methylnaphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 15:38	IMR
Naphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 15:38	IMR
Phenanthrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 15:38	IMR
Pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 15:38	IMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Nitrobenzene-d5	57.9	30-130		5/14/20 15:38
2-Fluorobiphenyl	62.0	30-130		5/14/20 15:38
p-Terphenyl-d14	72.2	30-130		5/14/20 15:38

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-5 Sampled: 5/8/2020 09:15

Sample ID: 20E0343-06

Sample Matrix: Sludge

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:18	TG
Aroclor-1221 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:18	TG
Aroclor-1232 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:18	TG
Aroclor-1242 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:18	TG
Aroclor-1248 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:18	TG
Aroclor-1254 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:18	TG
Aroclor-1260 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:18	TG
Aroclor-1262 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:18	TG
Aroclor-1268 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:18	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	93.4	30-150		5/14/20 18:18
Decachlorobiphenyl [2]	87.0	30-150		5/14/20 18:18
Tetrachloro-m-xylene [1]	101	30-150		5/14/20 18:18
Tetrachloro-m-xylene [2]	90.8	30-150		5/14/20 18:18

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-5 Sampled: 5/8/2020 09:15

Sample ID: 20E0343-06

Sample Matrix: Sludge

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	5.8	3.7	mg/Kg dry	1		SW-846 6010D	5/12/20	5/12/20 15:56	MJH
Barium	29	1.8	mg/Kg dry	1		SW-846 6010D	5/12/20	5/12/20 15:56	MJH
Cadmium	ND	0.37	mg/Kg dry	1		SW-846 6010D	5/12/20	5/12/20 15:56	MJH
Chromium	13	0.74	mg/Kg dry	1		SW-846 6010D	5/12/20	5/12/20 15:56	MJH
Lead	7.8	0.55	mg/Kg dry	1		SW-846 6010D	5/12/20	5/12/20 15:56	MJH
Mercury	0.037	0.029	mg/Kg dry	1		SW-846 7471B	5/11/20	5/12/20 14:29	CJV
Selenium	ND	3.7	mg/Kg dry	1		SW-846 6010D	5/12/20	5/12/20 15:56	MJH
Silver	ND	0.37	mg/Kg dry	1		SW-846 6010D	5/12/20	5/12/20 15:56	MJH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-5 Sampled: 5/8/2020 09:15

Sample ID: 20E0343-06

Sample Matrix: Sludge

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.0		% Wt	1		SM 2540G	5/11/20	5/11/20 12:30	CJT

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-6 Sampled: 5/8/2020 09:45

Sample ID: 20E0343-07

Sample Matrix: Sludge

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.087	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Acrylonitrile	ND	0.0052	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00087	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Benzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Bromobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Bromochloromethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Bromodichloromethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Bromoform	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Bromomethane	ND	0.0087	mg/Kg dry	1	V-34	SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
2-Butanone (MEK)	ND	0.035	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
tert-Butyl Alcohol (TBA)	ND	0.035	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
n-Butylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
sec-Butylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
tert-Butylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00087	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Carbon Disulfide	ND	0.0052	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Carbon Tetrachloride	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Chlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Chlorodibromomethane	ND	0.00087	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Chloroethane	ND	0.017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Chloroform	ND	0.0035	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Chloromethane	ND	0.0087	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
2-Chlorotoluene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
4-Chlorotoluene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,2-Dibromoethane (EDB)	ND	0.00087	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Dibromomethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,2-Dichlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,3-Dichlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,4-Dichlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
trans-1,4-Dichloro-2-butene	ND	0.0035	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,1-Dichloroethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,2-Dichloroethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,1-Dichloroethylene	ND	0.0035	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
cis-1,2-Dichloroethylene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
trans-1,2-Dichloroethylene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,2-Dichloropropane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,3-Dichloropropane	ND	0.00087	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
2,2-Dichloropropane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,1-Dichloropropene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
cis-1,3-Dichloropropene	ND	0.00087	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
trans-1,3-Dichloropropene	ND	0.00087	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Diethyl Ether	ND	0.017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-6 Sampled: 5/8/2020 09:45

Sample ID: 20E0343-07

Sample Matrix: Sludge

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.00087	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,4-Dioxane	ND	0.087	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Ethylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Hexachlorobutadiene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
2-Hexanone (MBK)	ND	0.017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Isopropylbenzene (Cumene)	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Methyl Acetate	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0035	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Methyl Cyclohexane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Methylene Chloride	ND	0.017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Naphthalene	ND	0.0035	mg/Kg dry	1	V-05	SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
n-Propylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Styrene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,1,1,2-Tetrachloroethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,1,2,2-Tetrachloroethane	ND	0.00087	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Tetrachloroethylene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Tetrahydrofuran	ND	0.0087	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Toluene	0.0025	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,2,3-Trichlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,2,4-Trichlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,3,5-Trichlorobenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,1,1-Trichloroethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,1,2-Trichloroethane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Trichloroethylene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0087	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,2,3-Trichloropropane	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.0087	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,2,4-Trimethylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
1,3,5-Trimethylbenzene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
Vinyl Chloride	ND	0.0087	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
m+p Xylene	ND	0.0035	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF
o-Xylene	ND	0.0017	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:28	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	106	70-130		5/11/20 9:28
Toluene-d8	102	70-130		5/11/20 9:28
4-Bromofluorobenzene	102	70-130		5/11/20 9:28

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-6 Sampled: 5/8/2020 09:45

Sample ID: 20E0343-07

Sample Matrix: Sludge

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:03	IMR
Acenaphthylene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:03	IMR
Anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:03	IMR
Benzo(a)anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:03	IMR
Benzo(a)pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:03	IMR
Benzo(b)fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:03	IMR
Benzo(g,h,i)perylene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:03	IMR
Benzo(k)fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:03	IMR
Chrysene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:03	IMR
Dibenz(a,h)anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:03	IMR
Fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:03	IMR
Fluorene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:03	IMR
Indeno(1,2,3-cd)pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:03	IMR
2-Methylnaphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:03	IMR
Naphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:03	IMR
Phenanthrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:03	IMR
Pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:03	IMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Nitrobenzene-d5	61.8	30-130		5/14/20 16:03
2-Fluorobiphenyl	62.6	30-130		5/14/20 16:03
p-Terphenyl-d14	73.6	30-130		5/14/20 16:03

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Project Location: 161 Wellington Street, Brattleboro | Sample Description: | Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-6 | Sampled: 5/8/2020 09:45

Sample ID: 20E0343-07

Sample Matrix: Sludge

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:36	TG
Aroclor-1221 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:36	TG
Aroclor-1232 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:36	TG
Aroclor-1242 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:36	TG
Aroclor-1248 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:36	TG
Aroclor-1254 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:36	TG
Aroclor-1260 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:36	TG
Aroclor-1262 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:36	TG
Aroclor-1268 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:36	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	100	30-150		5/14/20 18:36
Decachlorobiphenyl [2]	94.4	30-150		5/14/20 18:36
Tetrachloro-m-xylene [1]	106	30-150		5/14/20 18:36
Tetrachloro-m-xylene [2]	95.3	30-150		5/14/20 18:36

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-6 Sampled: 5/8/2020 09:45

Sample ID: 20E0343-07

Sample Matrix: Sludge

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	5.9	3.8	mg/Kg dry	1		SW-846 6010D	5/12/20	5/12/20 16:00	MJH
Barium	32	1.9	mg/Kg dry	1		SW-846 6010D	5/12/20	5/12/20 16:00	MJH
Cadmium	ND	0.38	mg/Kg dry	1		SW-846 6010D	5/12/20	5/12/20 16:00	MJH
Chromium	15	0.75	mg/Kg dry	1		SW-846 6010D	5/12/20	5/12/20 16:00	MJH
Lead	6.1	0.56	mg/Kg dry	1		SW-846 6010D	5/12/20	5/12/20 16:00	MJH
Mercury	ND	0.027	mg/Kg dry	1		SW-846 7471B	5/11/20	5/12/20 14:30	CJV
Selenium	ND	3.8	mg/Kg dry	1		SW-846 6010D	5/12/20	5/12/20 16:00	MJH
Silver	ND	0.38	mg/Kg dry	1		SW-846 6010D	5/12/20	5/12/20 16:00	MJH

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-6 Sampled: 5/8/2020 09:45

Sample ID: 20E0343-07

Sample Matrix: Sludge

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.1		% Wt	1		SM 2540G	5/11/20	5/11/20 12:31	CJT

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-7 Sampled: 5/8/2020 10:30

Sample ID: 20E0343-08

Sample Matrix: Sludge

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.076	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Acrylonitrile	ND	0.0045	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00076	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Benzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Bromobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Bromochloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Bromodichloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Bromoform	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Bromomethane	ND	0.0076	mg/Kg dry	1	V-34	SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
2-Butanone (MEK)	ND	0.030	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
tert-Butyl Alcohol (TBA)	ND	0.030	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
n-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
sec-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
tert-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00076	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Carbon Disulfide	ND	0.0045	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Carbon Tetrachloride	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Chlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Chlorodibromomethane	ND	0.00076	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Chloroethane	ND	0.015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Chloroform	ND	0.0030	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Chloromethane	ND	0.0076	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
2-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
4-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,2-Dibromoethane (EDB)	ND	0.00076	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Dibromomethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,2-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,3-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,4-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
trans-1,4-Dichloro-2-butene	ND	0.0030	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,1-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,2-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,1-Dichloroethylene	ND	0.0030	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
cis-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
trans-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,3-Dichloropropane	ND	0.00076	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
2,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,1-Dichloropropene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
cis-1,3-Dichloropropene	ND	0.00076	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
trans-1,3-Dichloropropene	ND	0.00076	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Diethyl Ether	ND	0.015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-7 Sampled: 5/8/2020 10:30

Sample ID: 20E0343-08

Sample Matrix: Sludge

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.00076	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,4-Dioxane	ND	0.076	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Ethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Hexachlorobutadiene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
2-Hexanone (MBK)	ND	0.015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Isopropylbenzene (Cumene)	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Methyl Acetate	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0030	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Methyl Cyclohexane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Methylene Chloride	ND	0.015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Naphthalene	ND	0.0030	mg/Kg dry	1	V-05	SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
n-Propylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Styrene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,1,1,2-Tetrachloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,1,2,2-Tetrachloroethane	ND	0.00076	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Tetrachloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Tetrahydrofuran	ND	0.0076	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Toluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,2,3-Trichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,2,4-Trichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,3,5-Trichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,1,1-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,1,2-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Trichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0076	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,2,3-Trichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.0076	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,2,4-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
1,3,5-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
Vinyl Chloride	ND	0.0076	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
m+p Xylene	ND	0.0030	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF
o-Xylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	5/11/20	5/11/20 9:56	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	105	70-130		5/11/20 9:56
Toluene-d8	102	70-130		5/11/20 9:56
4-Bromofluorobenzene	96.5	70-130		5/11/20 9:56

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-7 Sampled: 5/8/2020 10:30

Sample ID: 20E0343-08

Sample Matrix: Sludge

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:29	IMR
Acenaphthylene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:29	IMR
Anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:29	IMR
Benzo(a)anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:29	IMR
Benzo(a)pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:29	IMR
Benzo(b)fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:29	IMR
Benzo(g,h,i)perylene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:29	IMR
Benzo(k)fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:29	IMR
Chrysene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:29	IMR
Dibenz(a,h)anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:29	IMR
Fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:29	IMR
Fluorene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:29	IMR
Indeno(1,2,3-cd)pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:29	IMR
2-Methylnaphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:29	IMR
Naphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:29	IMR
Phenanthrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:29	IMR
Pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	5/11/20	5/14/20 16:29	IMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Nitrobenzene-d5	55.8	30-130		5/14/20 16:29
2-Fluorobiphenyl	58.9	30-130		5/14/20 16:29
p-Terphenyl-d14	69.9	30-130		5/14/20 16:29

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-7 Sampled: 5/8/2020 10:30

Sample ID: 20E0343-08

Sample Matrix: Sludge

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:53	TG
Aroclor-1221 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:53	TG
Aroclor-1232 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:53	TG
Aroclor-1242 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:53	TG
Aroclor-1248 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:53	TG
Aroclor-1254 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:53	TG
Aroclor-1260 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:53	TG
Aroclor-1262 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:53	TG
Aroclor-1268 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	5/11/20	5/14/20 18:53	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	103	30-150		5/14/20 18:53
Decachlorobiphenyl [2]	97.0	30-150		5/14/20 18:53
Tetrachloro-m-xylene [1]	108	30-150		5/14/20 18:53
Tetrachloro-m-xylene [2]	98.1	30-150		5/14/20 18:53

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-7 Sampled: 5/8/2020 10:30

Sample ID: 20E0343-08

Sample Matrix: Sludge

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	6.5	3.6	mg/Kg dry	1		SW-846 6010D	5/12/20	5/12/20 16:16	MJH
Barium	27	1.8	mg/Kg dry	1		SW-846 6010D	5/12/20	5/12/20 16:16	MJH
Cadmium	ND	0.36	mg/Kg dry	1		SW-846 6010D	5/12/20	5/12/20 16:16	MJH
Chromium	13	0.72	mg/Kg dry	1		SW-846 6010D	5/12/20	5/12/20 16:16	MJH
Lead	5.1	0.54	mg/Kg dry	1		SW-846 6010D	5/12/20	5/12/20 16:16	MJH
Mercury	ND	0.026	mg/Kg dry	1		SW-846 7471B	5/11/20	5/12/20 11:16	CJV
Selenium	ND	3.6	mg/Kg dry	1		SW-846 6010D	5/12/20	5/12/20 16:16	MJH
Silver	ND	0.36	mg/Kg dry	1		SW-846 6010D	5/12/20	5/12/20 16:16	MJH

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Project Location: 161 Wellington Street, Brattleboro Sample Description: Work Order: 20E0343

Date Received: 5/8/2020

Field Sample #: LF-7 Sampled: 5/8/2020 10:30

Sample ID: 20E0343-08

Sample Matrix: Sludge

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.8		% Wt	1		SM 2540G	5/11/20	5/11/20 12:31	CJT

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Sample Extraction Data

Prep Method: % Solids **Analytical Method: SM 2540G**

Lab Number [Field ID]	Batch	Date
20E0343-01 [LF-1]	B257718	05/11/20
20E0343-02 [LF-2]	B257718	05/11/20
20E0343-03 [LF-3]	B257718	05/11/20
20E0343-04 [LF-4]	B257718	05/11/20
20E0343-05 [Duplicate]	B257718	05/11/20
20E0343-06 [LF-5]	B257718	05/11/20
20E0343-07 [LF-6]	B257718	05/11/20
20E0343-08 [LF-7]	B257718	05/11/20

SW-846 1030

Lab Number [Field ID]	Batch	Initial [g]	Date
20E0343-01 [LF-1]	B258035	50.0	05/14/20
20E0343-02 [LF-2]	B258035	50.0	05/14/20
20E0343-03 [LF-3]	B258035	50.0	05/14/20
20E0343-04 [LF-4]	B258035	50.0	05/14/20
20E0343-05 [Duplicate]	B258035	50.0	05/14/20

Prep Method: SW-846 3050B **Analytical Method: SW-846 6010D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20E0343-06 [LF-5]	B257823	1.54	50.0	05/12/20
20E0343-07 [LF-6]	B257823	1.51	50.0	05/12/20
20E0343-08 [LF-7]	B257823	1.52	50.0	05/12/20

Prep Method: SW-846 3050B **Analytical Method: SW-846 6010D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20E0343-01 [LF-1]	B258216	1.50	50.0	05/18/20
20E0343-02 [LF-2]	B258216	1.57	50.0	05/18/20
20E0343-03 [LF-3]	B258216	1.54	50.0	05/18/20
20E0343-04 [LF-4]	B258216	1.50	50.0	05/18/20
20E0343-05 [Duplicate]	B258216	1.52	50.0	05/18/20

Prep Method: SW-846 3010A **Analytical Method: SW-846 6010D** **Leachates were extracted on 5/11/2020 per SW-846 1311 in Batch B257716**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20E0343-01 [LF-1]	B257841	50.0	50.0	05/12/20
20E0343-02 [LF-2]	B257841	50.0	50.0	05/12/20
20E0343-03 [LF-3]	B257841	50.0	50.0	05/12/20
20E0343-04 [LF-4]	B257841	50.0	50.0	05/12/20
20E0343-05 [Duplicate]	B257841	50.0	50.0	05/12/20

Prep Method: SW-846 7470A Prep **Analytical Method: SW-846 7470A** **Leachates were extracted on 5/11/2020 per SW-846 1311 in Batch B257716**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20E0343-01 [LF-1]	B257838	6.00	6.00	05/12/20
20E0343-02 [LF-2]	B257838	6.00	6.00	05/12/20
20E0343-03 [LF-3]	B257838	6.00	6.00	05/12/20

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Sample Extraction Data

Prep Method: SW-846 7470A Prep **Analytical Method: SW-846 7470A** **Leachates were extracted on 5/11/2020 per SW-846 1311 in Batch B257716**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20E0343-04 [LF-4]	B257838	6.00	6.00	05/12/20
20E0343-05 [Duplicate]	B257838	6.00	6.00	05/12/20

Prep Method: SW-846 7471 **Analytical Method: SW-846 7471B**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20E0343-06 [LF-5]	B257720	0.591	50.0	05/11/20
20E0343-07 [LF-6]	B257720	0.633	50.0	05/11/20
20E0343-08 [LF-7]	B257720	0.628	50.0	05/11/20

Prep Method: SW-846 7471 **Analytical Method: SW-846 7471B**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20E0343-01 [LF-1]	B258205	0.597	50.0	05/18/20
20E0343-02 [LF-2]	B258205	0.591	50.0	05/18/20
20E0343-03 [LF-3]	B258205	0.623	50.0	05/18/20
20E0343-04 [LF-4]	B258205	0.581	50.0	05/18/20
20E0343-05 [Duplicate]	B258205	0.624	50.0	05/18/20

Prep Method: SW-846 3540C **Analytical Method: SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20E0343-01 [LF-1]	B257751	10.0	10.0	05/11/20
20E0343-02 [LF-2]	B257751	10.0	10.0	05/11/20
20E0343-03 [LF-3]	B257751	10.3	10.0	05/11/20
20E0343-04 [LF-4]	B257751	10.0	10.0	05/11/20
20E0343-05 [Duplicate]	B257751	10.0	10.0	05/11/20
20E0343-06 [LF-5]	B257751	10.0	10.0	05/11/20
20E0343-07 [LF-6]	B257751	10.0	10.0	05/11/20
20E0343-08 [LF-7]	B257751	10.0	10.0	05/11/20

Prep Method: SW-846 3546 **Analytical Method: SW-846 8100 Modified**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20E0343-01 [LF-1]	B258014	30.4	1.00	05/14/20
20E0343-02 [LF-2]	B258014	30.0	1.00	05/14/20
20E0343-03 [LF-3]	B258014	30.5	2.00	05/14/20
20E0343-05 [Duplicate]	B258014	30.1	1.00	05/14/20

Prep Method: SW-846 3546 **Analytical Method: SW-846 8100 Modified**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20E0343-04RE1 [LF-4]	B258243	15.7	1.00	05/18/20

Prep Method: SW-846 5035 **Analytical Method: SW-846 8260C-D**

Lab Number [Field ID]	Batch	Sample Amount(g)	Methanol Volume(mL)	Methanol Aliquot(mL)	Final Volume(mL)	Date
20E0343-01 [LF-1]	B257753	4.63	6.60	1	50	05/11/20

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Sample Extraction Data

Prep Method: SW-846 5035 **Analytical Method: SW-846 8260C-D**

Lab Number [Field ID]	Batch	Sample Amount(g)	Methanol Volume(mL)	Methanol Aliquot(mL)	Final Volume(mL)	Date
20E0343-02 [LF-2]	B257753	4.23	6.47	1	50	05/11/20
20E0343-03 [LF-3]	B257753	4.94	6.98	1	50	05/11/20
20E0343-04 [LF-4]	B257753	4.95	7.20	1	50	05/11/20
20E0343-05 [Duplicate]	B257753	5.12	6.78	1	50	05/11/20

Prep Method: SW-846 5035 **Analytical Method: SW-846 8260C-D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20E0343-06 [LF-5]	B257772	6.32	10.0	05/11/20
20E0343-07 [LF-6]	B257772	6.52	10.0	05/11/20
20E0343-08 [LF-7]	B257772	7.20	10.0	05/11/20

Prep Method: SW-846 3546 **Analytical Method: SW-846 8270D-E**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20E0343-06 [LF-5]	B257789	30.0	1.00	05/11/20
20E0343-07 [LF-6]	B257789	30.0	1.00	05/11/20
20E0343-08 [LF-7]	B257789	30.0	1.00	05/11/20

Prep Method: SW-846 3546 **Analytical Method: SW-846 8270D-E**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20E0343-01 [LF-1]	B258013	30.4	1.00	05/14/20
20E0343-02 [LF-2]	B258013	30.0	1.00	05/14/20
20E0343-03 [LF-3]	B258013	30.5	2.00	05/14/20
20E0343-04 [LF-4]	B258013	30.0	1.00	05/14/20
20E0343-05 [Duplicate]	B258013	30.1	1.00	05/14/20

SW-846 9014

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20E0343-01 [LF-1]	B258130	25.2	250	05/15/20
20E0343-02 [LF-2]	B258130	25.4	250	05/15/20
20E0343-03 [LF-3]	B258130	25.4	250	05/15/20
20E0343-04 [LF-4]	B258130	25.1	250	05/15/20
20E0343-05 [Duplicate]	B258130	25.4	250	05/15/20

SW-846 9030A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20E0343-01 [LF-1]	B258131	25.2	250	05/15/20
20E0343-02 [LF-2]	B258131	25.4	250	05/15/20
20E0343-03 [LF-3]	B258131	25.4	250	05/15/20
20E0343-04 [LF-4]	B258131	25.1	250	05/15/20
20E0343-05 [Duplicate]	B258131	25.4	250	05/15/20

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Sample Extraction Data

SW-846 9045C

Lab Number [Field ID]	Batch	Initial [g]	Date
20E0343-01 [LF-1]	B257696	20.0	05/08/20
20E0343-02 [LF-2]	B257696	20.0	05/08/20
20E0343-03 [LF-3]	B257696	20.0	05/08/20
20E0343-04 [LF-4]	B257696	20.0	05/08/20
20E0343-05 [Duplicate]	B257696	20.0	05/08/20

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B257753 - SW-846 5035										
Blank (B257753-BLK1)				Prepared & Analyzed: 05/11/20						
Acetone	ND	2.5	mg/Kg wet							
Acrylonitrile	ND	0.25	mg/Kg wet							
tert-Amyl Methyl Ether (TAME)	ND	0.025	mg/Kg wet							
Benzene	ND	0.050	mg/Kg wet							
Bromobenzene	ND	0.050	mg/Kg wet							
Bromochloromethane	ND	0.050	mg/Kg wet							
Bromodichloromethane	ND	0.050	mg/Kg wet							
Bromoform	ND	0.050	mg/Kg wet							V-05
Bromomethane	ND	0.10	mg/Kg wet							
2-Butanone (MEK)	ND	1.0	mg/Kg wet							
tert-Butyl Alcohol (TBA)	ND	1.0	mg/Kg wet							V-05
n-Butylbenzene	ND	0.050	mg/Kg wet							
sec-Butylbenzene	ND	0.050	mg/Kg wet							
tert-Butylbenzene	ND	0.050	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.025	mg/Kg wet							
Carbon Disulfide	ND	0.25	mg/Kg wet							
Carbon Tetrachloride	ND	0.050	mg/Kg wet							
Chlorobenzene	ND	0.050	mg/Kg wet							
Chlorodibromomethane	ND	0.025	mg/Kg wet							
Chloroethane	ND	0.10	mg/Kg wet							
Chloroform	ND	0.10	mg/Kg wet							
Chloromethane	ND	0.10	mg/Kg wet							
2-Chlorotoluene	ND	0.050	mg/Kg wet							
4-Chlorotoluene	ND	0.050	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.25	mg/Kg wet							
1,2-Dibromoethane (EDB)	ND	0.025	mg/Kg wet							
Dibromomethane	ND	0.050	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.050	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.050	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.050	mg/Kg wet							
trans-1,4-Dichloro-2-butene	ND	0.10	mg/Kg wet							
Dichlorodifluoromethane (Freon 12)	ND	0.10	mg/Kg wet							V-05
1,1-Dichloroethane	ND	0.050	mg/Kg wet							
1,2-Dichloroethane	ND	0.050	mg/Kg wet							
1,1-Dichloroethylene	ND	0.050	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.050	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.050	mg/Kg wet							
Dichlorofluoromethane (Freon 21)	ND	0.050	mg/Kg wet							
1,2-Dichloropropane	ND	0.050	mg/Kg wet							
1,3-Dichloropropane	ND	0.025	mg/Kg wet							
2,2-Dichloropropane	ND	0.050	mg/Kg wet							
1,1-Dichloropropene	ND	0.10	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.025	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.025	mg/Kg wet							
Diethyl Ether	ND	0.10	mg/Kg wet							
Difluorochloromethane (Freon 22)	ND	0.050	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.025	mg/Kg wet							
1,4-Dioxane	ND	2.5	mg/Kg wet							
Ethylbenzene	ND	0.050	mg/Kg wet							
Hexachlorobutadiene	ND	0.050	mg/Kg wet							
2-Hexanone (MBK)	ND	0.50	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.050	mg/Kg wet							

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B257753 - SW-846 5035											
Blank (B257753-BLK1)				Prepared & Analyzed: 05/11/20							
p-Isopropyltoluene (p-Cymene)	ND	0.050	mg/Kg wet								
Methyl Acetate	ND	0.50	mg/Kg wet								
Methyl tert-Butyl Ether (MTBE)	ND	0.050	mg/Kg wet								
Methyl Cyclohexane	ND	0.050	mg/Kg wet								
Methylene Chloride	ND	0.25	mg/Kg wet								
4-Methyl-2-pentanone (MIBK)	ND	0.50	mg/Kg wet								
Naphthalene	ND	0.10	mg/Kg wet								
n-Propylbenzene	ND	0.050	mg/Kg wet								
Styrene	ND	0.050	mg/Kg wet								
1,1,1,2-Tetrachloroethane	ND	0.050	mg/Kg wet								
1,1,2,2-Tetrachloroethane	ND	0.025	mg/Kg wet								
Tetrachloroethylene	ND	0.050	mg/Kg wet								
Tetrahydrofuran	ND	0.50	mg/Kg wet								
Toluene	ND	0.050	mg/Kg wet								
1,2,3-Trichlorobenzene	ND	0.25	mg/Kg wet								
1,2,4-Trichlorobenzene	ND	0.050	mg/Kg wet								
1,3,5-Trichlorobenzene	ND	0.050	mg/Kg wet								
1,1,1-Trichloroethane	ND	0.050	mg/Kg wet								
1,1,2-Trichloroethane	ND	0.050	mg/Kg wet								
Trichloroethylene	ND	0.050	mg/Kg wet								
Trichlorofluoromethane (Freon 11)	ND	0.10	mg/Kg wet								
1,2,3-Trichloropropane	ND	0.10	mg/Kg wet								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.050	mg/Kg wet								
1,2,4-Trimethylbenzene	ND	0.050	mg/Kg wet								
1,3,5-Trimethylbenzene	ND	0.050	mg/Kg wet								
Vinyl Chloride	ND	0.10	mg/Kg wet								
m+p Xylene	ND	0.10	mg/Kg wet								
o-Xylene	ND	0.050	mg/Kg wet								
Surrogate: 1,2-Dichloroethane-d4	*0.0272*		mg/Kg wet	0.0250		109	70-130				
Surrogate: Toluene-d8	*0.0242*		mg/Kg wet	0.0250		96.9	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0260*		mg/Kg wet	0.0250		104	70-130				
LCS (B257753-BS1)				Prepared & Analyzed: 05/11/20							
Acetone	0.227	0.057	mg/Kg wet	0.227		100	70-160				†
Acrylonitrile	0.0266	0.0057	mg/Kg wet	0.0227		117	70-130				
tert-Amyl Methyl Ether (TAME)	0.0186	0.00057	mg/Kg wet	0.0227		81.9	70-130				
Benzene	0.0253	0.0011	mg/Kg wet	0.0227		112	70-130				
Bromobenzene	0.0227	0.0011	mg/Kg wet	0.0227		100	70-130				
Bromochloromethane	0.0245	0.0011	mg/Kg wet	0.0227		108	70-130				
Bromodichloromethane	0.0201	0.0011	mg/Kg wet	0.0227		88.8	70-130				
Bromoform	0.0188	0.0011	mg/Kg wet	0.0227		82.8	70-130			V-05	
Bromomethane	0.0198	0.0023	mg/Kg wet	0.0227		87.3	40-130			V-20	†
2-Butanone (MEK)	0.258	0.023	mg/Kg wet	0.227		114	70-160				†
tert-Butyl Alcohol (TBA)	0.179	0.023	mg/Kg wet	0.227		78.9	40-130			V-05	†
n-Butylbenzene	0.0284	0.0011	mg/Kg wet	0.0227		125	70-130				
sec-Butylbenzene	0.0278	0.0011	mg/Kg wet	0.0227		123	70-130				
tert-Butylbenzene	0.0267	0.0011	mg/Kg wet	0.0227		118	70-160				†
tert-Butyl Ethyl Ether (TBEE)	0.0216	0.00057	mg/Kg wet	0.0227		95.3	70-130				
Carbon Disulfide	0.0224	0.0057	mg/Kg wet	0.0227		98.7	70-130				
Carbon Tetrachloride	0.0209	0.0011	mg/Kg wet	0.0227		92.0	70-130				
Chlorobenzene	0.0219	0.0011	mg/Kg wet	0.0227		96.7	70-130				
Chlorodibromomethane	0.0186	0.00057	mg/Kg wet	0.0227		81.8	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes	
Batch B257753 - SW-846 5035												
LCS (B257753-BS1)				Prepared & Analyzed: 05/11/20								
Chloroethane	0.0204	0.0023	mg/Kg wet	0.0227		90.1		70-130				
Chloroform	0.0247	0.0023	mg/Kg wet	0.0227		109		70-130				
Chloromethane	0.0182	0.0023	mg/Kg wet	0.0227		80.1		70-130				
2-Chlorotoluene	0.0243	0.0011	mg/Kg wet	0.0227		107		70-130				
4-Chlorotoluene	0.0250	0.0011	mg/Kg wet	0.0227		110		70-130				
1,2-Dibromo-3-chloropropane (DBCP)	0.0212	0.0057	mg/Kg wet	0.0227		93.3		70-130				
1,2-Dibromoethane (EDB)	0.0215	0.00057	mg/Kg wet	0.0227		95.0		70-130				
Dibromomethane	0.0208	0.0011	mg/Kg wet	0.0227		91.9		70-130				
1,2-Dichlorobenzene	0.0226	0.0011	mg/Kg wet	0.0227		99.8		70-130				
1,3-Dichlorobenzene	0.0239	0.0011	mg/Kg wet	0.0227		105		70-130				
1,4-Dichlorobenzene	0.0221	0.0011	mg/Kg wet	0.0227		97.4		70-130				
trans-1,4-Dichloro-2-butene	0.0228	0.0023	mg/Kg wet	0.0227		101		70-130				
Dichlorodifluoromethane (Freon 12)	0.0161	0.0023	mg/Kg wet	0.0227		70.8		40-160			V-05	†
1,1-Dichloroethane	0.0259	0.0011	mg/Kg wet	0.0227		114		70-130				
1,2-Dichloroethane	0.0198	0.0011	mg/Kg wet	0.0227		87.5		70-130				
1,1-Dichloroethylene	0.0243	0.0011	mg/Kg wet	0.0227		107		70-130				
cis-1,2-Dichloroethylene	0.0267	0.0011	mg/Kg wet	0.0227		118		70-130				
trans-1,2-Dichloroethylene	0.0251	0.0011	mg/Kg wet	0.0227		111		70-130				
Dichlorofluoromethane (Freon 21)	0.0226	0.0011	mg/Kg wet	0.0227		99.7		70-130				
1,2-Dichloropropane	0.0213	0.0011	mg/Kg wet	0.0227		94.1		70-130				
1,3-Dichloropropane	0.0217	0.00057	mg/Kg wet	0.0227		95.8		70-130				
2,2-Dichloropropane	0.0210	0.0011	mg/Kg wet	0.0227		92.7		70-130				
1,1-Dichloropropene	0.0232	0.0023	mg/Kg wet	0.0227		103		70-130				
cis-1,3-Dichloropropene	0.0215	0.00057	mg/Kg wet	0.0227		95.0		70-130				
trans-1,3-Dichloropropene	0.0211	0.00057	mg/Kg wet	0.0227		93.0		70-130				
Diethyl Ether	0.0241	0.0023	mg/Kg wet	0.0227		106		70-130				
Difluorochloromethane (Freon 22)	0.0220	0.0011	mg/Kg wet	0.0227		97.2		70-130				
Diisopropyl Ether (DIPE)	0.0242	0.00057	mg/Kg wet	0.0227		107		70-130				
1,4-Dioxane	0.272	0.057	mg/Kg wet	0.227		120		40-160				†
Ethylbenzene	0.0245	0.0011	mg/Kg wet	0.0227		108		70-130				
Hexachlorobutadiene	0.0200	0.0011	mg/Kg wet	0.0227		88.1		70-160				
2-Hexanone (MBK)	0.222	0.011	mg/Kg wet	0.227		97.8		70-160				†
Isopropylbenzene (Cumene)	0.0228	0.0011	mg/Kg wet	0.0227		101		70-130				
p-Isopropyltoluene (p-Cymene)	0.0240	0.0011	mg/Kg wet	0.0227		106		70-130				
Methyl Acetate	0.0405	0.011	mg/Kg wet	0.0227		**179**	*	70-130			L-02, V-20	
Methyl tert-Butyl Ether (MTBE)	0.0208	0.0011	mg/Kg wet	0.0227		91.8		70-130				
Methyl Cyclohexane	0.0256	0.0011	mg/Kg wet	0.0227		113		70-130				
Methylene Chloride	0.0257	0.0057	mg/Kg wet	0.0227		113		40-160				†
4-Methyl-2-pentanone (MIBK)	0.228	0.011	mg/Kg wet	0.227		100		70-160				†
Naphthalene	0.0227	0.0023	mg/Kg wet	0.0227		99.9		40-130				†
n-Propylbenzene	0.0234	0.0011	mg/Kg wet	0.0227		103		70-130				
Styrene	0.0227	0.0011	mg/Kg wet	0.0227		100		70-130				
1,1,1,2-Tetrachloroethane	0.0184	0.0011	mg/Kg wet	0.0227		81.2		70-130				
1,1,2,2-Tetrachloroethane	0.0200	0.00057	mg/Kg wet	0.0227		88.2		70-130				
Tetrachloroethylene	0.0218	0.0011	mg/Kg wet	0.0227		96.3		70-130				
Tetrahydrofuran	0.0234	0.011	mg/Kg wet	0.0227		103		70-130				
Toluene	0.0227	0.0011	mg/Kg wet	0.0227		100		70-130				
1,2,3-Trichlorobenzene	0.0226	0.0057	mg/Kg wet	0.0227		99.5		70-130				
1,2,4-Trichlorobenzene	0.0247	0.0011	mg/Kg wet	0.0227		109		70-130				
1,3,5-Trichlorobenzene	0.0222	0.0011	mg/Kg wet	0.0227		98.0		70-130				
1,1,1-Trichloroethane	0.0226	0.0011	mg/Kg wet	0.0227		99.6		70-130				
1,1,2-Trichloroethane	0.0208	0.0011	mg/Kg wet	0.0227		91.9		70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B257753 - SW-846 5035											
LCS (B257753-BS1)				Prepared & Analyzed: 05/11/20							
Trichloroethylene	0.0213	0.0011	mg/Kg wet	0.0227		94.1	70-130				
Trichlorofluoromethane (Freon 11)	0.0178	0.0023	mg/Kg wet	0.0227		78.7	70-130				
1,2,3-Trichloropropane	0.0213	0.0023	mg/Kg wet	0.0227		93.9	70-130				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0247	0.0011	mg/Kg wet	0.0227		109	70-130				
1,2,4-Trimethylbenzene	0.0248	0.0011	mg/Kg wet	0.0227		109	70-130				
1,3,5-Trimethylbenzene	0.0225	0.0011	mg/Kg wet	0.0227		99.1	70-130				
Vinyl Chloride	0.0179	0.0023	mg/Kg wet	0.0227		79.0	40-130				†
m+p Xylene	0.0501	0.0023	mg/Kg wet	0.0453		111	70-130				
o-Xylene	0.0253	0.0011	mg/Kg wet	0.0227		112	70-130				
Surrogate: 1,2-Dichloroethane-d4	*0.0294*		mg/Kg wet	0.0283		104	70-130				
Surrogate: Toluene-d8	*0.0283*		mg/Kg wet	0.0283		99.9	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0307*		mg/Kg wet	0.0283		108	70-130				
LCS Dup (B257753-BSD1)				Prepared & Analyzed: 05/11/20							
Acetone	0.224	0.057	mg/Kg wet	0.227		98.6	70-160	1.58	25		†
Acrylonitrile	0.0243	0.0057	mg/Kg wet	0.0227		107	70-130	8.90	25		
tert-Amyl Methyl Ether (TAME)	0.0182	0.00057	mg/Kg wet	0.0227		80.3	70-130	1.97	25		
Benzene	0.0251	0.0011	mg/Kg wet	0.0227		111	70-130	0.944	25		
Bromobenzene	0.0228	0.0011	mg/Kg wet	0.0227		101	70-130	0.398	25		
Bromochloromethane	0.0242	0.0011	mg/Kg wet	0.0227		107	70-130	1.07	25		
Bromodichloromethane	0.0199	0.0011	mg/Kg wet	0.0227		87.7	70-130	1.25	25		
Bromoform	0.0187	0.0011	mg/Kg wet	0.0227		82.4	70-130	0.363	25	V-05	
Bromomethane	0.0211	0.0023	mg/Kg wet	0.0227		93.0	40-130	6.27	25	V-20	†
2-Butanone (MEK)	0.254	0.023	mg/Kg wet	0.227		112	70-160	1.49	25		†
tert-Butyl Alcohol (TBA)	0.170	0.023	mg/Kg wet	0.227		74.8	40-130	5.32	25	V-05	†
n-Butylbenzene	0.0286	0.0011	mg/Kg wet	0.0227		126	70-130	0.756	25		
sec-Butylbenzene	0.0276	0.0011	mg/Kg wet	0.0227		122	70-130	0.613	25		
tert-Butylbenzene	0.0268	0.0011	mg/Kg wet	0.0227		118	70-160	0.636	25		†
tert-Butyl Ethyl Ether (TBEE)	0.0217	0.00057	mg/Kg wet	0.0227		95.5	70-130	0.262	25		
Carbon Disulfide	0.0215	0.0057	mg/Kg wet	0.0227		94.6	70-130	4.19	25		
Carbon Tetrachloride	0.0207	0.0011	mg/Kg wet	0.0227		91.2	70-130	0.873	25		
Chlorobenzene	0.0219	0.0011	mg/Kg wet	0.0227		96.4	70-130	0.259	25		
Chlorodibromomethane	0.0186	0.00057	mg/Kg wet	0.0227		82.2	70-130	0.366	25		
Chloroethane	0.0200	0.0023	mg/Kg wet	0.0227		88.3	70-130	2.02	25		
Chloroform	0.0244	0.0023	mg/Kg wet	0.0227		108	70-130	1.11	25		
Chloromethane	0.0176	0.0023	mg/Kg wet	0.0227		77.5	70-130	3.30	25		
2-Chlorotoluene	0.0243	0.0011	mg/Kg wet	0.0227		107	70-130	0.00	25		
4-Chlorotoluene	0.0247	0.0011	mg/Kg wet	0.0227		109	70-130	1.41	25		
1,2-Dibromo-3-chloropropane (DBCP)	0.0203	0.0057	mg/Kg wet	0.0227		89.6	70-130	4.10	25		
1,2-Dibromoethane (EDB)	0.0216	0.00057	mg/Kg wet	0.0227		95.1	70-130	0.105	25		
Dibromomethane	0.0205	0.0011	mg/Kg wet	0.0227		90.6	70-130	1.37	25		
1,2-Dichlorobenzene	0.0228	0.0011	mg/Kg wet	0.0227		100	70-130	0.549	25		
1,3-Dichlorobenzene	0.0239	0.0011	mg/Kg wet	0.0227		106	70-130	0.237	25		
1,4-Dichlorobenzene	0.0221	0.0011	mg/Kg wet	0.0227		97.4	70-130	0.00	25		
trans-1,4-Dichloro-2-butene	0.0231	0.0023	mg/Kg wet	0.0227		102	70-130	0.889	25		
Dichlorodifluoromethane (Freon 12)	0.0154	0.0023	mg/Kg wet	0.0227		68.0	40-160	4.03	25	V-05	†
1,1-Dichloroethane	0.0259	0.0011	mg/Kg wet	0.0227		114	70-130	0.175	25		
1,2-Dichloroethane	0.0198	0.0011	mg/Kg wet	0.0227		87.3	70-130	0.229	25		
1,1-Dichloroethylene	0.0238	0.0011	mg/Kg wet	0.0227		105	70-130	2.26	25		
cis-1,2-Dichloroethylene	0.0267	0.0011	mg/Kg wet	0.0227		118	70-130	0.297	25		
trans-1,2-Dichloroethylene	0.0237	0.0011	mg/Kg wet	0.0227		105	70-130	5.58	25		
Dichlorofluoromethane (Freon 21)	0.0222	0.0011	mg/Kg wet	0.0227		97.9	70-130	1.87	25		

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes	
Batch B257753 - SW-846 5035												
LCS Dup (B257753-BSD1)				Prepared & Analyzed: 05/11/20								
1,2-Dichloropropane	0.0216	0.0011	mg/Kg wet	0.0227		95.3		70-130	1.27	25		
1,3-Dichloropropane	0.0217	0.00057	mg/Kg wet	0.0227		95.6		70-130	0.261	25		
2,2-Dichloropropane	0.0206	0.0011	mg/Kg wet	0.0227		90.7		70-130	2.18	25		
1,1-Dichloropropene	0.0232	0.0023	mg/Kg wet	0.0227		102		70-130	0.293	25		
cis-1,3-Dichloropropene	0.0212	0.00057	mg/Kg wet	0.0227		93.6		70-130	1.48	25		
trans-1,3-Dichloropropene	0.0214	0.00057	mg/Kg wet	0.0227		94.5		70-130	1.65	25		
Diethyl Ether	0.0236	0.0023	mg/Kg wet	0.0227		104		70-130	2.33	25		
Difluorochloromethane (Freon 22)	0.0214	0.0011	mg/Kg wet	0.0227		94.3		70-130	3.08	25		
Diisopropyl Ether (DIPE)	0.0243	0.00057	mg/Kg wet	0.0227		107		70-130	0.420	25		
1,4-Dioxane	0.239	0.057	mg/Kg wet	0.227		106		40-160	12.9	50		† ‡
Ethylbenzene	0.0243	0.0011	mg/Kg wet	0.0227		107		70-130	0.558	25		
Hexachlorobutadiene	0.0206	0.0011	mg/Kg wet	0.0227		90.9		70-160	3.13	25		
2-Hexanone (MBK)	0.219	0.011	mg/Kg wet	0.227		96.5		70-160	1.38	25		†
Isopropylbenzene (Cumene)	0.0230	0.0011	mg/Kg wet	0.0227		102		70-130	0.890	25		
p-Isopropyltoluene (p-Cymene)	0.0241	0.0011	mg/Kg wet	0.0227		106		70-130	0.519	25		
Methyl Acetate	0.0383	0.011	mg/Kg wet	0.0227		**169**	*	70-130	5.52	25	L-02, V-20	
Methyl tert-Butyl Ether (MTBE)	0.0189	0.0011	mg/Kg wet	0.0227		83.4		70-130	9.64	25		
Methyl Cyclohexane	0.0256	0.0011	mg/Kg wet	0.0227		113		70-130	0.0886	25		
Methylene Chloride	0.0251	0.0057	mg/Kg wet	0.0227		111		40-160	2.41	25		†
4-Methyl-2-pentanone (MIBK)	0.224	0.011	mg/Kg wet	0.227		98.7		70-160	1.69	25		†
Naphthalene	0.0232	0.0023	mg/Kg wet	0.0227		102		40-130	2.37	25		†
n-Propylbenzene	0.0229	0.0011	mg/Kg wet	0.0227		101		70-130	2.01	25		
Styrene	0.0225	0.0011	mg/Kg wet	0.0227		99.1		70-130	1.15	25		
1,1,1,2-Tetrachloroethane	0.0186	0.0011	mg/Kg wet	0.0227		82.2		70-130	1.10	25		
1,1,2,2-Tetrachloroethane	0.0197	0.00057	mg/Kg wet	0.0227		87.0		70-130	1.37	25		
Tetrachloroethylene	0.0216	0.0011	mg/Kg wet	0.0227		95.5		70-130	0.886	25		
Tetrahydrofuran	0.0259	0.011	mg/Kg wet	0.0227		114		70-130	10.3	25		
Toluene	0.0227	0.0011	mg/Kg wet	0.0227		100		70-130	0.300	25		
1,2,3-Trichlorobenzene	0.0228	0.0057	mg/Kg wet	0.0227		100		70-130	1.00	25		
1,2,4-Trichlorobenzene	0.0251	0.0011	mg/Kg wet	0.0227		111		70-130	1.77	25		
1,3,5-Trichlorobenzene	0.0226	0.0011	mg/Kg wet	0.0227		99.6		70-130	1.52	25		
1,1,1-Trichloroethane	0.0219	0.0011	mg/Kg wet	0.0227		96.7		70-130	2.95	25		
1,1,2-Trichloroethane	0.0210	0.0011	mg/Kg wet	0.0227		92.6		70-130	0.704	25		
Trichloroethylene	0.0216	0.0011	mg/Kg wet	0.0227		95.1		70-130	1.11	25		
Trichlorofluoromethane (Freon 11)	0.0175	0.0023	mg/Kg wet	0.0227		77.2		70-130	1.86	25		
1,2,3-Trichloropropane	0.0212	0.0023	mg/Kg wet	0.0227		93.5		70-130	0.480	25		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0243	0.0011	mg/Kg wet	0.0227		107		70-130	1.57	25		
1,2,4-Trimethylbenzene	0.0250	0.0011	mg/Kg wet	0.0227		110		70-130	0.910	25		
1,3,5-Trimethylbenzene	0.0223	0.0011	mg/Kg wet	0.0227		98.4		70-130	0.810	25		
Vinyl Chloride	0.0172	0.0023	mg/Kg wet	0.0227		75.9		40-130	4.00	25		†
m+p Xylene	0.0497	0.0023	mg/Kg wet	0.0453		110		70-130	0.886	25		
o-Xylene	0.0252	0.0011	mg/Kg wet	0.0227		111		70-130	0.449	25		
Surrogate: 1,2-Dichloroethane-d4	*0.0297*		mg/Kg wet	0.0283		105		70-130				
Surrogate: Toluene-d8	*0.0281*		mg/Kg wet	0.0283		99.2		70-130				
Surrogate: 4-Bromofluorobenzene	*0.0305*		mg/Kg wet	0.0283		108		70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B257772 - SW-846 5035										
Blank (B257772-BLK1)				Prepared & Analyzed: 05/11/20						
Acetone	ND	0.10	mg/Kg wet							
Acrylonitrile	ND	0.0060	mg/Kg wet							
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg wet							
Benzene	ND	0.0020	mg/Kg wet							
Bromobenzene	ND	0.0020	mg/Kg wet							
Bromochloromethane	ND	0.0020	mg/Kg wet							
Bromodichloromethane	ND	0.0020	mg/Kg wet							
Bromoform	ND	0.0020	mg/Kg wet							
Bromomethane	ND	0.010	mg/Kg wet							V-34
2-Butanone (MEK)	ND	0.040	mg/Kg wet							
tert-Butyl Alcohol (TBA)	ND	0.040	mg/Kg wet							
n-Butylbenzene	ND	0.0020	mg/Kg wet							
sec-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg wet							
Carbon Disulfide	ND	0.0060	mg/Kg wet							
Carbon Tetrachloride	ND	0.0020	mg/Kg wet							
Chlorobenzene	ND	0.0020	mg/Kg wet							
Chlorodibromomethane	ND	0.0010	mg/Kg wet							
Chloroethane	ND	0.020	mg/Kg wet							
Chloroform	ND	0.0040	mg/Kg wet							
Chloromethane	ND	0.010	mg/Kg wet							
2-Chlorotoluene	ND	0.0020	mg/Kg wet							
4-Chlorotoluene	ND	0.0020	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0020	mg/Kg wet							
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg wet							
Dibromomethane	ND	0.0020	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.0020	mg/Kg wet							
trans-1,4-Dichloro-2-butene	ND	0.0040	mg/Kg wet							
Dichlorodifluoromethane (Freon 12)	ND	0.020	mg/Kg wet							
1,1-Dichloroethane	ND	0.0020	mg/Kg wet							
1,2-Dichloroethane	ND	0.0020	mg/Kg wet							
1,1-Dichloroethylene	ND	0.0040	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
1,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,3-Dichloropropane	ND	0.0010	mg/Kg wet							
2,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,1-Dichloropropene	ND	0.0020	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
Diethyl Ether	ND	0.020	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg wet							
1,4-Dioxane	ND	0.10	mg/Kg wet							
Ethylbenzene	ND	0.0020	mg/Kg wet							
Hexachlorobutadiene	ND	0.0020	mg/Kg wet							
2-Hexanone (MBK)	ND	0.020	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg wet							
p-Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg wet							
Methyl Acetate	ND	0.0020	mg/Kg wet							

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QUALITY CONTROL

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B257772 - SW-846 5035											
Blank (B257772-BLK1)				Prepared & Analyzed: 05/11/20							
Methyl tert-Butyl Ether (MTBE)	ND	0.0040	mg/Kg wet								
Methyl Cyclohexane	ND	0.0020	mg/Kg wet								
Methylene Chloride	ND	0.020	mg/Kg wet								
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet								
Naphthalene	ND	0.0040	mg/Kg wet							V-05	
n-Propylbenzene	ND	0.0020	mg/Kg wet								
Styrene	ND	0.0020	mg/Kg wet								
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg wet								
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg wet								
Tetrachloroethylene	ND	0.0020	mg/Kg wet								
Tetrahydrofuran	ND	0.010	mg/Kg wet								
Toluene	ND	0.0020	mg/Kg wet								
1,2,3-Trichlorobenzene	ND	0.0020	mg/Kg wet								
1,2,4-Trichlorobenzene	ND	0.0020	mg/Kg wet								
1,3,5-Trichlorobenzene	ND	0.0020	mg/Kg wet								
1,1,1-Trichloroethane	ND	0.0020	mg/Kg wet								
1,1,2-Trichloroethane	ND	0.0020	mg/Kg wet								
Trichloroethylene	ND	0.0020	mg/Kg wet								
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg wet								
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.010	mg/Kg wet								
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg wet								
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg wet								
Vinyl Chloride	ND	0.010	mg/Kg wet								
m+p Xylene	ND	0.0040	mg/Kg wet								
o-Xylene	ND	0.0020	mg/Kg wet								
Surrogate: 1,2-Dichloroethane-d4	*0.0492*		mg/Kg wet	0.0500		98.3	70-130				
Surrogate: Toluene-d8	*0.0498*		mg/Kg wet	0.0500		99.5	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0490*		mg/Kg wet	0.0500		98.0	70-130				
LCS (B257772-BS1)				Prepared & Analyzed: 05/11/20							
Acetone	0.210	0.10	mg/Kg wet	0.200		105	70-160				†
Acrylonitrile	0.0192	0.0060	mg/Kg wet	0.0200		96.1	70-130				
tert-Amyl Methyl Ether (TAME)	0.0196	0.0010	mg/Kg wet	0.0200		97.9	70-130				
Benzene	0.0177	0.0020	mg/Kg wet	0.0200		88.5	70-130				
Bromobenzene	0.0190	0.0020	mg/Kg wet	0.0200		95.1	70-130				
Bromochloromethane	0.0212	0.0020	mg/Kg wet	0.0200		106	70-130				
Bromodichloromethane	0.0183	0.0020	mg/Kg wet	0.0200		91.4	70-130				
Bromoform	0.0207	0.0020	mg/Kg wet	0.0200		104	70-130				
Bromomethane	0.0175	0.010	mg/Kg wet	0.0200		87.5	40-130			V-34	†
2-Butanone (MEK)	0.213	0.040	mg/Kg wet	0.200		107	70-160				†
tert-Butyl Alcohol (TBA)	0.224	0.040	mg/Kg wet	0.200		112	40-130				†
n-Butylbenzene	0.0176	0.0020	mg/Kg wet	0.0200		88.0	70-130				
sec-Butylbenzene	0.0197	0.0020	mg/Kg wet	0.0200		98.3	70-130				
tert-Butylbenzene	0.0198	0.0020	mg/Kg wet	0.0200		98.9	70-160				†
tert-Butyl Ethyl Ether (TBEE)	0.0195	0.0010	mg/Kg wet	0.0200		97.3	70-130				
Carbon Disulfide	0.165	0.0060	mg/Kg wet	0.200		82.3	70-130				
Carbon Tetrachloride	0.0193	0.0020	mg/Kg wet	0.0200		96.7	70-130				
Chlorobenzene	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130				
Chlorodibromomethane	0.0196	0.0010	mg/Kg wet	0.0200		97.9	70-130				
Chloroethane	0.0190	0.020	mg/Kg wet	0.0200		94.9	70-130				
Chloroform	0.0176	0.0040	mg/Kg wet	0.0200		88.2	70-130				

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B257772 - SW-846 5035											
LCS (B257772-BS1)				Prepared & Analyzed: 05/11/20							
Chloromethane	0.0167	0.010	mg/Kg wet	0.0200		83.7	70-130				
2-Chlorotoluene	0.0192	0.0020	mg/Kg wet	0.0200		96.1	70-130				
4-Chlorotoluene	0.0189	0.0020	mg/Kg wet	0.0200		94.3	70-130				
1,2-Dibromo-3-chloropropane (DBCP)	0.0212	0.0020	mg/Kg wet	0.0200		106	70-130				
1,2-Dibromoethane (EDB)	0.0196	0.0010	mg/Kg wet	0.0200		97.8	70-130				
Dibromomethane	0.0199	0.0020	mg/Kg wet	0.0200		99.3	70-130				
1,2-Dichlorobenzene	0.0197	0.0020	mg/Kg wet	0.0200		98.3	70-130				
1,3-Dichlorobenzene	0.0203	0.0020	mg/Kg wet	0.0200		102	70-130				
1,4-Dichlorobenzene	0.0195	0.0020	mg/Kg wet	0.0200		97.5	70-130				
trans-1,4-Dichloro-2-butene	0.0212	0.0040	mg/Kg wet	0.0200		106	70-130				
Dichlorodifluoromethane (Freon 12)	0.0171	0.020	mg/Kg wet	0.0200		85.3	40-160				†
1,1-Dichloroethane	0.0188	0.0020	mg/Kg wet	0.0200		94.1	70-130				
1,2-Dichloroethane	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130				
1,1-Dichloroethylene	0.0164	0.0040	mg/Kg wet	0.0200		82.1	70-130				
cis-1,2-Dichloroethylene	0.0179	0.0020	mg/Kg wet	0.0200		89.6	70-130				
trans-1,2-Dichloroethylene	0.0183	0.0020	mg/Kg wet	0.0200		91.7	70-130				
1,2-Dichloropropane	0.0195	0.0020	mg/Kg wet	0.0200		97.7	70-130				
1,3-Dichloropropane	0.0200	0.0010	mg/Kg wet	0.0200		100	70-130				
2,2-Dichloropropane	0.0169	0.0020	mg/Kg wet	0.0200		84.5	70-130				
1,1-Dichloropropene	0.0175	0.0020	mg/Kg wet	0.0200		87.5	70-130				
cis-1,3-Dichloropropene	0.0197	0.0010	mg/Kg wet	0.0200		98.3	70-130				
trans-1,3-Dichloropropene	0.0197	0.0010	mg/Kg wet	0.0200		98.5	70-130				
Diethyl Ether	0.0165	0.020	mg/Kg wet	0.0200		82.6	70-130				
Diisopropyl Ether (DIPE)	0.0194	0.0010	mg/Kg wet	0.0200		97.2	70-130				
1,4-Dioxane	0.195	0.10	mg/Kg wet	0.200		97.4	40-160				†
Ethylbenzene	0.0186	0.0020	mg/Kg wet	0.0200		93.2	70-130				
Hexachlorobutadiene	0.0218	0.0020	mg/Kg wet	0.0200		109	70-160				
2-Hexanone (MBK)	0.205	0.020	mg/Kg wet	0.200		102	70-160				†
Isopropylbenzene (Cumene)	0.0205	0.0020	mg/Kg wet	0.0200		102	70-130				
p-Isopropyltoluene (p-Cymene)	0.0195	0.0020	mg/Kg wet	0.0200		97.3	70-130				
Methyl Acetate	0.0232	0.0020	mg/Kg wet	0.0200		116	70-130				
Methyl tert-Butyl Ether (MTBE)	0.0189	0.0040	mg/Kg wet	0.0200		94.7	70-130				
Methyl Cyclohexane	0.0187	0.0020	mg/Kg wet	0.0200		93.4	70-130				
Methylene Chloride	0.0210	0.020	mg/Kg wet	0.0200		105	40-160				†
4-Methyl-2-pentanone (MIBK)	0.201	0.020	mg/Kg wet	0.200		100	70-160				†
Naphthalene	0.0167	0.0040	mg/Kg wet	0.0200		83.6	40-130			V-05	†
n-Propylbenzene	0.0187	0.0020	mg/Kg wet	0.0200		93.5	70-130				
Styrene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130				
1,1,1,2-Tetrachloroethane	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130				
1,1,2,2-Tetrachloroethane	0.0196	0.0010	mg/Kg wet	0.0200		97.9	70-130				
Tetrachloroethylene	0.0211	0.0020	mg/Kg wet	0.0200		105	70-130				
Tetrahydrofuran	0.0204	0.010	mg/Kg wet	0.0200		102	70-130				
Toluene	0.0184	0.0020	mg/Kg wet	0.0200		91.9	70-130				
1,2,3-Trichlorobenzene	0.0193	0.0020	mg/Kg wet	0.0200		96.5	70-130				
1,2,4-Trichlorobenzene	0.0194	0.0020	mg/Kg wet	0.0200		97.2	70-130				
1,3,5-Trichlorobenzene	0.0207	0.0020	mg/Kg wet	0.0200		104	70-130				
1,1,1-Trichloroethane	0.0172	0.0020	mg/Kg wet	0.0200		85.9	70-130				
1,1,2-Trichloroethane	0.0181	0.0020	mg/Kg wet	0.0200		90.3	70-130				
Trichloroethylene	0.0187	0.0020	mg/Kg wet	0.0200		93.7	70-130				
Trichlorofluoromethane (Freon 11)	0.0176	0.010	mg/Kg wet	0.0200		88.0	70-130				
1,2,3-Trichloropropane	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B257772 - SW-846 5035											
LCS (B257772-BS1)				Prepared & Analyzed: 05/11/20							
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0180	0.010	mg/Kg wet	0.0200		89.9	70-130				
1,2,4-Trimethylbenzene	0.0186	0.0020	mg/Kg wet	0.0200		93.1	70-130				
1,3,5-Trimethylbenzene	0.0194	0.0020	mg/Kg wet	0.0200		97.0	70-130				
Vinyl Chloride	0.0179	0.010	mg/Kg wet	0.0200		89.6	40-130				†
m+p Xylene	0.0374	0.0040	mg/Kg wet	0.0400		93.5	70-130				
o-Xylene	0.0185	0.0020	mg/Kg wet	0.0200		92.6	70-130				
Surrogate: 1,2-Dichloroethane-d4	*0.0486*		mg/Kg wet	0.0500		97.2	70-130				
Surrogate: Toluene-d8	*0.0500*		mg/Kg wet	0.0500		99.9	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0489*		mg/Kg wet	0.0500		97.8	70-130				
LCS Dup (B257772-BSD1)				Prepared & Analyzed: 05/11/20							
Acetone	0.206	0.10	mg/Kg wet	0.200		103	70-160	2.14	25		†
Acrylonitrile	0.0199	0.0060	mg/Kg wet	0.0200		99.3	70-130	3.28	25		
tert-Amyl Methyl Ether (TAME)	0.0195	0.0010	mg/Kg wet	0.0200		97.3	70-130	0.615	25		
Benzene	0.0178	0.0020	mg/Kg wet	0.0200		89.2	70-130	0.788	25		
Bromobenzene	0.0195	0.0020	mg/Kg wet	0.0200		97.4	70-130	2.39	25		
Bromochloromethane	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130	1.62	25		
Bromodichloromethane	0.0182	0.0020	mg/Kg wet	0.0200		91.1	70-130	0.329	25		
Bromoform	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130	4.06	25		
Bromomethane	0.0168	0.010	mg/Kg wet	0.0200		84.0	40-130	4.08	25	V-34	†
2-Butanone (MEK)	0.207	0.040	mg/Kg wet	0.200		104	70-160	2.77	25		†
tert-Butyl Alcohol (TBA)	0.209	0.040	mg/Kg wet	0.200		104	40-130	7.11	25		†
n-Butylbenzene	0.0174	0.0020	mg/Kg wet	0.0200		87.1	70-130	1.03	25		
sec-Butylbenzene	0.0193	0.0020	mg/Kg wet	0.0200		96.6	70-130	1.74	25		
tert-Butylbenzene	0.0200	0.0020	mg/Kg wet	0.0200		100	70-160	1.21	25		†
tert-Butyl Ethyl Ether (TBEE)	0.0193	0.0010	mg/Kg wet	0.0200		96.6	70-130	0.722	25		
Carbon Disulfide	0.161	0.0060	mg/Kg wet	0.200		80.7	70-130	1.88	25		
Carbon Tetrachloride	0.0190	0.0020	mg/Kg wet	0.0200		94.9	70-130	1.88	25		
Chlorobenzene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130	2.11	25		
Chlorodibromomethane	0.0201	0.0010	mg/Kg wet	0.0200		101	70-130	2.82	25		
Chloroethane	0.0181	0.020	mg/Kg wet	0.0200		90.4	70-130	4.86	25		
Chloroform	0.0172	0.0040	mg/Kg wet	0.0200		86.0	70-130	2.53	25		
Chloromethane	0.0162	0.010	mg/Kg wet	0.0200		81.1	70-130	3.16	25		
2-Chlorotoluene	0.0195	0.0020	mg/Kg wet	0.0200		97.7	70-130	1.65	25		
4-Chlorotoluene	0.0186	0.0020	mg/Kg wet	0.0200		93.2	70-130	1.17	25		
1,2-Dibromo-3-chloropropane (DBCP)	0.0200	0.0020	mg/Kg wet	0.0200		99.8	70-130	5.93	25		
1,2-Dibromoethane (EDB)	0.0204	0.0010	mg/Kg wet	0.0200		102	70-130	4.30	25		
Dibromomethane	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130	1.80	25		
1,2-Dichlorobenzene	0.0201	0.0020	mg/Kg wet	0.0200		101	70-130	2.41	25		
1,3-Dichlorobenzene	0.0196	0.0020	mg/Kg wet	0.0200		98.2	70-130	3.30	25		
1,4-Dichlorobenzene	0.0193	0.0020	mg/Kg wet	0.0200		96.4	70-130	1.13	25		
trans-1,4-Dichloro-2-butene	0.0193	0.0040	mg/Kg wet	0.0200		96.4	70-130	9.39	25		
Dichlorodifluoromethane (Freon 12)	0.0168	0.020	mg/Kg wet	0.0200		84.1	40-160	1.42	25		†
1,1-Dichloroethane	0.0193	0.0020	mg/Kg wet	0.0200		96.3	70-130	2.31	25		
1,2-Dichloroethane	0.0205	0.0020	mg/Kg wet	0.0200		102	70-130	1.28	25		
1,1-Dichloroethylene	0.0160	0.0040	mg/Kg wet	0.0200		80.1	70-130	2.47	25		
cis-1,2-Dichloroethylene	0.0177	0.0020	mg/Kg wet	0.0200		88.5	70-130	1.24	25		
trans-1,2-Dichloroethylene	0.0180	0.0020	mg/Kg wet	0.0200		90.1	70-130	1.76	25		
1,2-Dichloropropane	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130	7.01	25		
1,3-Dichloropropane	0.0205	0.0010	mg/Kg wet	0.0200		103	70-130	2.56	25		
2,2-Dichloropropane	0.0171	0.0020	mg/Kg wet	0.0200		85.7	70-130	1.41	25		
1,1-Dichloropropene	0.0180	0.0020	mg/Kg wet	0.0200		90.0	70-130	2.82	25		

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B257772 - SW-846 5035											
LCS Dup (B257772-BSD1)				Prepared & Analyzed: 05/11/20							
cis-1,3-Dichloropropene	0.0199	0.0010	mg/Kg wet	0.0200		99.4	70-130	1.11	25		
trans-1,3-Dichloropropene	0.0198	0.0010	mg/Kg wet	0.0200		99.1	70-130	0.607	25		
Diethyl Ether	0.0173	0.020	mg/Kg wet	0.0200		86.5	70-130	4.61	25		
Diisopropyl Ether (DIPE)	0.0192	0.0010	mg/Kg wet	0.0200		96.2	70-130	1.03	25		
1,4-Dioxane	0.208	0.10	mg/Kg wet	0.200		104	40-160	6.60	50		† ‡
Ethylbenzene	0.0179	0.0020	mg/Kg wet	0.0200		89.4	70-130	4.16	25		
Hexachlorobutadiene	0.0222	0.0020	mg/Kg wet	0.0200		111	70-160	1.54	25		
2-Hexanone (MBK)	0.201	0.020	mg/Kg wet	0.200		100	70-160	1.99	25		†
Isopropylbenzene (Cumene)	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130	0.585	25		
p-Isopropyltoluene (p-Cymene)	0.0194	0.0020	mg/Kg wet	0.0200		97.0	70-130	0.309	25		
Methyl Acetate	0.0228	0.0020	mg/Kg wet	0.0200		114	70-130	1.82	25		
Methyl tert-Butyl Ether (MTBE)	0.0184	0.0040	mg/Kg wet	0.0200		91.9	70-130	3.00	25		
Methyl Cyclohexane	0.0185	0.0020	mg/Kg wet	0.0200		92.6	70-130	0.860	25		
Methylene Chloride	0.0203	0.020	mg/Kg wet	0.0200		102	40-160	3.00	25		†
4-Methyl-2-pentanone (MIBK)	0.205	0.020	mg/Kg wet	0.200		103	70-160	2.17	25		†
Naphthalene	0.0161	0.0040	mg/Kg wet	0.0200		80.7	40-130	3.53	25	V-05	†
n-Propylbenzene	0.0184	0.0020	mg/Kg wet	0.0200		91.9	70-130	1.73	25		
Styrene	0.0197	0.0020	mg/Kg wet	0.0200		98.4	70-130	2.71	25		
1,1,1,2-Tetrachloroethane	0.0207	0.0020	mg/Kg wet	0.0200		104	70-130	0.770	25		
1,1,2,2-Tetrachloroethane	0.0197	0.0010	mg/Kg wet	0.0200		98.3	70-130	0.408	25		
Tetrachloroethylene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130	1.34	25		
Tetrahydrofuran	0.0190	0.010	mg/Kg wet	0.0200		95.0	70-130	7.20	25		
Toluene	0.0184	0.0020	mg/Kg wet	0.0200		91.9	70-130	0.00	25		
1,2,3-Trichlorobenzene	0.0197	0.0020	mg/Kg wet	0.0200		98.7	70-130	2.25	25		
1,2,4-Trichlorobenzene	0.0189	0.0020	mg/Kg wet	0.0200		94.5	70-130	2.82	25		
1,3,5-Trichlorobenzene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130	0.193	25		
1,1,1-Trichloroethane	0.0171	0.0020	mg/Kg wet	0.0200		85.5	70-130	0.467	25		
1,1,2-Trichloroethane	0.0185	0.0020	mg/Kg wet	0.0200		92.6	70-130	2.52	25		
Trichloroethylene	0.0190	0.0020	mg/Kg wet	0.0200		95.1	70-130	1.48	25		
Trichlorofluoromethane (Freon 11)	0.0175	0.010	mg/Kg wet	0.0200		87.7	70-130	0.341	25		
1,2,3-Trichloropropane	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130	2.37	25		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0168	0.010	mg/Kg wet	0.0200		83.9	70-130	6.90	25		
1,2,4-Trimethylbenzene	0.0182	0.0020	mg/Kg wet	0.0200		91.2	70-130	2.06	25		
1,3,5-Trimethylbenzene	0.0186	0.0020	mg/Kg wet	0.0200		93.2	70-130	4.00	25		
Vinyl Chloride	0.0170	0.010	mg/Kg wet	0.0200		85.1	40-130	5.15	25		†
m+p Xylene	0.0373	0.0040	mg/Kg wet	0.0400		93.3	70-130	0.214	25		
o-Xylene	0.0181	0.0020	mg/Kg wet	0.0200		90.7	70-130	2.07	25		
Surrogate: 1,2-Dichloroethane-d4	*0.0476*		mg/Kg wet	0.0500		95.3	70-130				
Surrogate: Toluene-d8	*0.0501*		mg/Kg wet	0.0500		100	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0495*		mg/Kg wet	0.0500		98.9	70-130				

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B257789 - SW-846 3546										
Blank (B257789-BLK1)				Prepared: 05/11/20 Analyzed: 05/12/20						
Acenaphthene	ND	0.17	mg/Kg wet							
Acenaphthylene	ND	0.17	mg/Kg wet							
Anthracene	ND	0.17	mg/Kg wet							
Benzo(a)anthracene	ND	0.17	mg/Kg wet							
Benzo(a)pyrene	ND	0.17	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.17	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.17	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.17	mg/Kg wet							
Chrysene	ND	0.17	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.17	mg/Kg wet							
Fluoranthene	ND	0.17	mg/Kg wet							
Fluorene	ND	0.17	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg wet							
2-Methylnaphthalene	ND	0.17	mg/Kg wet							
Naphthalene	ND	0.17	mg/Kg wet							
Phenanthrene	ND	0.17	mg/Kg wet							
Pyrene	ND	0.17	mg/Kg wet							
Surrogate: Nitrobenzene-d5	*2.72*		mg/Kg wet	3.33		81.5	30-130			
Surrogate: 2-Fluorobiphenyl	*2.87*		mg/Kg wet	3.33		86.2	30-130			
Surrogate: p-Terphenyl-d14	*3.25*		mg/Kg wet	3.33		97.5	30-130			
LCS (B257789-BS1)				Prepared: 05/11/20 Analyzed: 05/12/20						
Acenaphthene	1.35	0.17	mg/Kg wet	1.67		81.3	40-140			
Acenaphthylene	1.27	0.17	mg/Kg wet	1.67		76.3	40-140			
Anthracene	1.39	0.17	mg/Kg wet	1.67		83.3	40-140			
Benzo(a)anthracene	1.40	0.17	mg/Kg wet	1.67		83.8	40-140			
Benzo(a)pyrene	1.42	0.17	mg/Kg wet	1.67		85.4	40-140			
Benzo(b)fluoranthene	1.40	0.17	mg/Kg wet	1.67		84.1	40-140			
Benzo(g,h,i)perylene	1.48	0.17	mg/Kg wet	1.67		89.1	40-140			
Benzo(k)fluoranthene	1.41	0.17	mg/Kg wet	1.67		84.6	40-140			
Chrysene	1.38	0.17	mg/Kg wet	1.67		83.1	40-140			
Dibenz(a,h)anthracene	1.51	0.17	mg/Kg wet	1.67		90.7	40-140			
Fluoranthene	1.39	0.17	mg/Kg wet	1.67		83.6	40-140			
Fluorene	1.39	0.17	mg/Kg wet	1.67		83.4	40-140			
Indeno(1,2,3-cd)pyrene	1.68	0.17	mg/Kg wet	1.67		101	40-140			
2-Methylnaphthalene	1.48	0.17	mg/Kg wet	1.67		88.8	40-140			
Naphthalene	1.28	0.17	mg/Kg wet	1.67		76.8	40-140			
Phenanthrene	1.39	0.17	mg/Kg wet	1.67		83.5	40-140			
Pyrene	1.42	0.17	mg/Kg wet	1.67		85.0	40-140			
Surrogate: Nitrobenzene-d5	*2.78*		mg/Kg wet	3.33		83.5	30-130			
Surrogate: 2-Fluorobiphenyl	*2.83*		mg/Kg wet	3.33		84.9	30-130			
Surrogate: p-Terphenyl-d14	*3.10*		mg/Kg wet	3.33		92.9	30-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B257789 - SW-846 3546										
LCS Dup (B257789-BSD1)				Prepared: 05/11/20 Analyzed: 05/12/20						
Acenaphthene	1.37	0.17	mg/Kg wet	1.67		82.1	40-140	0.955	30	
Acenaphthylene	1.28	0.17	mg/Kg wet	1.67		76.6	40-140	0.314	30	
Anthracene	1.37	0.17	mg/Kg wet	1.67		82.5	40-140	0.965	30	
Benzo(a)anthracene	1.38	0.17	mg/Kg wet	1.67		82.6	40-140	1.47	30	
Benzo(a)pyrene	1.40	0.17	mg/Kg wet	1.67		84.0	40-140	1.58	30	
Benzo(b)fluoranthene	1.39	0.17	mg/Kg wet	1.67		83.5	40-140	0.763	30	
Benzo(g,h,i)perylene	1.46	0.17	mg/Kg wet	1.67		87.4	40-140	1.90	30	
Benzo(k)fluoranthene	1.38	0.17	mg/Kg wet	1.67		83.1	40-140	1.84	30	
Chrysene	1.35	0.17	mg/Kg wet	1.67		81.3	40-140	2.19	30	
Dibenz(a,h)anthracene	1.50	0.17	mg/Kg wet	1.67		89.8	40-140	0.975	30	
Fluoranthene	1.39	0.17	mg/Kg wet	1.67		83.6	40-140	0.0239	30	
Fluorene	1.39	0.17	mg/Kg wet	1.67		83.4	40-140	0.0480	30	
Indeno(1,2,3-cd)pyrene	1.65	0.17	mg/Kg wet	1.67		98.8	40-140	2.14	30	
2-Methylnaphthalene	1.48	0.17	mg/Kg wet	1.67		88.5	40-140	0.316	30	
Naphthalene	1.29	0.17	mg/Kg wet	1.67		77.3	40-140	0.597	30	
Phenanthrene	1.39	0.17	mg/Kg wet	1.67		83.4	40-140	0.192	30	
Pyrene	1.39	0.17	mg/Kg wet	1.67		83.5	40-140	1.78	30	
Surrogate: Nitrobenzene-d5	*2.77*		mg/Kg wet	3.33		83.0	30-130			
Surrogate: 2-Fluorobiphenyl	*2.86*		mg/Kg wet	3.33		85.8	30-130			
Surrogate: p-Terphenyl-d14	*3.05*		mg/Kg wet	3.33		91.4	30-130			
Batch B258013 - SW-846 3546										
Blank (B258013-BLK1)				Prepared: 05/14/20 Analyzed: 05/15/20						
Acenaphthene	ND	0.17	mg/Kg wet							
Acenaphthylene	ND	0.17	mg/Kg wet							
Acetophenone	ND	0.34	mg/Kg wet							
Aniline	ND	0.34	mg/Kg wet							V-05
Anthracene	ND	0.17	mg/Kg wet							
Benzidine	ND	0.66	mg/Kg wet							V-04, V-05, V-35
Benzo(a)anthracene	ND	0.17	mg/Kg wet							
Benzo(a)pyrene	ND	0.17	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.17	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.17	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.17	mg/Kg wet							
Benzoic Acid	ND	1.0	mg/Kg wet							
Bis(2-chloroethoxy)methane	ND	0.34	mg/Kg wet							
Bis(2-chloroethyl)ether	ND	0.34	mg/Kg wet							
Bis(2-chloroisopropyl)ether	ND	0.34	mg/Kg wet							
Bis(2-Ethylhexyl)phthalate	ND	0.34	mg/Kg wet							
4-Bromophenylphenylether	ND	0.34	mg/Kg wet							
Butylbenzylphthalate	ND	0.34	mg/Kg wet							
Carbazole	ND	0.17	mg/Kg wet							
4-Chloroaniline	ND	0.66	mg/Kg wet							
4-Chloro-3-methylphenol	ND	0.66	mg/Kg wet							
2-Chloronaphthalene	ND	0.34	mg/Kg wet							
2-Chlorophenol	ND	0.34	mg/Kg wet							
4-Chlorophenylphenylether	ND	0.34	mg/Kg wet							
Chrysene	ND	0.17	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.17	mg/Kg wet							
Dibenzofuran	ND	0.34	mg/Kg wet							
Di-n-butylphthalate	ND	0.34	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.34	mg/Kg wet							

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B258013 - SW-846 3546										
Blank (B258013-BLK1)			Prepared: 05/14/20 Analyzed: 05/15/20							
1,3-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.34	mg/Kg wet							
3,3-Dichlorobenzidine	ND	0.17	mg/Kg wet							
2,4-Dichlorophenol	ND	0.34	mg/Kg wet							
Diethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dimethylphenol	ND	0.34	mg/Kg wet							
Dimethylphthalate	ND	0.34	mg/Kg wet							
4,6-Dinitro-2-methylphenol	ND	0.34	mg/Kg wet							
2,4-Dinitrophenol	ND	0.66	mg/Kg wet							V-04, V-06
2,4-Dinitrotoluene	ND	0.34	mg/Kg wet							
2,6-Dinitrotoluene	ND	0.34	mg/Kg wet							
Di-n-octylphthalate	ND	0.34	mg/Kg wet							
1,2-Diphenylhydrazine/Azobenzene	ND	0.34	mg/Kg wet							
Fluoranthene	ND	0.17	mg/Kg wet							
Fluorene	ND	0.17	mg/Kg wet							
Hexachlorobenzene	ND	0.34	mg/Kg wet							
Hexachlorobutadiene	ND	0.34	mg/Kg wet							
Hexachlorocyclopentadiene	ND	0.34	mg/Kg wet							
Hexachloroethane	ND	0.34	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg wet							
Isophorone	ND	0.34	mg/Kg wet							
1-Methylnaphthalene	ND	0.17	mg/Kg wet							
2-Methylnaphthalene	ND	0.17	mg/Kg wet							
2-Methylphenol	ND	0.34	mg/Kg wet							
3/4-Methylphenol	ND	0.34	mg/Kg wet							
Naphthalene	ND	0.17	mg/Kg wet							
2-Nitroaniline	ND	0.34	mg/Kg wet							V-35
3-Nitroaniline	ND	0.34	mg/Kg wet							
4-Nitroaniline	ND	0.34	mg/Kg wet							
Nitrobenzene	ND	0.34	mg/Kg wet							
2-Nitrophenol	ND	0.34	mg/Kg wet							V-06
4-Nitrophenol	ND	0.66	mg/Kg wet							
N-Nitrosodimethylamine	ND	0.34	mg/Kg wet							
N-Nitrosodiphenylamine/Diphenylamine	ND	0.34	mg/Kg wet							
N-Nitrosodi-n-propylamine	ND	0.34	mg/Kg wet							
Pentachloronitrobenzene	ND	0.34	mg/Kg wet							
Pentachlorophenol	ND	0.34	mg/Kg wet							
Phenanthrene	ND	0.17	mg/Kg wet							
Phenol	ND	0.34	mg/Kg wet							
Pyrene	ND	0.17	mg/Kg wet							
Pyridine	ND	0.34	mg/Kg wet							
1,2,4,5-Tetrachlorobenzene	ND	0.34	mg/Kg wet							
1,2,4-Trichlorobenzene	ND	0.34	mg/Kg wet							
2,4,5-Trichlorophenol	ND	0.34	mg/Kg wet							
2,4,6-Trichlorophenol	ND	0.34	mg/Kg wet							
Surrogate: 2-Fluorophenol	*4.27*		mg/Kg wet	6.67		64.0	30-130			
Surrogate: Phenol-d6	*4.34*		mg/Kg wet	6.67		65.1	30-130			
Surrogate: Nitrobenzene-d5	*2.19*		mg/Kg wet	3.33		65.6	30-130			
Surrogate: 2-Fluorobiphenyl	*2.25*		mg/Kg wet	3.33		67.5	30-130			
Surrogate: 2,4,6-Tribromophenol	*5.70*		mg/Kg wet	6.67		85.6	30-130			
Surrogate: p-Terphenyl-d14	*2.85*		mg/Kg wet	3.33		85.6	30-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B258013 - SW-846 3546											
LCS (B258013-BS1)				Prepared: 05/14/20 Analyzed: 05/15/20							
Acenaphthene	1.19	0.17	mg/Kg wet	1.67		71.5	40-140				
Acenaphthylene	1.14	0.17	mg/Kg wet	1.67		68.5	40-140				
Acetophenone	1.19	0.34	mg/Kg wet	1.67		71.3	40-140				
Aniline	0.888	0.34	mg/Kg wet	1.67		53.3	10-140			V-05	†
Anthracene	1.26	0.17	mg/Kg wet	1.67		75.5	40-140				
Benzidine	1.21	0.66	mg/Kg wet	1.67		72.5	40-140			V-04, V-05, V-35	
Benzo(a)anthracene	1.26	0.17	mg/Kg wet	1.67		75.7	40-140				
Benzo(a)pyrene	1.26	0.17	mg/Kg wet	1.67		75.8	40-140				
Benzo(b)fluoranthene	1.19	0.17	mg/Kg wet	1.67		71.2	40-140				
Benzo(g,h,i)perylene	1.35	0.17	mg/Kg wet	1.67		81.1	40-140				
Benzo(k)fluoranthene	1.21	0.17	mg/Kg wet	1.67		72.7	40-140				
Benzoic Acid	0.523	1.0	mg/Kg wet	1.67		31.4	30-130				
Bis(2-chloroethoxy)methane	1.27	0.34	mg/Kg wet	1.67		76.1	40-140				
Bis(2-chloroethyl)ether	1.16	0.34	mg/Kg wet	1.67		69.7	40-140				
Bis(2-chloroisopropyl)ether	1.27	0.34	mg/Kg wet	1.67		76.1	40-140				
Bis(2-Ethylhexyl)phthalate	1.45	0.34	mg/Kg wet	1.67		87.2	40-140				
4-Bromophenylphenylether	1.39	0.34	mg/Kg wet	1.67		83.3	40-140				
Butylbenzylphthalate	1.43	0.34	mg/Kg wet	1.67		85.8	40-140				
Carbazole	1.19	0.17	mg/Kg wet	1.67		71.6	40-140				
4-Chloroaniline	0.937	0.66	mg/Kg wet	1.67		56.2	10-140				†
4-Chloro-3-methylphenol	1.26	0.66	mg/Kg wet	1.67		75.3	30-130				
2-Chloronaphthalene	1.08	0.34	mg/Kg wet	1.67		64.9	40-140				
2-Chlorophenol	1.20	0.34	mg/Kg wet	1.67		71.8	30-130				
4-Chlorophenylphenylether	1.26	0.34	mg/Kg wet	1.67		75.6	40-140				
Chrysene	1.26	0.17	mg/Kg wet	1.67		75.6	40-140				
Dibenz(a,h)anthracene	1.40	0.17	mg/Kg wet	1.67		84.3	40-140				
Dibenzofuran	1.24	0.34	mg/Kg wet	1.67		74.7	40-140				
Di-n-butylphthalate	1.28	0.34	mg/Kg wet	1.67		76.7	40-140				
1,2-Dichlorobenzene	1.06	0.34	mg/Kg wet	1.67		63.6	40-140				
1,3-Dichlorobenzene	1.03	0.34	mg/Kg wet	1.67		61.7	40-140				
1,4-Dichlorobenzene	1.04	0.34	mg/Kg wet	1.67		62.4	40-140				
3,3-Dichlorobenzidine	1.28	0.17	mg/Kg wet	1.67		76.6	20-140				†
2,4-Dichlorophenol	1.25	0.34	mg/Kg wet	1.67		75.2	30-130				
Diethylphthalate	1.22	0.34	mg/Kg wet	1.67		73.0	40-140				
2,4-Dimethylphenol	1.04	0.34	mg/Kg wet	1.67		62.4	30-130				
Dimethylphthalate	1.23	0.34	mg/Kg wet	1.67		73.9	40-140				
4,6-Dinitro-2-methylphenol	1.44	0.34	mg/Kg wet	1.67		86.2	30-130				
2,4-Dinitrophenol	0.936	0.66	mg/Kg wet	1.67		56.2	30-130			V-04, V-06	
2,4-Dinitrotoluene	1.31	0.34	mg/Kg wet	1.67		78.7	40-140				
2,6-Dinitrotoluene	1.37	0.34	mg/Kg wet	1.67		82.2	40-140				
Di-n-octylphthalate	1.27	0.34	mg/Kg wet	1.67		76.2	40-140				
1,2-Diphenylhydrazine/Azobenzene	1.25	0.34	mg/Kg wet	1.67		74.9	40-140				
Fluoranthene	1.21	0.17	mg/Kg wet	1.67		72.9	40-140				
Fluorene	1.21	0.17	mg/Kg wet	1.67		72.8	40-140				
Hexachlorobenzene	1.30	0.34	mg/Kg wet	1.67		78.2	40-140				
Hexachlorobutadiene	1.13	0.34	mg/Kg wet	1.67		67.6	40-140				
Hexachlorocyclopentadiene	1.20	0.34	mg/Kg wet	1.67		71.8	40-140				
Hexachloroethane	1.09	0.34	mg/Kg wet	1.67		65.7	40-140				
Indeno(1,2,3-cd)pyrene	1.52	0.17	mg/Kg wet	1.67		91.2	40-140				
Isophorone	1.21	0.34	mg/Kg wet	1.67		72.6	40-140				
1-Methylnaphthalene	1.12	0.17	mg/Kg wet	1.67		67.1	40-140				
2-Methylnaphthalene	1.32	0.17	mg/Kg wet	1.67		79.3	40-140				

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B258013 - SW-846 3546											
LCS (B258013-BS1)				Prepared: 05/14/20 Analyzed: 05/15/20							
2-Methylphenol	1.19	0.34	mg/Kg wet	1.67		71.2	30-130				
3/4-Methylphenol	1.20	0.34	mg/Kg wet	1.67		71.7	30-130				
Naphthalene	1.16	0.17	mg/Kg wet	1.67		69.8	40-140				
2-Nitroaniline	1.61	0.34	mg/Kg wet	1.67		96.4	40-140			V-35	
3-Nitroaniline	1.26	0.34	mg/Kg wet	1.67		75.7	30-140				†
4-Nitroaniline	1.31	0.34	mg/Kg wet	1.67		78.4	40-140				
Nitrobenzene	1.17	0.34	mg/Kg wet	1.67		70.1	40-140				
2-Nitrophenol	1.50	0.34	mg/Kg wet	1.67		90.0	30-130			V-06	
4-Nitrophenol	1.18	0.66	mg/Kg wet	1.67		71.0	30-130				
N-Nitrosodimethylamine	1.10	0.34	mg/Kg wet	1.67		65.9	40-140				
N-Nitrosodiphenylamine/Diphenylamine	1.43	0.34	mg/Kg wet	1.67		85.7	40-140				
N-Nitrosodi-n-propylamine	1.20	0.34	mg/Kg wet	1.67		71.9	40-140				
Pentachloronitrobenzene	1.45	0.34	mg/Kg wet	1.67		87.1	40-140				
Pentachlorophenol	1.08	0.34	mg/Kg wet	1.67		64.9	30-130				
Phenanthrene	1.26	0.17	mg/Kg wet	1.67		75.6	40-140				
Phenol	1.14	0.34	mg/Kg wet	1.67		68.7	30-130				
Pyrene	1.29	0.17	mg/Kg wet	1.67		77.7	40-140				
Pyridine	0.863	0.34	mg/Kg wet	1.67		51.8	30-140				†
1,2,4,5-Tetrachlorobenzene	1.25	0.34	mg/Kg wet	1.67		75.1	40-140				
1,2,4-Trichlorobenzene	1.15	0.34	mg/Kg wet	1.67		69.1	40-140				
2,4,5-Trichlorophenol	1.30	0.34	mg/Kg wet	1.67		78.2	30-130				
2,4,6-Trichlorophenol	1.29	0.34	mg/Kg wet	1.67		77.6	30-130				
Surrogate: 2-Fluorophenol	*4.78*		mg/Kg wet	6.67		71.8	30-130				
Surrogate: Phenol-d6	*4.79*		mg/Kg wet	6.67		71.9	30-130				
Surrogate: Nitrobenzene-d5	*2.48*		mg/Kg wet	3.33		74.5	30-130				
Surrogate: 2-Fluorobiphenyl	*2.56*		mg/Kg wet	3.33		76.7	30-130				
Surrogate: 2,4,6-Tribromophenol	*5.78*		mg/Kg wet	6.67		86.6	30-130				
Surrogate: p-Terphenyl-d14	*2.85*		mg/Kg wet	3.33		85.6	30-130				
LCS Dup (B258013-BSD1)				Prepared: 05/14/20 Analyzed: 05/15/20							
Acenaphthene	1.25	0.17	mg/Kg wet	1.67		74.9	40-140	4.59	30		
Acenaphthylene	1.19	0.17	mg/Kg wet	1.67		71.3	40-140	4.04	30		
Acetophenone	1.21	0.34	mg/Kg wet	1.67		72.4	40-140	1.53	30		
Aniline	0.938	0.34	mg/Kg wet	1.67		56.3	10-140	5.51	50	V-05	† ‡
Anthracene	1.34	0.17	mg/Kg wet	1.67		80.1	40-140	5.94	30		
Benzidine	1.43	0.66	mg/Kg wet	1.67		85.9	40-140	16.9	30	V-05, V-35, V-04	
Benzo(a)anthracene	1.33	0.17	mg/Kg wet	1.67		80.0	40-140	5.47	30		
Benzo(a)pyrene	1.33	0.17	mg/Kg wet	1.67		79.8	40-140	5.24	30		
Benzo(b)fluoranthene	1.26	0.17	mg/Kg wet	1.67		75.9	40-140	6.34	30		
Benzo(g,h,i)perylene	1.38	0.17	mg/Kg wet	1.67		82.6	40-140	1.78	30		
Benzo(k)fluoranthene	1.29	0.17	mg/Kg wet	1.67		77.3	40-140	6.08	30		
Benzoic Acid	0.672	1.0	mg/Kg wet	1.67		40.3	30-130	24.8	50		‡
Bis(2-chloroethoxy)methane	1.28	0.34	mg/Kg wet	1.67		77.0	40-140	1.18	30		
Bis(2-chloroethyl)ether	1.16	0.34	mg/Kg wet	1.67		69.8	40-140	0.143	30		
Bis(2-chloroisopropyl)ether	1.26	0.34	mg/Kg wet	1.67		75.4	40-140	0.898	30		
Bis(2-Ethylhexyl)phthalate	1.52	0.34	mg/Kg wet	1.67		91.1	40-140	4.33	30		
4-Bromophenylphenylether	1.45	0.34	mg/Kg wet	1.67		87.0	40-140	4.32	30		
Butylbenzylphthalate	1.48	0.34	mg/Kg wet	1.67		88.9	40-140	3.59	30		
Carbazole	1.27	0.17	mg/Kg wet	1.67		76.1	40-140	6.15	30		
4-Chloroaniline	1.02	0.66	mg/Kg wet	1.67		61.1	10-140	8.28	30		†
4-Chloro-3-methylphenol	1.29	0.66	mg/Kg wet	1.67		77.1	30-130	2.36	30		
2-Chloronaphthalene	1.13	0.34	mg/Kg wet	1.67		68.0	40-140	4.76	30		

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B258013 - SW-846 3546											
LCS Dup (B258013-BSD1)				Prepared: 05/14/20 Analyzed: 05/15/20							
2-Chlorophenol	1.21	0.34	mg/Kg wet	1.67		72.4	30-130	0.887	30		
4-Chlorophenylphenylether	1.31	0.34	mg/Kg wet	1.67		78.6	40-140	3.89	30		
Chrysene	1.33	0.17	mg/Kg wet	1.67		79.9	40-140	5.51	30		
Dibenz(a,h)anthracene	1.45	0.17	mg/Kg wet	1.67		87.2	40-140	3.43	30		
Dibenzofuran	1.29	0.34	mg/Kg wet	1.67		77.5	40-140	3.68	30		
Di-n-butylphthalate	1.34	0.34	mg/Kg wet	1.67		80.6	40-140	4.96	30		
1,2-Dichlorobenzene	1.07	0.34	mg/Kg wet	1.67		64.5	40-140	1.34	30		
1,3-Dichlorobenzene	1.04	0.34	mg/Kg wet	1.67		62.3	40-140	0.935	30		
1,4-Dichlorobenzene	1.05	0.34	mg/Kg wet	1.67		63.0	40-140	0.925	30		
3,3-Dichlorobenzidine	1.45	0.17	mg/Kg wet	1.67		87.1	20-140	12.9	50		† ‡
2,4-Dichlorophenol	1.29	0.34	mg/Kg wet	1.67		77.6	30-130	3.04	30		
Diethylphthalate	1.28	0.34	mg/Kg wet	1.67		76.6	40-140	4.73	30		
2,4-Dimethylphenol	1.08	0.34	mg/Kg wet	1.67		64.6	30-130	3.47	30		
Dimethylphthalate	1.28	0.34	mg/Kg wet	1.67		77.0	40-140	4.11	30		
4,6-Dinitro-2-methylphenol	1.57	0.34	mg/Kg wet	1.67		94.2	30-130	8.96	30		
2,4-Dinitrophenol	1.20	0.66	mg/Kg wet	1.67		71.7	30-130	24.3	30	V-04, V-06	
2,4-Dinitrotoluene	1.37	0.34	mg/Kg wet	1.67		82.4	40-140	4.62	30		
2,6-Dinitrotoluene	1.43	0.34	mg/Kg wet	1.67		85.9	40-140	4.47	30		
Di-n-octylphthalate	1.34	0.34	mg/Kg wet	1.67		80.3	40-140	5.26	30		
1,2-Diphenylhydrazine/Azobenzene	1.28	0.34	mg/Kg wet	1.67		77.0	40-140	2.87	30		
Fluoranthene	1.28	0.17	mg/Kg wet	1.67		76.9	40-140	5.45	30		
Fluorene	1.27	0.17	mg/Kg wet	1.67		76.0	40-140	4.19	30		
Hexachlorobenzene	1.39	0.34	mg/Kg wet	1.67		83.2	40-140	6.22	30		
Hexachlorobutadiene	1.16	0.34	mg/Kg wet	1.67		69.3	40-140	2.48	30		
Hexachlorocyclopentadiene	1.26	0.34	mg/Kg wet	1.67		75.6	40-140	5.16	30		
Hexachloroethane	1.11	0.34	mg/Kg wet	1.67		66.5	40-140	1.24	30		
Indeno(1,2,3-cd)pyrene	1.59	0.17	mg/Kg wet	1.67		95.5	40-140	4.61	30		
Isophorone	1.22	0.34	mg/Kg wet	1.67		73.4	40-140	1.07	30		
1-Methylnaphthalene	1.14	0.17	mg/Kg wet	1.67		68.5	40-140	2.12	30		
2-Methylnaphthalene	1.34	0.17	mg/Kg wet	1.67		80.1	40-140	1.00	30		
2-Methylphenol	1.19	0.34	mg/Kg wet	1.67		71.5	30-130	0.308	30		
3/4-Methylphenol	1.21	0.34	mg/Kg wet	1.67		72.4	30-130	0.916	30		
Naphthalene	1.18	0.17	mg/Kg wet	1.67		70.7	40-140	1.25	30		
2-Nitroaniline	1.65	0.34	mg/Kg wet	1.67		98.8	40-140	2.48	30	V-35	
3-Nitroaniline	1.36	0.34	mg/Kg wet	1.67		81.9	30-140	7.87	30		†
4-Nitroaniline	1.38	0.34	mg/Kg wet	1.67		82.5	40-140	5.05	30		
Nitrobenzene	1.17	0.34	mg/Kg wet	1.67		70.4	40-140	0.342	30		
2-Nitrophenol	1.54	0.34	mg/Kg wet	1.67		92.6	30-130	2.87	30	V-06	
4-Nitrophenol	1.24	0.66	mg/Kg wet	1.67		74.5	30-130	4.81	50		‡
N-Nitrosodimethylamine	1.08	0.34	mg/Kg wet	1.67		65.0	40-140	1.34	30		
N-Nitrosodiphenylamine/Diphenylamine	1.49	0.34	mg/Kg wet	1.67		89.4	40-140	4.32	30		
N-Nitrosodi-n-propylamine	1.20	0.34	mg/Kg wet	1.67		71.9	40-140	0.0557	30		
Pentachloronitrobenzene	1.57	0.34	mg/Kg wet	1.67		94.0	40-140	7.62	30		
Pentachlorophenol	1.17	0.34	mg/Kg wet	1.67		70.5	30-130	8.28	30		
Phenanthrene	1.33	0.17	mg/Kg wet	1.67		79.7	40-140	5.33	30		
Phenol	1.16	0.34	mg/Kg wet	1.67		69.6	30-130	1.33	30		
Pyrene	1.35	0.17	mg/Kg wet	1.67		81.0	40-140	4.26	30		
Pyridine	0.856	0.34	mg/Kg wet	1.67		51.4	30-140	0.737	30		†
1,2,4,5-Tetrachlorobenzene	1.30	0.34	mg/Kg wet	1.67		77.8	40-140	3.58	30		
1,2,4-Trichlorobenzene	1.17	0.34	mg/Kg wet	1.67		70.5	40-140	2.04	30		
2,4,5-Trichlorophenol	1.36	0.34	mg/Kg wet	1.67		81.7	30-130	4.43	30		
2,4,6-Trichlorophenol	1.37	0.34	mg/Kg wet	1.67		82.1	30-130	5.54	30		

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B258013 - SW-846 3546										
LCS Dup (B258013-BSD1)				Prepared: 05/14/20 Analyzed: 05/15/20						
Surrogate: 2-Fluorophenol	*4.72*		mg/Kg wet	6.67		70.9	30-130			
Surrogate: Phenol-d6	*4.75*		mg/Kg wet	6.67		71.3	30-130			
Surrogate: Nitrobenzene-d5	*2.44*		mg/Kg wet	3.33		73.3	30-130			
Surrogate: 2-Fluorobiphenyl	*2.58*		mg/Kg wet	3.33		77.4	30-130			
Surrogate: 2,4,6-Tribromophenol	*6.00*		mg/Kg wet	6.67		90.1	30-130			
Surrogate: p-Terphenyl-d14	*2.94*		mg/Kg wet	3.33		88.3	30-130			

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B257751 - SW-846 3540C										
Blank (B257751-BLK1)				Prepared: 05/11/20 Analyzed: 05/14/20						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.188*		mg/Kg wet	0.196		95.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.182*		mg/Kg wet	0.196		92.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.198*		mg/Kg wet	0.196		101	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.176*		mg/Kg wet	0.196		89.8	30-150			
LCS (B257751-BS1)				Prepared: 05/11/20 Analyzed: 05/15/20						
Aroclor-1016	0.21	0.020	mg/Kg wet	0.200		107	40-140			
Aroclor-1016 [2C]	0.18	0.020	mg/Kg wet	0.200		89.7	40-140			
Aroclor-1260	0.21	0.020	mg/Kg wet	0.200		104	40-140			
Aroclor-1260 [2C]	0.19	0.020	mg/Kg wet	0.200		93.7	40-140			
Surrogate: Decachlorobiphenyl	*0.215*		mg/Kg wet	0.200		108	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.211*		mg/Kg wet	0.200		106	30-150			
Surrogate: Tetrachloro-m-xylene	*0.224*		mg/Kg wet	0.200		112	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.198*		mg/Kg wet	0.200		99.1	30-150			
LCS Dup (B257751-BSD1)				Prepared: 05/11/20 Analyzed: 05/14/20						
Aroclor-1016	0.20	0.020	mg/Kg wet	0.200		98.2	40-140	8.32	30	
Aroclor-1016 [2C]	0.17	0.020	mg/Kg wet	0.200		83.2	40-140	7.50	30	
Aroclor-1260	0.19	0.020	mg/Kg wet	0.200		94.4	40-140	10.0	30	
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		85.1	40-140	9.57	30	
Surrogate: Decachlorobiphenyl	*0.187*		mg/Kg wet	0.200		93.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.181*		mg/Kg wet	0.200		90.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.205*		mg/Kg wet	0.200		102	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.183*		mg/Kg wet	0.200		91.6	30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B257751 - SW-846 3540C										
Matrix Spike (B257751-MS1)	**Source: 20E0343-01**			Prepared: 05/11/20 Analyzed: 05/14/20						
Aroclor-1016	0.36	0.12	mg/Kg dry	0.296	ND	122	40-140			
Aroclor-1016 [2C]	0.39	0.12	mg/Kg dry	0.296	ND	130	40-140			
Aroclor-1260	0.44	0.12	mg/Kg dry	0.296	0.11	112	40-140			
Aroclor-1260 [2C]	0.39	0.12	mg/Kg dry	0.296	0.11	95.6	40-140			
Surrogate: Decachlorobiphenyl	*0.275*		mg/Kg dry	0.296		92.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.277*		mg/Kg dry	0.296		93.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.303*		mg/Kg dry	0.296		102	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.277*		mg/Kg dry	0.296		93.6	30-150			
Matrix Spike Dup (B257751-MSD1)	**Source: 20E0343-01**			Prepared: 05/11/20 Analyzed: 05/14/20						
Aroclor-1016	0.35	0.12	mg/Kg dry	0.296	ND	118	40-140	3.16	50	
Aroclor-1016 [2C]	0.36	0.12	mg/Kg dry	0.296	ND	121	40-140	7.28	50	
Aroclor-1260	0.49	0.12	mg/Kg dry	0.296	0.11	130	40-140	11.2	50	
Aroclor-1260 [2C]	0.46	0.12	mg/Kg dry	0.296	0.11	118	40-140	15.6	50	
Surrogate: Decachlorobiphenyl	*0.265*		mg/Kg dry	0.296		89.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.264*		mg/Kg dry	0.296		89.1	30-150			
Surrogate: Tetrachloro-m-xylene	*0.297*		mg/Kg dry	0.296		100	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.273*		mg/Kg dry	0.296		92.1	30-150			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B258014 - SW-846 3546											
Blank (B258014-BLK1)				Prepared: 05/14/20 Analyzed: 05/18/20							
TPH (C9-C36)	ND	8.3	mg/Kg wet								
Surrogate: 2-Fluorobiphenyl	*2.76*		mg/Kg wet	3.33		82.7		40-140			
LCS (B258014-BS1)				Prepared: 05/14/20 Analyzed: 05/18/20							
TPH (C9-C36)	30.6	8.3	mg/Kg wet	33.3		91.9		40-140			
Surrogate: 2-Fluorobiphenyl	*2.71*		mg/Kg wet	3.33		81.4		40-140			
LCS Dup (B258014-BSD1)				Prepared: 05/14/20 Analyzed: 05/18/20							
TPH (C9-C36)	30.5	8.3	mg/Kg wet	33.3		91.6		40-140	0.285	30	
Surrogate: 2-Fluorobiphenyl	*2.70*		mg/Kg wet	3.33		80.9		40-140			
Matrix Spike (B258014-MS1)	**Source: 20E0343-01**			Prepared: 05/14/20 Analyzed: 05/18/20							
TPH (C9-C36)	2730	130	mg/Kg dry	50.5	2850	**-245**	*	40-140			MS-07A
Surrogate: 2-Fluorobiphenyl	*2.27*		mg/Kg dry	5.05		44.9		40-140			
Matrix Spike Dup (B258014-MSD1)	**Source: 20E0343-01**			Prepared: 05/14/20 Analyzed: 05/18/20							
TPH (C9-C36)	2850	130	mg/Kg dry	50.5	2850	**1.54**	*	40-140	4.47	30	MS-07A
Surrogate: 2-Fluorobiphenyl	*2.26*		mg/Kg dry	5.05		44.8		40-140			
Batch B258243 - SW-846 3546											
Blank (B258243-BLK1)				Prepared: 05/18/20 Analyzed: 05/19/20							
TPH (C9-C36)	ND	8.3	mg/Kg wet								
Surrogate: 2-Fluorobiphenyl	*3.04*		mg/Kg wet	3.31		91.9		40-140			
LCS (B258243-BS1)				Prepared: 05/18/20 Analyzed: 05/19/20							
TPH (C9-C36)	28.1	8.2	mg/Kg wet	32.9		85.4		40-140			
Surrogate: 2-Fluorobiphenyl	*2.70*		mg/Kg wet	3.29		82.1		40-140			
LCS Dup (B258243-BSD1)				Prepared: 05/18/20 Analyzed: 05/19/20							
TPH (C9-C36)	29.1	8.1	mg/Kg wet	32.5		89.5		40-140	3.37	30	
Surrogate: 2-Fluorobiphenyl	*2.88*		mg/Kg wet	3.25		88.8		40-140			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B257720 - SW-846 7471										
Blank (B257720-BLK1)				Prepared: 05/11/20 Analyzed: 05/12/20						
Mercury	ND	0.025	mg/Kg wet							
LCS (B257720-BS1)				Prepared: 05/11/20 Analyzed: 05/12/20						
Mercury	7.92	0.38	mg/Kg wet	7.61		104	72.7-127.3			
LCS Dup (B257720-BSD1)				Prepared: 05/11/20 Analyzed: 05/12/20						
Mercury	6.92	0.37	mg/Kg wet	7.61		90.9	72.7-127.3	13.5	20	
Duplicate (B257720-DUP1)	**Source: 20E0343-08**			Prepared: 05/11/20 Analyzed: 05/12/20						
Mercury	ND	0.027	mg/Kg dry		ND			NC	20	
Matrix Spike (B257720-MS1)	**Source: 20E0343-08**			Prepared: 05/11/20 Analyzed: 05/12/20						
Mercury	0.392	0.027	mg/Kg dry	0.367	0.0158	103	80-120			
Batch B257823 - SW-846 3050B										
Blank (B257823-BLK1)				Prepared & Analyzed: 05/12/20						
Arsenic	ND	3.3	mg/Kg wet							
Barium	ND	1.7	mg/Kg wet							
Cadmium	ND	0.33	mg/Kg wet							
Chromium	ND	0.67	mg/Kg wet							
Lead	ND	0.50	mg/Kg wet							
Selenium	ND	3.3	mg/Kg wet							
Silver	ND	0.33	mg/Kg wet							
LCS (B257823-BS1)				Prepared & Analyzed: 05/12/20						
Arsenic	147	10	mg/Kg wet	143		103	83.2-117.5			
Barium	438	5.0	mg/Kg wet	415		106	82.7-117.6			
Cadmium	54.1	1.0	mg/Kg wet	56.2		96.2	82.9-117.3			
Chromium	101	2.0	mg/Kg wet	101		99.8	82.4-116.8			
Lead	127	1.5	mg/Kg wet	125		102	82.4-116.8			
Selenium	75.1	10	mg/Kg wet	77.9		96.4	79.3-120.7			
Silver	36.7	1.0	mg/Kg wet	34.3		107	81-119.2			
LCS Dup (B257823-BSD1)				Prepared & Analyzed: 05/12/20						
Arsenic	143	10	mg/Kg wet	143		99.7	83.2-117.5	2.88	30	
Barium	426	5.0	mg/Kg wet	415		103	82.7-117.6	2.71	20	
Cadmium	53.3	1.0	mg/Kg wet	56.2		94.8	82.9-117.3	1.42	20	
Chromium	98.5	2.0	mg/Kg wet	101		97.5	82.4-116.8	2.32	30	
Lead	125	1.5	mg/Kg wet	125		100	82.4-116.8	1.67	30	
Selenium	75.0	10	mg/Kg wet	77.9		96.3	79.3-120.7	0.0673	30	
Silver	36.0	1.0	mg/Kg wet	34.3		105	81-119.2	1.93	30	

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B257823 - SW-846 3050B										
Duplicate (B257823-DUP1)	**Source: 20E0343-06**			Prepared & Analyzed: 05/12/20						
Arsenic	5.94	3.7	mg/Kg dry		5.85			1.48	35	
Barium	30.6	1.8	mg/Kg dry		29.3			4.18	35	
Cadmium	ND	0.37	mg/Kg dry		ND			NC	35	
Chromium	13.5	0.73	mg/Kg dry		12.5			7.52	35	
Lead	7.96	0.55	mg/Kg dry		7.80			1.97	35	
Selenium	ND	3.7	mg/Kg dry		ND			NC	35	
Silver	ND	0.37	mg/Kg dry		ND			NC	35	
Matrix Spike (B257823-MS1)	**Source: 20E0343-06**			Prepared & Analyzed: 05/12/20						
Arsenic	22.8	3.7	mg/Kg dry	18.6	5.85	91.5	75-125			
Barium	48.0	1.9	mg/Kg dry	18.6	29.3	100	75-125			
Cadmium	17.7	0.37	mg/Kg dry	18.6	ND	95.1	75-125			
Chromium	31.2	0.74	mg/Kg dry	18.6	12.5	101	75-125			
Lead	26.0	0.56	mg/Kg dry	18.6	7.80	97.8	75-125			
Selenium	16.0	3.7	mg/Kg dry	18.6	ND	85.9	75-125			
Silver	19.5	0.37	mg/Kg dry	18.6	ND	105	75-125			
Reference (B257823-SRM1)				Prepared & Analyzed: 05/12/20						
Lead	0.481	0.53	mg/Kg wet	0.527		91.3	80-120			
Batch B258205 - SW-846 7471										
Blank (B258205-BLK1)				Prepared: 05/18/20 Analyzed: 05/20/20						
Mercury	ND	0.025	mg/Kg wet							
LCS (B258205-BS1)				Prepared: 05/18/20 Analyzed: 05/20/20						
Mercury	7.36	0.38	mg/Kg wet	7.61		96.8	72.7-127.3			
LCS Dup (B258205-BSD1)				Prepared: 05/18/20 Analyzed: 05/20/20						
Mercury	6.81	0.37	mg/Kg wet	7.61		89.4	72.7-127.3	7.88	20	
Batch B258216 - SW-846 3050B										
Blank (B258216-BLK1)				Prepared: 05/18/20 Analyzed: 05/19/20						
Arsenic	ND	3.3	mg/Kg wet							
Barium	ND	1.7	mg/Kg wet							
Cadmium	ND	0.33	mg/Kg wet							
Chromium	ND	0.67	mg/Kg wet							
Lead	ND	0.50	mg/Kg wet							
Selenium	ND	3.3	mg/Kg wet							
Silver	ND	0.33	mg/Kg wet							
Vanadium	ND	0.67	mg/Kg wet							

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B258216 - SW-846 3050B										
LCS (B258216-BS1)				Prepared: 05/18/20 Analyzed: 05/19/20						
Arsenic	137	10	mg/Kg wet	143		96.0	83.2-117.5			
Barium	414	5.0	mg/Kg wet	415		99.8	82.7-117.6			
Cadmium	54.7	1.0	mg/Kg wet	56.2		97.3	82.9-117.3			
Chromium	96.6	2.0	mg/Kg wet	101		95.7	82.4-116.8			
Lead	123	1.5	mg/Kg wet	125		98.4	82.4-116.8			
Selenium	73.0	10	mg/Kg wet	77.9		93.7	79.3-120.7			
Silver	35.4	1.0	mg/Kg wet	34.3		103	81-119.2			
Vanadium	80.2	2.0	mg/Kg wet	83.7		95.9	79.8-120.7			
LCS Dup (B258216-BSD1)				Prepared: 05/18/20 Analyzed: 05/19/20						
Arsenic	138	9.9	mg/Kg wet	143		96.6	83.2-117.5	0.638	30	
Barium	440	5.0	mg/Kg wet	415		106	82.7-117.6	6.07	20	
Cadmium	57.3	0.99	mg/Kg wet	56.2		102	82.9-117.3	4.72	20	
Chromium	99.5	2.0	mg/Kg wet	101		98.5	82.4-116.8	2.92	30	
Lead	124	1.5	mg/Kg wet	125		98.9	82.4-116.8	0.596	30	
Selenium	73.3	9.9	mg/Kg wet	77.9		94.1	79.3-120.7	0.409	30	
Silver	36.3	0.99	mg/Kg wet	34.3		106	81-119.2	2.60	30	
Vanadium	81.8	2.0	mg/Kg wet	83.7		97.8	79.8-120.7	1.97	30	
Reference (B258216-SRM1)				Prepared: 05/18/20 Analyzed: 05/19/20						
Lead	0.482	0.48	mg/Kg wet	0.477		101	80-120			

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B257696 - SW-846 9045C										
LCS (B257696-BS1)				Prepared & Analyzed: 05/08/20						
pH	6.01		pH Units	6.00		100	90-110			
LCS (B257696-BS2)				Prepared & Analyzed: 05/08/20						
pH	6.02		pH Units	6.00		100	90-110			
Batch B257718 - % Solids										
Duplicate (B257718-DUP1)	**Source: 20E0343-01**			Prepared & Analyzed: 05/11/20						
% Solids	63.9		% Wt		65.5			2.57	20	
Batch B258130 - SW-846 9014										
Blank (B258130-BLK1)				Prepared: 05/15/20 Analyzed: 05/16/20						
Reactive Cyanide	ND	0.40	mg/Kg							
LCS (B258130-BS1)				Prepared: 05/15/20 Analyzed: 05/16/20						
Reactive Cyanide	11	0.40	mg/Kg	10.0		107	83.2-115			
Batch B258131 - SW-846 9030A										
Blank (B258131-BLK1)				Prepared: 05/15/20 Analyzed: 05/16/20						
Reactive Sulfide	ND	2.0	mg/Kg							
LCS (B258131-BS1)				Prepared: 05/15/20 Analyzed: 05/16/20						
Reactive Sulfide	14	2.0	mg/Kg	14.8		94.6	71.6-120			

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QUALITY CONTROL

TCLP - Metals Analyses - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B257838 - SW-846 7470A Prep											
Blank (B257838-BLK1)				Prepared: 05/12/20 Analyzed: 05/13/20							
Mercury	ND	0.00010	mg/L								
LCS (B257838-BS1)				Prepared: 05/12/20 Analyzed: 05/13/20							
Mercury	0.00385	0.00010	mg/L	0.00400		96.2		80-120			
LCS Dup (B257838-BSD1)				Prepared: 05/12/20 Analyzed: 05/13/20							
Mercury	0.00390	0.00010	mg/L	0.00400		97.6		80-120	1.39	20	
Matrix Spike (B257838-MS1)		**Source: 20E0343-01**		Prepared: 05/12/20 Analyzed: 05/13/20							
Mercury	0.00380	0.00010	mg/L	0.00400	ND	94.9		75-125			
Batch B257841 - SW-846 3010A											
Blank (B257841-BLK1)				Prepared & Analyzed: 05/12/20							
Arsenic	ND	0.050	mg/L								
Vanadium	ND	0.010	mg/L								
Barium	ND	0.50	mg/L								
Cadmium	ND	0.010	mg/L								
Chromium	ND	0.050	mg/L								
Lead	ND	0.10	mg/L								
Selenium	ND	0.050	mg/L								
Silver	ND	0.050	mg/L								
LCS (B257841-BS1)				Prepared & Analyzed: 05/12/20							
Arsenic	0.548	0.050	mg/L	0.500		110		80-120			
Vanadium	0.525	0.010	mg/L	0.500		105		80-120			
Barium	0.513	0.50	mg/L	0.500		103		80-120			
Cadmium	0.525	0.010	mg/L	0.500		105		80-120			
Chromium	0.511	0.050	mg/L	0.500		102		80-120			
Lead	0.540	0.10	mg/L	0.500		108		80-120			
Selenium	0.602	0.050	mg/L	0.500		120		80-120			
Silver	0.571	0.050	mg/L	0.500		114		80-120			
LCS Dup (B257841-BSD1)				Prepared & Analyzed: 05/12/20							
Arsenic	0.527	0.050	mg/L	0.500		105		80-120	4.03	20	
Vanadium	0.516	0.010	mg/L	0.500		103		80-120	1.60	20	
Barium	0.503	0.50	mg/L	0.500		101		80-120	1.89	20	
Cadmium	0.517	0.010	mg/L	0.500		103		80-120	1.47	20	
Chromium	0.502	0.050	mg/L	0.500		100		80-120	1.77	20	
Lead	0.523	0.10	mg/L	0.500		105		80-120	3.11	20	
Selenium	0.621	0.050	mg/L	0.500		**124**	*	80-120	3.09	20	L-07
Silver	0.587	0.050	mg/L	0.500		117		80-120	2.67	20	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LF-1

Lab Sample ID: 20E0343-01 Date(s) Analyzed: 05/14/2020 05/14/2020

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.38	
	2	0.000	-0.030	0.030	0.35	8.2

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LF-2

Lab Sample ID: 20E0343-02 Date(s) Analyzed: 05/14/2020 05/14/2020

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.45	
	2	0.000	-0.030	0.030	0.47	4.4
Aroclor-1260	1	0.000	-0.030	0.030	0.20	
	2	0.000	-0.030	0.030	0.18	10.5

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LF-3

Lab Sample ID: 20E0343-03 Date(s) Analyzed: 05/14/2020 05/14/2020

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.33	
	2	0.000	-0.030	0.030	0.38	14.1
Aroclor-1260	1	0.000	-0.030	0.030	0.18	
	2	0.000	-0.030	0.030	0.16	11.8

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LF-4

Lab Sample ID: 20E0343-04 Date(s) Analyzed: 05/14/2020 05/14/2020

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.33	
	2	0.000	-0.030	0.030	0.38	14.1
Aroclor-1260	1	0.000	-0.030	0.030	0.19	
	2	0.000	-0.030	0.030	0.16	17.1

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Duplicate

Lab Sample ID: 20E0343-05 Date(s) Analyzed: 05/14/2020 05/14/2020

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.67	
	2	0.000	-0.030	0.030	0.67	0.0
Aroclor-1260	1	0.000	-0.030	0.030	0.56	
	2	0.000	-0.030	0.030	0.47	17.5

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
L-02	Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
MS-07A	Matrix spike and spike duplicate recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possiblity of matrix effects that lead to low bias or non-homogeneous sample aliquot cannot be eliminated.
PR-03	Sample preserved in the laboratory, not in the field as required by the method.
RL-12	Elevated reporting limit due to matrix interference.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.
S-07	One associated surrogate standard recovery is outside of control limits but the other(s) is/are within limits. All recoveries are > 10%.
V-04	Initial calibration did not meet method specifications. Compound was calibrated using a response factor where %RSD is outside of method specified criteria. Reported result is estimated.
V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.
V-06	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.
V-34	Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.
V-35	Initial calibration verification (ICV) did not meet method specifications and was biased on the high side for this compound. Reported result is estimated.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 1030 in Soil	
Ignitability	NY,NH,CT,NC,ME,VA
SW-846 6010D in Soil	
Arsenic	CT,NH,NY,ME,VA,NC
Barium	CT,NH,NY,ME,VA,NC
Cadmium	CT,NH,NY,ME,VA,NC
Chromium	CT,NH,NY,ME,VA,NC
Lead	CT,NH,NY,AIHA,ME,VA,NC
Selenium	CT,NH,NY,ME,VA,NC
Silver	CT,NH,NY,ME,VA,NC
Vanadium	CT,NH,NY,ME,VA,NC
SW-846 6010D in Water	
Arsenic	NY,CT,NC,ME,NH,VA
Vanadium	CT,ME,NC,NH,NY,VA
Barium	NY,CT,ME,NC,NH,VA
Cadmium	NY,CT,ME,NC,NH,VA
Chromium	NY,CT,ME,NC,NH,VA
Lead	NY,CT,ME,NC,NH,VA
Selenium	CT,ME,NC,NH,NY,VA
Silver	CT,ME,NC,NH,NY,VA
SW-846 7470A in Water	
Mercury	CT,ME,NC,NH,NY,VA
SW-846 7471B in Soil	
Mercury	CT,NH,NY,NC,ME,VA
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA
SW-846 8260C-D in Soil	
Acetone	CT,NH,NY,ME,VA
Acetone	CT,NH,NY,ME,VA

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C-D in Soil	
Acrylonitrile	CT,NH,NY,ME,VA
Acrylonitrile	CT,NH,NY,ME,VA
Benzene	CT,NH,NY,ME,VA
Benzene	CT,NH,NY,ME,VA
Bromobenzene	NH,NY,ME,VA
Bromobenzene	NH,NY,ME,VA
Bromochloromethane	NH,NY,ME,VA
Bromochloromethane	NH,NY,ME,VA
Bromodichloromethane	CT,NH,NY,ME,VA
Bromodichloromethane	CT,NH,NY,ME,VA
Bromoform	CT,NH,NY,ME,VA
Bromoform	CT,NH,NY,ME,VA
Bromomethane	CT,NH,NY,ME,VA
Bromomethane	CT,NH,NY,ME,VA
2-Butanone (MEK)	CT,NH,NY,ME,VA
2-Butanone (MEK)	CT,NH,NY,ME,VA
tert-Butyl Alcohol (TBA)	NY,ME
n-Butylbenzene	CT,NH,NY,ME,VA
n-Butylbenzene	CT,NH,NY,ME,VA
sec-Butylbenzene	CT,NH,NY,ME,VA
sec-Butylbenzene	CT,NH,NY,ME,VA
tert-Butylbenzene	CT,NH,NY,ME,VA
tert-Butylbenzene	CT,NH,NY,ME,VA
Carbon Disulfide	CT,NH,NY,ME,VA
Carbon Disulfide	CT,NH,NY,ME,VA
Carbon Tetrachloride	CT,NH,NY,ME,VA
Carbon Tetrachloride	CT,NH,NY,ME,VA
Chlorobenzene	CT,NH,NY,ME,VA
Chlorobenzene	CT,NH,NY,ME,VA
Chlorodibromomethane	CT,NH,NY,ME,VA
Chlorodibromomethane	CT,NH,NY,ME,VA
Chloroethane	CT,NH,NY,ME,VA
Chloroethane	CT,NH,NY,ME,VA
Chloroform	CT,NH,NY,ME,VA
Chloroform	CT,NH,NY,ME,VA
Chloromethane	CT,NH,NY,ME,VA
Chloromethane	CT,NH,NY,ME,VA
2-Chlorotoluene	CT,NH,NY,ME,VA
2-Chlorotoluene	CT,NH,NY,ME,VA
4-Chlorotoluene	CT,NH,NY,ME,VA
4-Chlorotoluene	CT,NH,NY,ME,VA
1,2-Dibromo-3-chloropropane (DBCP)	NY,ME
1,2-Dibromo-3-chloropropane (DBCP)	NY
1,2-Dibromoethane (EDB)	NH,NY
1,2-Dibromoethane (EDB)	NH,NY
Dibromomethane	NH,NY,ME,VA
Dibromomethane	NH,NY,ME,VA

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C-D in Soil	
1,2-Dichlorobenzene	CT,NH,NY,ME,VA
1,2-Dichlorobenzene	CT,NH,NY,ME,VA
1,3-Dichlorobenzene	CT,NH,NY,ME,VA
1,3-Dichlorobenzene	CT,NH,NY,ME,VA
1,4-Dichlorobenzene	CT,NH,NY,ME,VA
1,4-Dichlorobenzene	CT,NH,NY,ME,VA
trans-1,4-Dichloro-2-butene	NY,ME
Dichlorodifluoromethane (Freon 12)	NH,NY,ME,VA
Dichlorodifluoromethane (Freon 12)	NY,ME,VA
1,1-Dichloroethane	CT,NH,NY,ME,VA
1,1-Dichloroethane	CT,NH,NY,ME,VA
1,2-Dichloroethane	CT,NH,NY,ME,VA
1,2-Dichloroethane	CT,NH,NY,ME,VA
1,1-Dichloroethylene	CT,NH,NY,ME,VA
1,1-Dichloroethylene	CT,NH,NY,ME,VA
cis-1,2-Dichloroethylene	CT,NH,NY,ME,VA
cis-1,2-Dichloroethylene	CT,NH,NY,ME,VA
trans-1,2-Dichloroethylene	CT,NH,NY,ME,VA
trans-1,2-Dichloroethylene	CT,NH,NY,ME,VA
1,2-Dichloropropane	CT,NH,NY,ME,VA
1,2-Dichloropropane	CT,NH,NY,ME,VA
1,3-Dichloropropane	NH,NY,ME,VA
1,3-Dichloropropane	NH,NY,ME,VA
2,2-Dichloropropane	NH,NY,ME,VA
2,2-Dichloropropane	NH,NY,ME,VA
1,1-Dichloropropene	NH,NY,ME,VA
1,1-Dichloropropene	NH,NY,ME,VA
cis-1,3-Dichloropropene	CT,NH,NY,ME,VA
cis-1,3-Dichloropropene	CT,NH,NY,ME,VA
trans-1,3-Dichloropropene	CT,NH,NY,ME,VA
trans-1,3-Dichloropropene	CT,NH,NY,ME,VA
Diethyl Ether	ME
1,4-Dioxane	NY,ME
Ethylbenzene	CT,NH,NY,ME,VA
Ethylbenzene	CT,NH,NY,ME,VA
Hexachlorobutadiene	NH,NY,ME,VA
Hexachlorobutadiene	NH,NY,ME,VA
2-Hexanone (MBK)	CT,NH,NY,ME,VA
2-Hexanone (MBK)	CT,NH,NY,ME,VA
Isopropylbenzene (Cumene)	CT,NH,NY,ME,VA
Isopropylbenzene (Cumene)	CT,NH,NY,ME,VA
p-Isopropyltoluene (p-Cymene)	NH,NY
p-Isopropyltoluene (p-Cymene)	NH,NY
Methyl Acetate	NY,ME
Methyl tert-Butyl Ether (MTBE)	NY,VA
Methyl tert-Butyl Ether (MTBE)	NY,ME,VA
Methyl Cyclohexane	NY

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C-D in Soil	
Methylene Chloride	CT,NH,NY,ME,VA
Methylene Chloride	CT,NH,NY,ME,VA
4-Methyl-2-pentanone (MIBK)	CT,NH,NY,ME,VA
4-Methyl-2-pentanone (MIBK)	CT,NH,NY,VA
Naphthalene	NH,NY,ME,VA
Naphthalene	NH,NY,ME,VA
n-Propylbenzene	NH,NY
n-Propylbenzene	NH,NY,ME
Styrene	CT,NH,NY,ME,VA
Styrene	CT,NH,NY,ME,VA
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME,VA
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME,VA
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME,VA
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME,VA
Tetrachloroethylene	CT,NH,NY,ME,VA
Tetrachloroethylene	CT,NH,NY,ME,VA
Toluene	CT,NH,NY,ME,VA
Toluene	CT,NH,NY,ME,VA
1,2,3-Trichlorobenzene	NY,ME
1,2,4-Trichlorobenzene	NH,NY,ME,VA
1,2,4-Trichlorobenzene	NH,NY,ME,VA
1,3,5-Trichlorobenzene	ME
1,1,1-Trichloroethane	CT,NH,NY,ME,VA
1,1,1-Trichloroethane	CT,NH,NY,ME,VA
1,1,2-Trichloroethane	CT,NH,NY,ME,VA
1,1,2-Trichloroethane	CT,NH,NY,ME,VA
Trichloroethylene	CT,NH,NY,ME,VA
Trichloroethylene	CT,NH,NY,ME,VA
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME,VA
Trichlorofluoromethane (Freon 11)	CT,NH,NY,VA
1,2,3-Trichloropropane	NH,NY,ME,VA
1,2,3-Trichloropropane	NH,NY,ME,VA
1,2,4-Trimethylbenzene	CT,NH,NY,ME,VA
1,2,4-Trimethylbenzene	CT,NH,NY,ME,VA
1,3,5-Trimethylbenzene	CT,NH,NY,ME,VA
1,3,5-Trimethylbenzene	CT,NH,NY,ME,VA
Vinyl Chloride	CT,NH,NY,ME,VA
Vinyl Chloride	CT,NH,NY,ME,VA
m+p Xylene	CT,NH,NY,ME,VA
m+p Xylene	CT,NH,NY,ME,VA
o-Xylene	CT,NH,NY,ME,VA
o-Xylene	CT,NH,NY,ME,VA
SW-846 8270D-E in Soil	
Acenaphthene	CT,NY,NH,ME,NC,VA
Acenaphthene	CT,NY,NH,ME,NC,VA
Acenaphthylene	CT,NY,NH,ME,NC,VA

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8270D-E in Soil	
Acenaphthylene	CT,NY,NH,ME,NC,VA
Acetophenone	NY,NH,ME,NC,VA
Aniline	NY,NH,ME,NC,VA
Anthracene	CT,NY,NH,ME,NC,VA
Anthracene	CT,NY,NH,ME,NC,VA
Benzidine	CT,NY,NH,ME,NC,VA
Benzo(a)anthracene	CT,NY,NH,ME,NC,VA
Benzo(a)anthracene	CT,NY,NH,ME,NC,VA
Benzo(a)pyrene	CT,NY,NH,ME,NC,VA
Benzo(a)pyrene	CT,NY,NH,ME,NC,VA
Benzo(b)fluoranthene	CT,NY,NH,ME,NC,VA
Benzo(b)fluoranthene	CT,NY,NH,ME,NC,VA
Benzo(g,h,i)perylene	CT,NY,NH,ME,NC,VA
Benzo(g,h,i)perylene	CT,NY,NH,ME,NC,VA
Benzo(k)fluoranthene	CT,NY,NH,ME,NC,VA
Benzo(k)fluoranthene	CT,NY,NH,ME,NC,VA
Benzoic Acid	NY,NH,ME,NC,VA
Bis(2-chloroethoxy)methane	CT,NY,NH,ME,NC,VA
Bis(2-chloroethyl)ether	CT,NY,NH,ME,NC,VA
Bis(2-chloroisopropyl)ether	CT,NY,NH,ME,NC,VA
Bis(2-Ethylhexyl)phthalate	CT,NY,NH,ME,NC,VA
4-Bromophenylphenylether	CT,NY,NH,ME,NC,VA
Butylbenzylphthalate	CT,NY,NH,ME,NC,VA
Carbazole	NC
4-Chloroaniline	CT,NY,NH,ME,NC,VA
4-Chloro-3-methylphenol	CT,NY,NH,ME,NC,VA
2-Chloronaphthalene	CT,NY,NH,NC,VA
2-Chlorophenol	CT,NY,NH,ME,NC,VA
4-Chlorophenylphenylether	CT,NY,NH,ME,NC,VA
Chrysene	CT,NY,NH,ME,NC,VA
Chrysene	CT,NY,NH,ME,NC,VA
Dibenz(a,h)anthracene	CT,NY,NH,ME,NC,VA
Dibenz(a,h)anthracene	CT,NY,NH,ME,NC,VA
Dibenzofuran	CT,NY,NH,ME,NC,VA
Di-n-butylphthalate	CT,NY,NH,ME,NC,VA
1,2-Dichlorobenzene	NY,NH,ME,NC,VA
1,3-Dichlorobenzene	NY,NH,ME,NC,VA
1,4-Dichlorobenzene	NY,NH,ME,NC,VA
3,3-Dichlorobenzidine	CT,NY,NH,ME,NC,VA
2,4-Dichlorophenol	CT,NY,NH,ME,NC,VA
Diethylphthalate	CT,NY,NH,ME,NC,VA
2,4-Dimethylphenol	CT,NY,NH,ME,NC,VA
Dimethylphthalate	CT,NY,NH,ME,NC,VA
4,6-Dinitro-2-methylphenol	CT,NY,NH,ME,NC,VA
2,4-Dinitrophenol	CT,NY,NH,ME,NC,VA
2,4-Dinitrotoluene	CT,NY,NH,ME,NC,VA
2,6-Dinitrotoluene	CT,NY,NH,ME,NC,VA

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8270D-E in Soil	
Di-n-octylphthalate	CT,NY,NH,ME,NC,VA
1,2-Diphenylhydrazine/Azobenzene	NY,NH,ME,NC,VA
Fluoranthene	CT,NY,NH,ME,NC,VA
Fluoranthene	CT,NY,NH,ME,NC,VA
Fluorene	NY,NH,ME,NC,VA
Fluorene	CT,NY,NH,ME,NC,VA
Hexachlorobenzene	CT,NY,NH,ME,NC,VA
Hexachlorobutadiene	CT,NY,NH,ME,NC,VA
Hexachlorocyclopentadiene	CT,NY,NH,ME,NC,VA
Hexachloroethane	CT,NY,NH,ME,NC,VA
Indeno(1,2,3-cd)pyrene	CT,NY,NH,ME,NC,VA
Indeno(1,2,3-cd)pyrene	CT,NY,NH,ME,NC,VA
Isophorone	CT,NY,NH,ME,NC,VA
1-Methylnaphthalene	NC
2-Methylnaphthalene	CT,NY,NH,ME,NC,VA
2-Methylnaphthalene	CT,NY,NH,ME,NC,VA
2-Methylphenol	CT,NY,NH,ME,NC,VA
3/4-Methylphenol	CT,NY,NH,ME,NC,VA
Naphthalene	CT,NY,NH,ME,NC,VA
Naphthalene	CT,NY,NH,ME,NC,VA
2-Nitroaniline	CT,NY,NH,ME,NC,VA
3-Nitroaniline	CT,NY,NH,ME,NC,VA
4-Nitroaniline	CT,NY,NH,ME,NC,VA
Nitrobenzene	CT,NY,NH,ME,NC,VA
2-Nitrophenol	CT,NY,NH,ME,NC,VA
4-Nitrophenol	CT,NY,NH,ME,NC,VA
N-Nitrosodimethylamine	CT,NY,NH,ME,NC,VA
N-Nitrosodi-n-propylamine	CT,NY,NH,ME,NC,VA
Pentachloronitrobenzene	NY,NC
Pentachlorophenol	CT,NY,NH,ME,NC,VA
Phenanthrene	CT,NY,NH,ME,NC,VA
Phenanthrene	CT,NY,NH,ME,NC,VA
Phenol	CT,NY,NH,ME,NC,VA
Pyrene	CT,NY,NH,ME,NC,VA
Pyrene	CT,NY,NH,ME,NC,VA
Pyridine	CT,NY,NH,ME,NC,VA
1,2,4,5-Tetrachlorobenzene	NY,NC
1,2,4-Trichlorobenzene	CT,NY,NH,ME,NC,VA
2,4,5-Trichlorophenol	CT,NY,NH,ME,NC,VA
2,4,6-Trichlorophenol	CT,NY,NH,ME,NC,VA
2-Fluorophenol	NC

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2021
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2021
NY	New York State Department of Health	10899 NELAP	04/1/2021
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2021
RI	Rhode Island Department of Health	LAO00112	12/30/2020
NC	North Carolina Div. of Water Quality	652	12/31/2020
NJ	New Jersey DEP	MA007 NELAP	06/30/2021
FL	Florida Department of Health	E871027 NELAP	06/30/2021
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2021
ME	State of Maine	2011028	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2020
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2020
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2021
NC-DW	North Carolina Department of Health	25703	07/31/2020
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2021

20E0343

con-test ANALYTICAL LABORATORY

http://www.contestlabs.com

Doc # 381 Rev 2_06262019

Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Page 1 of 2

Company Name:	LE Environmental LLC
Address:	21 Main St. #1 Waterbury VT
Phone:	(802) 917-2001
Project Name:	Long Falls Paperboard
Project Location:	161 Wellington Rd Brattleboro VT
Project Number:	18-122
Project Manager:	Alan Liptak
Con-Test Quote Name/Number:	B-20191126
Invoice Recipient:	Alan Liptak
Sampled By:	Alan Liptak

Requested Turnaround Time			
7-Day	☐	10-Day	✓
PFAS 10-Day (std)	☐	Due Date:	

Rush Approval Required			
1-Day	☐	3-Day	☐
2-Day	☐	4-Day	☐

Dissolved Metals Samples	
○	Field Filtered
○	Lab to Filter

Orthophosphate Samples	
○	Field Filtered
○	Lab to Filter

Data Delivery			
Format:	(PDF)	☐	EXCEL ☐
Other:			
CLP Like Data Pkg Required:		☐	
Email To:	USEPA Brownfields		
Fax To #:			

→ ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1] Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	VOCs M8260	ABN M8270	RCRA8 + Vanadium 6020	RCRA 8082 Soxhlet	Ignitability 1010A	PH 9045D	TPH 8100	Reactivity CN/S	PFAS M537m
1	LF-1	5/8/20	1135	Comp	SL			5	2			X	X	X	X	X	X	X	X	X
2	LF-2	↓	1115	↓	SL			5	2			X	X	X	X	X	X	X	X	X
3	LF-3		1100		SL			5	2			X	X	X	X	X	X	X	X	X
4	LF-4		1045		SL			5	2			X	X	X	X	X	X	X	X	X
5	Duplicate		1115	Comp	SL			5	2			X	X	X	X	X	X	X	X	X

[2] Preservation Code

Courier Use Only

Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Contest is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)		Date/Time: 5/8/20
Received by: (signature)		Date/Time: 5/8/20 1245
Relinquished by: (signature)		Date/Time: 5/8/20 1430
Received by: (signature)	4.8, 2.8	Date/Time: 5/8 1430
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Client Comments:

* Metals Total & TCLP

Detection Limit Requirements		Special Requirements	
MA		☐	MA MCP Required
		☐	MCP Certification Form Required
		☐	CT RCP Required
RCP		☐	RCP Certification Form Required
		☐	MA State DW Required
Other: Vermont		PWSID #	I Rule / Haz Waste Reg

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government	☐	Municipality	☐	MWRA	☐	WRTA	☐
Federal	☐	21 J	☐	School	☐		
City	☐	Brownfield	✓	MBTA	☐		

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

PCB ONLY
✓ Soxhlet
☐ Non Soxhlet

Lab Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

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20E0347

con-test ANALYTICAL LABORATORY

Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com

http://www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 2_06262019

Company Name:	LE Environmental
Address:	21 N. Main St. #1 Waterbury VT
Phone:	(802) 917-2001
Project Name:	Long Falls Paperboard
Project Location:	161 Wellington St. Bellows Falls VT
Project Number:	18-122
Project Manager:	Alan Liptak
Con-Test Quote Name/Number:	B-20191126
Invoice Recipient:	Alan Liptak
Sampled By:	Alan Liptak

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

Data Delivery
Format: PDF ☑ EXCEL ☐
Other:
CLP Like Data Pkg Required: ☑
Email To: USEPA Brownfields DV
Fax To #:

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1] Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	VOCs M8260	PAH M8270	PCBs M8080 Soxhlet	RCRA 8 Metals 6020
6	LF-5	5/8/20	0915	G	S		3	1				✓	✓	✓	✓
7	LF-6	↓	0945	G	S		3	1				✓	✓	✓	✓
8	LF-7	↓	1020	G	S		3	1				✓	✓	✓	✓

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Contest is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
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A = Air
S = Soil
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[2] **Preservation Codes:**
I = Iced
H = HCL
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X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 5/8/20
Received by: (signature)	Date/Time: 5/8/20 1245
Relinquished by: (signature)	Date/Time: 5/8/20 1430
Received by: (signature)	Date/Time: 1480
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Total metals only (No TCLP)

Detection Limit Requirements
MA
GW
Other: Vermont

Special Requirements
MA MCP Required ☐
MCP Certification Form Required
CT RCP Required ☐
RCP Certification Form Required
MA State DW Required ☐
PWSID # I-Rule VSS

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☑ MBTA ☐

Other
Chromatogram ☐
AIHA-LAP,LLC ☐

PCB ONLY
Soxhlet ☑
Non Soxhlet ☐

Lab Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

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I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples_____

con-test® ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client LE Environmental

Received By SA Date 5/8 Time 1430

How were the samples received? In Cooler T No Cooler _____ On Ice T No Ice _____

Direct from Sampling _____ Ambient _____ Melted Ice _____

By Gun # 2 Actual Temp - 4.8, 2.8

Were samples within Temperature? 2-6°C T By Blank # _____ Actual Temp - _____

Was Custody Seal Intact? NA Were Samples Tampered with? NA

Was COC Relinquished ? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T

Did COC include all pertinent Information? Client T Project T Analysis T ID's T Sampler Name T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? F Who was notified? _____

Are there Rushes? F Who was notified? _____

Are there Short Holds? T Who was notified? David.

Is there enough Volume? T

Is there Headspace where applicable? F MS/MSD? F

Proper Media/Containers Used? T Is splitting samples required? F

Were trip blanks received? F On COC? F

Do all samples have the proper pH? Acid NA Base NA

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	20
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	8
Meoh-	3	250 mL Amb.		250 mL Plastic	10	4oz Amb/Clear	
Bisulfate-	6	Flashpoint		Col./Bacteria		2oz Amb/Clear	
DI-		Other Glass		Other Plastic		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Unused Media

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear	
DI-		Other Plastic		Other Glass		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Comments:

Your Project #: 20E0343
Your C.O.C. #: n/a

Attention: Raymond McCarthy

Con-Test Analytical Laboratory
39 Spruce Street
East Longmeadow, MA
USA 01028

Report Date: 2020/07/16
Report #: R6248703
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C0B6931
Received: 2020/05/13, 12:27

Sample Matrix: Soil
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Moisture	5	N/A	2020/05/16	CAM SOP-00445	Carter 2nd ed 51.2 m
PFAS in soil by SPE/LCMS (1)	5	2020/05/19	2020/05/20	CAM SOP-00894	ASTM D7968-17a m

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

U = Undetected at the limit of quantitation.
J = Estimated concentration between the EDL & RDL.
B = Blank Contamination.
Q = One or more quality control criteria failed.
E = Analyte concentration exceeds the maximum concentration level.
K = Estimated maximum possible concentration due to ion abundance ratio failure.

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Your Project #: 20E0343
Your C.O.C. #: n/a

Attention: Raymond McCarthy

Con-Test Analytical Laboratory
39 Spruce Street
East Longmeadow, MA
USA 01028

Report Date: 2020/07/16
Report #: R6248703
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C0B6931
Received: 2020/05/13, 12:27

Encryption Key

Stephanie Pollen
Project Manager
16 Jul 2020 12:25:38

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: Stephanie.Pollen@bvlabs.com
Phone# (905)817-5830

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

BV Labs Job #: C0B6931
Report Date: 2020/07/16

Con-Test Analytical Laboratory
Client Project #: 20E0343

RESULTS OF ANALYSES OF SOIL

BV Labs ID		MPW687	MPW688	MPW689	MPW690	MPW691			
Sampling Date		2020/05/08 11:35	2020/05/08 11:15	2020/05/08 11:00	2020/05/08 10:45	2020/05/08 11:15			
COC Number		n/a	n/a	n/a	n/a	n/a			
	UNITS	20E0343-01	20E0343-02	20E0343-03	20E0343-04	20E0343-05	RDL	MDL	QC Batch
Inorganics									
Moisture	%	34	34	42	46	33	1.0	0.50	6729165

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C0B6931
Report Date: 2020/07/16

Con-Test Analytical Laboratory
Client Project #: 20E0343

PERFLUOROALKYL SUBSTANCES (SOIL)

BV Labs ID		MPW687			MPW688			MPW689			
Sampling Date		2020/05/08 11:35			2020/05/08 11:15			2020/05/08 11:00			
COC Number		n/a			n/a			n/a			
	UNITS	20E0343-01	RDL	MDL	20E0343-02	RDL	MDL	20E0343-03	RDL	MDL	QC Batch
Perfluorinated Compounds											
Perfluorobutanoic acid (PFBA)	ug/kg	0.24 U	2.0	0.24	0.24 U	2.0	0.24	0.24 U	2.0	0.24	6729912
Perfluoropentanoic acid (PFPeA)	ug/kg	0.74 J	2.0	0.20	0.91 J	2.0	0.20	0.86 J	2.0	0.20	6729912
Perfluorohexanoic acid (PFHxA)	ug/kg	0.70 J	2.0	0.28	1.8 J	2.0	0.28	1.8 J	2.0	0.28	6729912
Perfluoroheptanoic acid (PFHpA)	ug/kg	2.8	2.0	0.36	8.3	2.0	0.36	4.9	2.0	0.36	6729912
Perfluorooctanoic acid (PFOA)	ug/kg	46	2.0	0.32	68 (1)	20	3.2	52	2.0	0.32	6729912
Perfluorononanoic acid (PFNA)	ug/kg	21	2.0	0.30	15	2.0	0.30	15	2.0	0.30	6729912
Perfluorodecanoic acid (PFDA)	ug/kg	67 (1)	20	6.2	63	2.0	0.62	67	2.0	0.62	6729912
Perfluoroundecanoic acid (PFUnA)	ug/kg	8.3	2.0	0.30	6.8	2.0	0.30	7.6	2.0	0.30	6729912
Perfluorododecanoic acid (PFDoA)	ug/kg	19	2.0	0.38	18	2.0	0.38	20	2.0	0.38	6729912
Perfluorotridecanoic acid (PFTRDA)	ug/kg	2.7	2.0	0.34	2.4	2.0	0.34	2.9	2.0	0.34	6729912
Perfluorotetradecanoic acid(PFTEDA)	ug/kg	5.1	2.0	0.30	4.4	2.0	0.30	5.6	2.0	0.30	6729912
Perfluorobutanesulfonic acid (PFBS)	ug/kg	0.28 U	2.0	0.28	0.28 U	2.0	0.28	0.28 U	2.0	0.28	6729912
Perfluoropentanesulfonic acid PFPes	ug/kg	0.40 U	2.0	0.40	0.40 U	2.0	0.40	0.40 U	2.0	0.40	6729912
Perfluorohexanesulfonic acid(PFHxS)	ug/kg	0.28 U	2.0	0.28	0.28 U	2.0	0.28	0.28 U	2.0	0.28	6729912
Perfluoroheptanesulfonic acid PFHpS	ug/kg	0.17 U	2.0	0.17	0.17 U	2.0	0.17	0.17 U	2.0	0.17	6729912
Perfluorooctanesulfonic acid (PFOS)	ug/kg	27	2.0	0.42	19	2.0	0.42	24	2.0	0.42	6729912
Perfluorononanesulfonic acid (PFNS)	ug/kg	0.46 U	2.0	0.46	0.46 U	2.0	0.46	0.46 U	2.0	0.46	6729912
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.54 U	2.0	0.54	0.54 U	2.0	0.54	0.54 U	2.0	0.54	6729912
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	6.5	2.0	0.38	3.5	2.0	0.38	3.0	2.0	0.38	6729912
EtFOSA	ug/kg	0.62 U	2.0	0.62	0.62 U	2.0	0.62	0.62 U	2.0	0.62	6729912
MeFOSA	ug/kg	0.56 U	2.0	0.56	0.56 U	2.0	0.56	0.56 U	2.0	0.56	6729912
EtFOSE	ug/kg	0.98 J	2.0	0.54	0.65 J	2.0	0.54	1.3 J	2.0	0.54	6729912
MeFOSE	ug/kg	0.34 U	2.0	0.34	0.34 U	2.0	0.34	0.34 U	2.0	0.34	6729912
EtFOSAA	ug/kg	56	2.0	0.64	64	2.0	0.64	70 (1)	20	6.4	6729912
MeFOSAA	ug/kg	5.8	2.0	0.60	6.5	2.0	0.60	8.6	2.0	0.60	6729912
4:2 Fluorotelomer sulfonic acid	ug/kg	0.44 U	2.0	0.44	0.44 U	2.0	0.44	0.44 U	2.0	0.44	6729912
6:2 Fluorotelomer sulfonic acid	ug/kg	0.26 U	2.0	0.26	0.26 U	2.0	0.26	0.26 U	2.0	0.26	6729912
8:2 Fluorotelomer sulfonic acid	ug/kg	0.66 U	2.0	0.66	0.66 U	2.0	0.66	0.66 U	2.0	0.66	6729912
Hexafluoropropyleneoxide dimer acid	ug/kg	0.66 U	2.0	0.66	0.66 U	2.0	0.66	0.66 U	2.0	0.66	6729912
4,8-Dioxa-3H-perfluorononanoic acid	ug/kg	0.40 U	2.0	0.40	0.40 U	2.0	0.40	0.40 U	2.0	0.40	6729912
9Cl-PF3ONS (F-53B Major)	ug/kg	0.38 U	2.0	0.38	0.38 U	2.0	0.38	0.38 U	2.0	0.38	6729912
11Cl-PF3OUdS (F-53B Minor)	ug/kg	0.40 U	2.0	0.40	0.40 U	2.0	0.40	0.40 U	2.0	0.40	6729912

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Due to high concentration of the target analyte, sample required dilution. Detection limit was adjusted accordingly.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C0B6931
Report Date: 2020/07/16

Con-Test Analytical Laboratory
Client Project #: 20E0343

PERFLUOROALKYL SUBSTANCES (SOIL)

BV Labs ID		MPW687			MPW688			MPW689			
Sampling Date		2020/05/08 11:35			2020/05/08 11:15			2020/05/08 11:00			
COC Number		n/a			n/a			n/a			
	UNITS	20E0343-01	RDL	MDL	20E0343-02	RDL	MDL	20E0343-03	RDL	MDL	QC Batch
Surrogate Recovery (%)											
13C2-4:2-Fluorotelomersulfonic Acid	%	99	N/A	N/A	102	N/A	N/A	95	N/A	N/A	6729912
13C2-6:2-Fluorotelomersulfonic Acid	%	111	N/A	N/A	114	N/A	N/A	114	N/A	N/A	6729912
13C2-8:2-Fluorotelomersulfonic Acid	%	112	N/A	N/A	112	N/A	N/A	116	N/A	N/A	6729912
13C2-Perfluorodecanoic acid	%	110	N/A	N/A	105	N/A	N/A	104	N/A	N/A	6729912
13C2-Perfluorododecanoic acid	%	93	N/A	N/A	97	N/A	N/A	96	N/A	N/A	6729912
13C2-Perfluorohexanoic acid	%	105	N/A	N/A	111	N/A	N/A	106	N/A	N/A	6729912
13C2-perfluorotetradecanoic acid	%	70	N/A	N/A	66	N/A	N/A	58	N/A	N/A	6729912
13C2-Perfluoroundecanoic acid	%	102	N/A	N/A	108	N/A	N/A	106	N/A	N/A	6729912
13C3-HFPO-DA	%	87	N/A	N/A	82	N/A	N/A	85	N/A	N/A	6729912
13C3-Perfluorobutanesulfonic acid	%	90	N/A	N/A	93	N/A	N/A	90	N/A	N/A	6729912
13C4-Perfluorobutanoic acid	%	89	N/A	N/A	94	N/A	N/A	94	N/A	N/A	6729912
13C4-Perfluoroheptanoic acid	%	109	N/A	N/A	111	N/A	N/A	109	N/A	N/A	6729912
13C4-Perfluorooctanesulfonic acid	%	93	N/A	N/A	95	N/A	N/A	93	N/A	N/A	6729912
13C4-Perfluorooctanoic acid	%	104	N/A	N/A	116	N/A	N/A	110	N/A	N/A	6729912
13C5-Perfluorononanoic acid	%	103	N/A	N/A	110	N/A	N/A	111	N/A	N/A	6729912
13C5-Perfluoropentanoic acid	%	95	N/A	N/A	102	N/A	N/A	100	N/A	N/A	6729912
13C8-Perfluorooctane Sulfonamide	%	103	N/A	N/A	107	N/A	N/A	108	N/A	N/A	6729912
18O2-Perfluorohexanesulfonic acid	%	90	N/A	N/A	94	N/A	N/A	90	N/A	N/A	6729912
D3-MeFOSA	%	58	N/A	N/A	56	N/A	N/A	51	N/A	N/A	6729912
D3-MeFOSAA	%	89	N/A	N/A	97	N/A	N/A	97	N/A	N/A	6729912
D5-EtFOSA	%	49 (1)	N/A	N/A	45 (1)	N/A	N/A	42 (1)	N/A	N/A	6729912
D5-EtFOSAA	%	91	N/A	N/A	98	N/A	N/A	105	N/A	N/A	6729912
D7-MeFOSE	%	47 (2)	N/A	N/A	46 (2)	N/A	N/A	39 (2)	N/A	N/A	6729912
D9-EtFOSE	%	37 (3)	N/A	N/A	35 (3)	N/A	N/A	29 (3)	N/A	N/A	6729912

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Extracted internal standard analyte recovery was below the defined lower control limit (LCL) which may result in increased variability of the associated native analyte result (EtFOSA).
(2) Extracted internal standard analyte recovery was below the defined lower control limit (LCL) which may result in increased variability of the associated native analyte result (MeFOSE).
(3) Extracted internal standard analyte recovery was below the defined lower control limit (LCL) which may result in increased variability of the associated native analyte result (EtFOSE).

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C0B6931
Report Date: 2020/07/16

Con-Test Analytical Laboratory
Client Project #: 20E0343

PERFLUOROALKYL SUBSTANCES (SOIL)

BV Labs ID		MPW690			MPW691			
Sampling Date		2020/05/08 10:45			2020/05/08 11:15			
COC Number		n/a			n/a			
	UNITS	20E0343-04	RDL	MDL	20E0343-05	RDL	MDL	QC Batch
Perfluorinated Compounds								
Perfluorobutanoic acid (PFBA)	ug/kg	0.24 U	2.0	0.24	0.24 U	2.0	0.24	6729912
Perfluoropentanoic acid (PFPeA)	ug/kg	2.4	2.0	0.20	0.74 J	2.0	0.20	6729912
Perfluorohexanoic acid (PFHxA)	ug/kg	5.1	2.0	0.28	1.4 J	2.0	0.28	6729912
Perfluoroheptanoic acid (PFHpA)	ug/kg	13	2.0	0.36	6.3	2.0	0.36	6729912
Perfluorooctanoic acid (PFOA)	ug/kg	73 (1)	20	3.2	61 (1)	20	3.2	6729912
Perfluorononanoic acid (PFNA)	ug/kg	27	2.0	0.30	13	2.0	0.30	6729912
Perfluorodecanoic acid (PFDA)	ug/kg	85 (1)	20	6.2	54	2.0	0.62	6729912
Perfluoroundecanoic acid (PFUnA)	ug/kg	15	2.0	0.30	6.2	2.0	0.30	6729912
Perfluorododecanoic acid (PFDoA)	ug/kg	35	2.0	0.38	16	2.0	0.38	6729912
Perfluorotridecanoic acid (PFTRDA)	ug/kg	6.4	2.0	0.34	2.3	2.0	0.34	6729912
Perfluorotetradecanoic acid(PFTEDA)	ug/kg	10	2.0	0.30	4.2	2.0	0.30	6729912
Perfluorobutanesulfonic acid (PFBS)	ug/kg	0.28 U	2.0	0.28	0.28 U	2.0	0.28	6729912
Perfluoropentanesulfonic acid PFPes	ug/kg	0.40 U	2.0	0.40	0.40 U	2.0	0.40	6729912
Perfluorohexanesulfonic acid(PFHxS)	ug/kg	0.28 U	2.0	0.28	0.28 U	2.0	0.28	6729912
Perfluoroheptanesulfonic acid PFHpS	ug/kg	0.17 U	2.0	0.17	0.17 U	2.0	0.17	6729912
Perfluorooctanesulfonic acid (PFOS)	ug/kg	39	2.0	0.42	16	2.0	0.42	6729912
Perfluorononanesulfonic acid (PFNS)	ug/kg	0.46 U	2.0	0.46	0.46 U	2.0	0.46	6729912
Perfluorodecanesulfonic acid (PFDS)	ug/kg	0.54 U	2.0	0.54	0.54 U	2.0	0.54	6729912
Perfluorooctane Sulfonamide (PFOSA)	ug/kg	11	2.0	0.38	3.3	2.0	0.38	6729912
EtFOSA	ug/kg	0.62 U	2.0	0.62	0.62 U	2.0	0.62	6729912
MeFOSA	ug/kg	0.56 U	2.0	0.56	0.56 U	2.0	0.56	6729912
EtFOSE	ug/kg	5.1	2.0	0.54	0.56 J	2.0	0.54	6729912
MeFOSE	ug/kg	0.34 U	2.0	0.34	0.34 U	2.0	0.34	6729912
EtFOSAA	ug/kg	80	2.0	0.64	57	2.0	0.64	6729912
MeFOSAA	ug/kg	11	2.0	0.60	5.5	2.0	0.60	6729912
4:2 Fluorotelomer sulfonic acid	ug/kg	0.44 U	2.0	0.44	0.44 U	2.0	0.44	6729912
6:2 Fluorotelomer sulfonic acid	ug/kg	0.26 U	2.0	0.26	0.26 U	2.0	0.26	6729912
8:2 Fluorotelomer sulfonic acid	ug/kg	0.66 U	2.0	0.66	0.66 U	2.0	0.66	6729912
Hexafluoropropyleneoxide dimer acid	ug/kg	0.66 U	2.0	0.66	0.66 U	2.0	0.66	6729912
4,8-Dioxa-3H-perfluorononanoic acid	ug/kg	0.40 U	2.0	0.40	0.40 U	2.0	0.40	6729912
9Cl-PF3ONS (F-53B Major)	ug/kg	0.38 U	2.0	0.38	0.38 U	2.0	0.38	6729912
11Cl-PF3OUdS (F-53B Minor)	ug/kg	0.40 U	2.0	0.40	0.40 U	2.0	0.40	6729912

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Due to high concentration of the target analyte, sample required dilution. Detection limit was adjusted accordingly.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C0B6931
Report Date: 2020/07/16

Con-Test Analytical Laboratory
Client Project #: 20E0343

PERFLUOROALKYL SUBSTANCES (SOIL)

BV Labs ID		MPW690			MPW691			
Sampling Date		2020/05/08 10:45			2020/05/08 11:15			
COC Number		n/a			n/a			
	UNITS	20E0343-04	RDL	MDL	20E0343-05	RDL	MDL	QC Batch
Surrogate Recovery (%)								
13C2-4:2-Fluorotelomersulfonic Acid	%	92	N/A	N/A	104	N/A	N/A	6729912
13C2-6:2-Fluorotelomersulfonic Acid	%	109	N/A	N/A	122	N/A	N/A	6729912
13C2-8:2-Fluorotelomersulfonic Acid	%	109	N/A	N/A	123	N/A	N/A	6729912
13C2-Perfluorodecanoic acid	%	112	N/A	N/A	113	N/A	N/A	6729912
13C2-Perfluorododecanoic acid	%	89	N/A	N/A	108	N/A	N/A	6729912
13C2-Perfluorohexanoic acid	%	91	N/A	N/A	116	N/A	N/A	6729912
13C2-perfluorotetradecanoic acid	%	54	N/A	N/A	72	N/A	N/A	6729912
13C2-Perfluoroundecanoic acid	%	103	N/A	N/A	117	N/A	N/A	6729912
13C3-HFPO-DA	%	78	N/A	N/A	88	N/A	N/A	6729912
13C3-Perfluorobutanesulfonic acid	%	84	N/A	N/A	97	N/A	N/A	6729912
13C4-Perfluorobutanoic acid	%	77	N/A	N/A	98	N/A	N/A	6729912
13C4-Perfluoroheptanoic acid	%	102	N/A	N/A	114	N/A	N/A	6729912
13C4-Perfluorooctanesulfonic acid	%	90	N/A	N/A	99	N/A	N/A	6729912
13C4-Perfluorooctanoic acid	%	118	N/A	N/A	117	N/A	N/A	6729912
13C5-Perfluorononanoic acid	%	104	N/A	N/A	117	N/A	N/A	6729912
13C5-Perfluoropentanoic acid	%	83	N/A	N/A	105	N/A	N/A	6729912
13C8-Perfluorooctane Sulfonamide	%	100	N/A	N/A	108	N/A	N/A	6729912
18O2-Perfluorohexanesulfonic acid	%	86	N/A	N/A	97	N/A	N/A	6729912
D3-MeFOSA	%	47 (1)	N/A	N/A	52	N/A	N/A	6729912
D3-MeFOSAA	%	92	N/A	N/A	103	N/A	N/A	6729912
D5-EtFOSA	%	40 (2)	N/A	N/A	41 (2)	N/A	N/A	6729912
D5-EtFOSAA	%	91	N/A	N/A	101	N/A	N/A	6729912
D7-MeFOSE	%	38 (3)	N/A	N/A	42 (3)	N/A	N/A	6729912
D9-EtFOSE	%	27 (4)	N/A	N/A	32 (4)	N/A	N/A	6729912

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Extracted internal standard analyte recovery was below the defined lower control limit (LCL) which may result in increased variability of the associated native analyte result (MeFOSA).
(2) Extracted internal standard analyte recovery was below the defined lower control limit (LCL) which may result in increased variability of the associated native analyte result (EtFOSA).
(3) Extracted internal standard analyte recovery was below the defined lower control limit (LCL) which may result in increased variability of the associated native analyte result (MeFOSE).
(4) Extracted internal standard analyte recovery was below the defined lower control limit (LCL) which may result in increased variability of the associated native analyte result (EtFOSE).

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C0B6931
Report Date: 2020/07/16

Con-Test Analytical Laboratory
Client Project #: 20E0343

TEST SUMMARY

BV Labs ID: MPW687
Sample ID: 20E0343-01
Matrix: Soil

Collected: 2020/05/08
Shipped:
Received: 2020/05/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	6729165	N/A	2020/05/16	Chun Yan
PFAS in soil by SPE/LCMS	LCMS	6729912	2020/05/19	2020/05/20	Xinhe Xing (Helena)

BV Labs ID: MPW688
Sample ID: 20E0343-02
Matrix: Soil

Collected: 2020/05/08
Shipped:
Received: 2020/05/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	6729165	N/A	2020/05/16	Chun Yan
PFAS in soil by SPE/LCMS	LCMS	6729912	2020/05/19	2020/05/20	Xinhe Xing (Helena)

BV Labs ID: MPW689
Sample ID: 20E0343-03
Matrix: Soil

Collected: 2020/05/08
Shipped:
Received: 2020/05/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	6729165	N/A	2020/05/16	Chun Yan
PFAS in soil by SPE/LCMS	LCMS	6729912	2020/05/19	2020/05/20	Xinhe Xing (Helena)

BV Labs ID: MPW690
Sample ID: 20E0343-04
Matrix: Soil

Collected: 2020/05/08
Shipped:
Received: 2020/05/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	6729165	N/A	2020/05/16	Chun Yan
PFAS in soil by SPE/LCMS	LCMS	6729912	2020/05/19	2020/05/20	Xinhe Xing (Helena)

BV Labs ID: MPW691
Sample ID: 20E0343-05
Matrix: Soil

Collected: 2020/05/08
Shipped:
Received: 2020/05/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	6729165	N/A	2020/05/16	Chun Yan
PFAS in soil by SPE/LCMS	LCMS	6729912	2020/05/19	2020/05/20	Xinhe Xing (Helena)

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BV Labs Job #: C0B6931
Report Date: 2020/07/16

Con-Test Analytical Laboratory
Client Project #: 20E0343

GENERAL COMMENTS

Revised Report (2020/07/16): Additional parameters added as per client request.

Sample MPW687 [20E0343-01] : Per- and polyfluoroalkyl substances (PFAS): Detection limits were adjusted for high moisture content.

Sample MPW688 [20E0343-02] : Per- and polyfluoroalkyl substances (PFAS): Detection limits were adjusted for high moisture content.

Sample MPW689 [20E0343-03] : Per- and polyfluoroalkyl substances (PFAS): Detection limits were adjusted for high moisture content.

Sample MPW690 [20E0343-04] : Per- and polyfluoroalkyl substances (PFAS): Detection limits were adjusted for high moisture content.

Sample MPW691 [20E0343-05] : Per- and polyfluoroalkyl substances (PFAS): Detection limits were adjusted for high moisture content.

Results relate only to the items tested.

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BV Labs Job #: C0B6931
Report Date: 2020/07/16

Con-Test Analytical Laboratory
Client Project #: 20E0343

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
6729165	MYG	RPD - Sample/Sample Dup	Moisture	2020/05/16	2.5		%	20
6729912	XIN	Matrix Spike	13C2-4:2-Fluorotelomersulfonic Acid	2020/05/20		99	%	50 - 150
			13C2-6:2-Fluorotelomersulfonic Acid	2020/05/20		98	%	50 - 150
			13C2-8:2-Fluorotelomersulfonic Acid	2020/05/20		90	%	50 - 150
			13C2-Perfluorodecanoic acid	2020/05/20		95	%	50 - 150
			13C2-Perfluorododecanoic acid	2020/05/20		88	%	50 - 150
			13C2-Perfluorohexanoic acid	2020/05/20		95	%	50 - 150
			13C2-perfluorotetradecanoic acid	2020/05/20		81	%	50 - 150
			13C2-Perfluoroundecanoic acid	2020/05/20		94	%	50 - 150
			13C3-HFPO-DA	2020/05/20		92	%	50 - 150
			13C3-Perfluorobutanesulfonic acid	2020/05/20		91	%	50 - 150
			13C4-Perfluorobutanoic acid	2020/05/20		96	%	50 - 150
			13C4-Perfluoroheptanoic acid	2020/05/20		95	%	50 - 150
			13C4-Perfluorooctanesulfonic acid	2020/05/20		90	%	50 - 150
			13C4-Perfluorooctanoic acid	2020/05/20		95	%	50 - 150
			13C5-Perfluorononanoic acid	2020/05/20		95	%	50 - 150
			13C5-Perfluoropentanoic acid	2020/05/20		94	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2020/05/20		91	%	50 - 150
			18O2-Perfluorohexanesulfonic acid	2020/05/20		93	%	50 - 150
			D3-MeFOSA	2020/05/20		56	%	50 - 150
			D3-MeFOSAA	2020/05/20		90	%	50 - 150
			D5-EtFOSA	2020/05/20		53	%	50 - 150
			D5-EtFOSAA	2020/05/20		81	%	50 - 150
			D7-MeFOSE	2020/05/20		73	%	50 - 150
			D9-EtFOSE	2020/05/20		67	%	50 - 150
			Perfluorobutanoic acid (PFBA)	2020/05/20		88	%	70 - 130
			Perfluoropentanoic acid (PFPeA)	2020/05/20		89	%	70 - 130
			Perfluorohexanoic acid (PFHxA)	2020/05/20		88	%	70 - 130
			Perfluoroheptanoic acid (PFHpA)	2020/05/20		90	%	70 - 130
			Perfluorooctanoic acid (PFOA)	2020/05/20		87	%	70 - 130
			Perfluorononanoic acid (PFNA)	2020/05/20		89	%	70 - 130
			Perfluorodecanoic acid (PFDA)	2020/05/20		90	%	70 - 130
			Perfluoroundecanoic acid (PFUnA)	2020/05/20		91	%	70 - 130
			Perfluorododecanoic acid (PFDoA)	2020/05/20		93	%	70 - 130
			Perfluorotridecanoic acid (PFTRDA)	2020/05/20		95	%	70 - 130
			Perfluorotetradecanoic acid(PFTEDA)	2020/05/20		85	%	70 - 130
			Perfluorobutanesulfonic acid (PFBS)	2020/05/20		87	%	70 - 130
			Perfluoropentanesulfonic acid PFPes	2020/05/20		89	%	70 - 130
			Perfluorohexanesulfonic acid(PFHxS)	2020/05/20		88	%	70 - 130
			Perfluoroheptanesulfonic acid PFHpS	2020/05/20		83	%	70 - 130
			Perfluorooctanesulfonic acid (PFOS)	2020/05/20		94	%	70 - 130
			Perfluorononanesulfonic acid (PFNS)	2020/05/20		83	%	70 - 130
			Perfluorodecanesulfonic acid (PFDS)	2020/05/20		81	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2020/05/20		89	%	70 - 130
			EtFOSA	2020/05/20		96	%	70 - 130
			MeFOSA	2020/05/20		87	%	70 - 130
			EtFOSE	2020/05/20		91	%	70 - 130
			MeFOSE	2020/05/20		91	%	70 - 130
			EtFOSAA	2020/05/20		99	%	70 - 130
			MeFOSAA	2020/05/20		86	%	70 - 130
			4:2 Fluorotelomer sulfonic acid	2020/05/20		87	%	70 - 130
			6:2 Fluorotelomer sulfonic acid	2020/05/20		88	%	70 - 130
			8:2 Fluorotelomer sulfonic acid	2020/05/20		85	%	70 - 130

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BV Labs Job #: C0B6931
Report Date: 2020/07/16

Con-Test Analytical Laboratory
Client Project #: 20E0343

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Hexafluoropropyleneoxide dimer acid	2020/05/20		85	%	70 - 130
			4,8-Dioxa-3H-perfluorononanoic acid	2020/05/20		88	%	70 - 130
			9Cl-PF3ONS (F-53B Major)	2020/05/20		88	%	70 - 130
			11Cl-PF3OUdS (F-53B Minor)	2020/05/20		85	%	70 - 130
6729912	XIN	Spiked Blank	13C2-4:2-Fluorotelomersulfonic Acid	2020/05/20		101	%	50 - 150
			13C2-6:2-Fluorotelomersulfonic Acid	2020/05/20		99	%	50 - 150
			13C2-8:2-Fluorotelomersulfonic Acid	2020/05/20		95	%	50 - 150
			13C2-Perfluorodecanoic acid	2020/05/20		96	%	50 - 150
			13C2-Perfluorododecanoic acid	2020/05/20		90	%	50 - 150
			13C2-Perfluorohexanoic acid	2020/05/20		97	%	50 - 150
			13C2-perfluorotetradecanoic acid	2020/05/20		83	%	50 - 150
			13C2-Perfluoroundecanoic acid	2020/05/20		97	%	50 - 150
			13C3-HFPO-DA	2020/05/20		90	%	50 - 150
			13C3-Perfluorobutanesulfonic acid	2020/05/20		93	%	50 - 150
			13C4-Perfluorobutanoic acid	2020/05/20		98	%	50 - 150
			13C4-Perfluoroheptanoic acid	2020/05/20		96	%	50 - 150
			13C4-Perfluorooctanesulfonic acid	2020/05/20		90	%	50 - 150
			13C4-Perfluorooctanoic acid	2020/05/20		96	%	50 - 150
			13C5-Perfluorononanoic acid	2020/05/20		95	%	50 - 150
			13C5-Perfluoropentanoic acid	2020/05/20		97	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2020/05/20		91	%	50 - 150
			18O2-Perfluorohexanesulfonic acid	2020/05/20		90	%	50 - 150
			D3-MeFOSA	2020/05/20		58	%	50 - 150
			D3-MeFOSAA	2020/05/20		88	%	50 - 150
			D5-EtFOSA	2020/05/20		57	%	50 - 150
			D5-EtFOSAA	2020/05/20		84	%	50 - 150
			D7-MeFOSE	2020/05/20		79	%	50 - 150
			D9-EtFOSE	2020/05/20		74	%	50 - 150
			Perfluorobutanoic acid (PFBA)	2020/05/20		88	%	70 - 130
			Perfluoropentanoic acid (PFPeA)	2020/05/20		88	%	70 - 130
			Perfluorohexanoic acid (PFHxA)	2020/05/20		86	%	70 - 130
			Perfluoroheptanoic acid (PFHpA)	2020/05/20		90	%	70 - 130
			Perfluorooctanoic acid (PFOA)	2020/05/20		87	%	70 - 130
			Perfluorononanoic acid (PFNA)	2020/05/20		90	%	70 - 130
			Perfluorodecanoic acid (PFDA)	2020/05/20		90	%	70 - 130
			Perfluoroundecanoic acid (PFUnA)	2020/05/20		91	%	70 - 130
			Perfluorododecanoic acid (PFDoA)	2020/05/20		92	%	70 - 130
			Perfluorotridecanoic acid (PFTRDA)	2020/05/20		93	%	70 - 130
			Perfluorotetradecanoic acid(PFTEDA)	2020/05/20		85	%	70 - 130
			Perfluorobutanesulfonic acid (PFBS)	2020/05/20		86	%	70 - 130
			Perfluoropentanesulfonic acid PFPes	2020/05/20		87	%	70 - 130
			Perfluorohexanesulfonic acid(PFHxS)	2020/05/20		90	%	70 - 130
			Perfluoroheptanesulfonic acid PFHpS	2020/05/20		80	%	70 - 130
			Perfluorooctanesulfonic acid (PFOS)	2020/05/20		93	%	70 - 130
			Perfluorononanesulfonic acid (PFNS)	2020/05/20		84	%	70 - 130
			Perfluorodecanesulfonic acid (PFDS)	2020/05/20		78	%	70 - 130
			Perfluorooctane Sulfonamide (PFOSA)	2020/05/20		89	%	70 - 130
			EtFOSA	2020/05/20		94	%	70 - 130
			MeFOSA	2020/05/20		88	%	70 - 130
			EtFOSE	2020/05/20		85	%	70 - 130
			MeFOSE	2020/05/20		90	%	70 - 130
			EtFOSAA	2020/05/20		93	%	70 - 130
			MeFOSAA	2020/05/20		88	%	70 - 130

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BV Labs Job #: C0B6931
Report Date: 2020/07/16

Con-Test Analytical Laboratory
Client Project #: 20E0343

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			4:2 Fluorotelomer sulfonic acid	2020/05/20		85	%	70 - 130
			6:2 Fluorotelomer sulfonic acid	2020/05/20		87	%	70 - 130
			8:2 Fluorotelomer sulfonic acid	2020/05/20		83	%	70 - 130
			Hexafluoropropyleneoxide dimer acid	2020/05/20		86	%	70 - 130
			4,8-Dioxa-3H-perfluorononanoic acid	2020/05/20		87	%	70 - 130
			9Cl-PF3ONS (F-53B Major)	2020/05/20		87	%	70 - 130
			11Cl-PF3OUdS (F-53B Minor)	2020/05/20		83	%	70 - 130
6729912	XIN	Method Blank	13C2-4:2-Fluorotelomersulfonic Acid	2020/05/20		103	%	50 - 150
			13C2-6:2-Fluorotelomersulfonic Acid	2020/05/20		100	%	50 - 150
			13C2-8:2-Fluorotelomersulfonic Acid	2020/05/20		89	%	50 - 150
			13C2-Perfluorodecanoic acid	2020/05/20		96	%	50 - 150
			13C2-Perfluorododecanoic acid	2020/05/20		88	%	50 - 150
			13C2-Perfluorohexanoic acid	2020/05/20		101	%	50 - 150
			13C2-perfluorotetradecanoic acid	2020/05/20		71	%	50 - 150
			13C2-Perfluoroundecanoic acid	2020/05/20		95	%	50 - 150
			13C3-HFPO-DA	2020/05/20		95	%	50 - 150
			13C3-Perfluorobutanesulfonic acid	2020/05/20		93	%	50 - 150
			13C4-Perfluorobutanoic acid	2020/05/20		98	%	50 - 150
			13C4-Perfluoroheptanoic acid	2020/05/20		97	%	50 - 150
			13C4-Perfluorooctanesulfonic acid	2020/05/20		91	%	50 - 150
			13C4-Perfluorooctanoic acid	2020/05/20		96	%	50 - 150
			13C5-Perfluorononanoic acid	2020/05/20		94	%	50 - 150
			13C5-Perfluoropentanoic acid	2020/05/20		96	%	50 - 150
			13C8-Perfluorooctane Sulfonamide	2020/05/20		83	%	50 - 150
			18O2-Perfluorohexanesulfonic acid	2020/05/20		89	%	50 - 150
			D3-MeFOSA	2020/05/20		50	%	50 - 150
			D3-MeFOSAA	2020/05/20		84	%	50 - 150
			D5-EtFOSA	2020/05/20		48 (1)	%	50 - 150
			D5-EtFOSAA	2020/05/20		80	%	50 - 150
			D7-MeFOSE	2020/05/20		68	%	50 - 150
			D9-EtFOSE	2020/05/20		64	%	50 - 150
			Perfluorobutanoic acid (PFBA)	2020/05/20	0.12 U, MDL=0.12		ug/kg	
			Perfluoropentanoic acid (PFPeA)	2020/05/20	0.10 U, MDL=0.10		ug/kg	
			Perfluorohexanoic acid (PFHxA)	2020/05/20	0.14 U, MDL=0.14		ug/kg	
			Perfluoroheptanoic acid (PFHpA)	2020/05/20	0.18 U, MDL=0.18		ug/kg	
			Perfluorooctanoic acid (PFOA)	2020/05/20	0.16 U, MDL=0.16		ug/kg	
			Perfluorononanoic acid (PFNA)	2020/05/20	0.15 U, MDL=0.15		ug/kg	
			Perfluorodecanoic acid (PFDA)	2020/05/20	0.31 U, MDL=0.31		ug/kg	
			Perfluoroundecanoic acid (PFUnA)	2020/05/20	0.15 U, MDL=0.15		ug/kg	
			Perfluorododecanoic acid (PFDoA)	2020/05/20	0.19 U, MDL=0.19		ug/kg	
			Perfluorotridecanoic acid (PFTRDA)	2020/05/20	0.17 U, MDL=0.17		ug/kg	
			Perfluorotetradecanoic acid(PFTEDA)	2020/05/20	0.15 U, MDL=0.15		ug/kg	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluorobutanesulfonic acid (PFBS)	2020/05/20	0.14 U, MDL=0.14		ug/kg	
			Perfluoropentanesulfonic acid PFPes	2020/05/20	0.20 U, MDL=0.20		ug/kg	
			Perfluorohexanesulfonic acid(PFHxS)	2020/05/20	0.14 U, MDL=0.14		ug/kg	
			Perfluoroheptanesulfonic acid PFHpS	2020/05/20	0.087 U, MDL=0.087		ug/kg	
			Perfluorooctanesulfonic acid (PFOS)	2020/05/20	0.21 U, MDL=0.21		ug/kg	
			Perfluorononanesulfonic acid (PFNS)	2020/05/20	0.23 U, MDL=0.23		ug/kg	
			Perfluorodecanesulfonic acid (PFDS)	2020/05/20	0.27 U, MDL=0.27		ug/kg	
			Perfluorooctane Sulfonamide (PFOSA)	2020/05/20	0.19 U, MDL=0.19		ug/kg	
			EtFOSA	2020/05/20	0.31 U, MDL=0.31		ug/kg	
			MeFOSA	2020/05/20	0.28 U, MDL=0.28		ug/kg	
			EtFOSE	2020/05/20	0.27 U, MDL=0.27		ug/kg	
			MeFOSE	2020/05/20	0.17 U, MDL=0.17		ug/kg	
			EtFOSAA	2020/05/20	0.32 U, MDL=0.32		ug/kg	
			MeFOSAA	2020/05/20	0.30 U, MDL=0.30		ug/kg	
			4:2 Fluorotelomer sulfonic acid	2020/05/20	0.22 U, MDL=0.22		ug/kg	
			6:2 Fluorotelomer sulfonic acid	2020/05/20	0.13 U, MDL=0.13		ug/kg	
			8:2 Fluorotelomer sulfonic acid	2020/05/20	0.33 U, MDL=0.33		ug/kg	
			Hexafluoropropyleneoxide dimer acid	2020/05/20	0.33 U, MDL=0.33		ug/kg	
			4,8-Dioxa-3H-perfluorononanoic acid	2020/05/20	0.20 U, MDL=0.20		ug/kg	
			9Cl-PF3ONS (F-53B Major)	2020/05/20	0.19 U, MDL=0.19		ug/kg	
			11Cl-PF3OUdS (F-53B Minor)	2020/05/20	0.20 U, MDL=0.20		ug/kg	
6729912	XIN	RPD - Sample/Sample Dup	Perfluorobutanoic acid (PFBA)	2020/05/20	NC		%	30
			Perfluoropentanoic acid (PFPeA)	2020/05/20	NC		%	30
			Perfluorohexanoic acid (PFHxA)	2020/05/20	NC		%	30
			Perfluoroheptanoic acid (PFHpA)	2020/05/20	NC		%	30
			Perfluorooctanoic acid (PFOA)	2020/05/20	NC		%	30
			Perfluorononanoic acid (PFNA)	2020/05/20	NC		%	30
			Perfluorodecanoic acid (PFDA)	2020/05/20	NC		%	30
			Perfluoroundecanoic acid (PFUnA)	2020/05/20	NC		%	30
			Perfluorododecanoic acid (PFDoA)	2020/05/20	NC		%	30
			Perfluorotridecanoic acid (PFTRDA)	2020/05/20	NC		%	30
			Perfluorotetradecanoic acid(PFTEDA)	2020/05/20	NC		%	30
			Perfluorobutanesulfonic acid (PFBS)	2020/05/20	NC		%	30

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoropentanesulfonic acid PFPes	2020/05/20	NC		%	30
			Perfluorohexanesulfonic acid(PFHxS)	2020/05/20	NC		%	30
			Perfluoroheptanesulfonic acid PFHpS	2020/05/20	NC		%	30
			Perfluorooctanesulfonic acid (PFOS)	2020/05/20	NC		%	30
			Perfluorononanesulfonic acid (PFNS)	2020/05/20	NC		%	30
			Perfluorodecanesulfonic acid (PFDS)	2020/05/20	NC		%	30
			Perfluorooctane Sulfonamide (PFOSA)	2020/05/20	NC		%	25
			EtFOSA	2020/05/20	NC		%	30
			MeFOSA	2020/05/20	NC		%	30
			EtFOSE	2020/05/20	NC		%	30
			MeFOSE	2020/05/20	NC		%	30
			EtFOSAA	2020/05/20	NC		%	30
			MeFOSAA	2020/05/20	NC		%	30
			4:2 Fluorotelomer sulfonic acid	2020/05/20	NC		%	30
			6:2 Fluorotelomer sulfonic acid	2020/05/20	NC		%	30
			8:2 Fluorotelomer sulfonic acid	2020/05/20	NC		%	30

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Extracted internal standard analyte recovery was below the defined lower control limit (LCL) which may result in increased variability of the associated native analyte result (EtFOSA).

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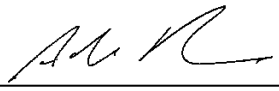
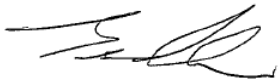
Client Project #: 20E0343

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Adam Robinson, Supervisor, LC/MS/MS



Brad Newman, Scientific Service Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

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PCBS

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: 1,8082A
Analytical Date: 08/30/19 21:15
Analyst: WR
Percent Solids: 58%

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

APPENDIX C

Standard Operating Procedures

Confidential and Proprietary
Eastern Analytical, Inc.

Standard Operating Procedure

QA45600_00_8081B_8082A_608.3

Method 8081B, 8082A and 608.3 Pesticides and PCB Analysis

Date Effective	Replaces SOP
8/1/2018	NA

EASTERN ANALYTICAL, INC.
25 Chenell Drive
Concord, NH. 03301

Position	Role/Task	Signature	Date
Dept Mgr	Auth/Review		8.3.18
Technical Director	Reviewed		8.3.18
QA Officer	Validated		8.3.18

Section/Page	Modification	Date/Initials	Validated (date/initials)

1 Scope and Application

1.1 This standard operating procedure (SOP) covers the steps required to perform the analysis of Organochlorine Pesticides and PCB Aroclors in aqueous and solid samples. This is a summary SOP for internal use by EAI. The procedures outlined in EPA Method 608.3, SW-846 Method 8081B and 8082A are followed with the addition of laboratory specific procedures as described below.

1.2 This method is restricted to the use by or under the supervision of an analyst experienced in the use of a gas chromatograph. Each analyst must demonstrate the ability to generate acceptable results with this method.

1.3 A list of target analytes and reporting limits are as follows:

Compound Name	CAS#	Aqueous ug/L	Soil mg/Kg	Oil mg/kg
Aldrin	309-00-2	0.05	0.005	
alpha-BHC	319-84-6	0.05	0.005	
beta-BHC	319-85-7	0.05	0.005	
Lindane (gamma-BHC)	58-89-9	0.05	0.005	
delta-BHC	319-86-8	0.05	0.005	
Technical Chlordane	57-74-9	0.1	0.02	
4,4'-DDT	50-29-3	0.05	0.005	
alpha-Chlordane	5103-71-9	0.05	0.005	
gamma-Chlordane	5103-74-2	0.05	0.005	
4,4'-DDE	72-55-9	0.05	0.005	
4,4'-DDD	72-54-8	0.05	0.005	
Dieldrin	60-57-1	0.05	0.005	
Endosulfan I	959-98-8	0.05	0.005	
Endosulfan II	33213-65-9	0.05	0.005	
Endosulfan Sulfate	1031-07-8	0.05	0.005	
Endrin	72-20-8	0.05	0.005	
Endrin Aldehyde	7421-93-4	0.05	0.005	
Endrin Ketone	53494-70-5	0.05	0.005	
Heptachlor	76-44-8	0.05	0.005	
Heptachlor Epoxide	1024-57-3	0.05	0.005	
Methoxychlor	72-43-5	0.05	0.005	
Toxaphene	8001-35-2	0.5	0.05	
PCB-1016	12674-11-2	0.2	0.02	1.0
PCB-1221	11104-28-2	0.2	0.02	1.0
PCB-1232	11141-16-5	0.2	0.02	1.0
PCB-1242	53469-21-9	0.2	0.02	1.0
PCB-1248	12672-29-6	0.2	0.02	1.0
PCB-1254	11097-69-1	0.2	0.02	1.0
PCB-1260	110996-82-5	0.2	0.02	1.0
PCB-1262	37324-23-5	0.2	0.02	1.0
PCB-1268	11100-14-4	0.2	0.02	1.0

1.4 Method performance: Laboratory specific method performance is documented with MDL/LOQ and IDC/CDC studies. A MDL and IDC study are performed at method startup while MDL/LOQ and CDC studies are performed annually. This data is retained for a minimum of 10 years. Current data for MDLs/LOQs and IDCs can be found in the QC folder on the EAI LIMS. Method performance may also be found in the referenced methods.

1.5 Definitions: All applicable definitions can be found in the EAI QA/QC Manual.

2 Summary of Method

2.1 Samples are serially extracted with a solvent employing one of the following organic extraction and sample prep methods:

2.1.1 EPA Method 3510, Aqueous by Separatory Funnel Liquid-Liquid Extraction

2.1.2 EPA Method 3540, Solids by Soxhlet Extraction

2.1.3 EPA Method 3545, Solids by Pressurized Fluid Extraction

2.1.4 EPA Method 3580, Non-Aqueous Phase Liquid by Waste Dilution

2.2 Sample clean-up procedures are employed if necessary. Refer to EPA 608.3 and SW-846 Method 3600C for cleanup procedures.

2.3 The solvent extract is then analyzed by gas chromatography with an electron capture detector (GC/ECD). Identification and confirmation of target compounds are determined on a dual column analysis system. The data is continuously collected and stored on a computer system with the appropriate software.

3 Sample Preservation, Containers, and Storage

3.1 Aqueous samples are collected unpreserved in 1L amber glass containers. Soil samples are collected unpreserved in 4 oz. amber glass containers.

3.2 Aqueous samples must be extracted within 7 days of sample collection. Solid samples must be extracted within 14 day of sample collection. Extracts must be analyzed within 40 days of extraction.

3.3 Samples are stored in the Extractions sample refrigerator at 4 ± 2°C.

3.4 Extracts are stored in the Extractions extract freezer at -15 ± 5°C.

4 Health and Safety

4.1 The toxicity of reagents and target analytes used in this method are not precisely defined. Exposure to these chemicals must be reduced to the lowest possible level. This may be done with the use of personal protective equipment such as: latex or nitrile gloves, safety glasses and lab coats. Standards must be prepared in a fume hood, when applicable.

4.2 The MSDS sheets for all chemicals in-house are kept on file and may be used as a reference to answer specific questions.

4.3 Reference EPA Method 608.3 and SW-846 Method 8081B and 8082A for specific compounds known or suspected to be a carcinogen.

5 Interferences

5.1 All blanks, samples and spikes must be evaluated for interferences. Determine if the source of the interference is from the sampling, handling and preparation, or from the instrument.

5.2 Samples collected in plastic may produce phthalate contamination. Prevent the samples and solvent extracts from making contact with latex gloves and other plastic surfaces.

5.3 Sample extract contamination via carryover may occur whenever high-concentration samples are

analyzed. Whenever an unusually highly concentrated sample is encountered, it should be followed by the analysis of solvent to check for cross-contamination with no samples analyzed until a clean solvent blank has been run.

6 Apparatus and Materials

- 6.1 Agilent 7890A Gas Chromatograph w/ µECD and Chemstation software version G1701EA
- 6.2 Agilent 7693 autosampler
- 6.3 Stx-CLPesticides I - 30 meters, 0.25 mm ID, and 0.25 um df
- 6.4 Stx-CLPesticides II - 30 meters, 0.25 mm ID, and 0.20 um df
- 6.5 Siltek guard column
- 6.6 10uL Agilent auto sampler syringe
- 6.7 11mm Thermolite septa
- 6.8 4mm gooseneck splitless liner
- 6.9 Viton fluorocarbon o-rings
- 6.10 Gold-plated inlet seal
- 6.11 Silanized glass wool
- 6.12 Glass wool puller/inserter
- 6.13 Teflon/NSC silicone 11mm crimp seals
- 6.14 Target vial 12x32mm
- 6.15 Graphite ferrules for GC inlet, (1/16” x 0.8mm)
- 6.16 Hamilton gas-tight syringes – various sizes as needed, from 10uL to 1mL.
- 6.17 Gases , Ultra High Purity, (99.999%)
  - 6.17.1 UHP Helium
  - 6.17.2 UHP Nitrogen

7 Reagents and Standards

- 7.1 Hexane - pesticide grade
- 7.2 Primary Source Stocks
  - 7.2.1 Pesticides stock (includes surrogates), 200ug/mL, Absolute #92348
  - 7.2.2 Technical Chlordane stock, 1,000ug/mL, Restek #32021
  - 7.2.3 Toxaphene stock, 1,000ug/mL, Restek #32005
  - 7.2.4 Surrogate Mix, 200ug/mL, Restek #32000
  - 7.2.5 DDT/Endrin Breakdown Check Mix, 100ug/mL, Restek #32093
  - 7.2.6 Aroclor 1016 stock, 1,000ug/mL, Restek #32006
  - 7.2.7 Aroclor 1221 stock, 100ug/mL, Accustandard #C-221S-H
  - 7.2.8 Aroclor 1232 stock, 100ug/mL, Accustandard #C-232S-H
  - 7.2.9 Aroclor 1242 stock, 100ug/mL, Accustandard #C-242S-H
  - 7.2.10 Aroclor 1248 stock, 100ug/mL, Accustandard #C-248S-H
  - 7.2.11 Aroclor 1254 stock, 100ug/mL, Accustandard #C-254S-H
  - 7.2.12 Aroclor 1260 stock, 1,000ug/mL, Restek #32012
  - 7.2.13 Aroclor 1262 stock, 100ug/mL, Accustandard #C-262S-H
  - 7.2.14 Aroclor 1268 stock, 100ug/mL, Accustandard #C-268S-H
- 7.3 2nd Source Stocks
  - 7.3.1 Pesticides stock, 200ug/mL, Restek #32291
  - 7.3.2 Technical Chlordane stock, 1,000ug/mL, Supelco #48065-U
  - 7.3.3 Toxaphene stock, 1,000ug/mL, Supelco #4-8103
  - 7.3.4 Aroclor 1016 stock, 100ug/mL, Accustandard #C-216S-H
  - 7.3.5 Aroclor 1221 stock, 1,000ug/mL, Restek #32007

7.3.6 Aroclor 1232 stock, 1,000ug/mL, Restek #32008
7.3.7 Aroclor 1242 stock, 1,000ug/mL, Restek #32009
7.3.8 Aroclor 1248 stock, 1,000ug/mL, Restek #32010
7.3.9 Aroclor 1254 stock, 1,000ug/mL, Restek #32011
7.3.10 Aroclor 1260 stock, 100ug/mL, Accustandard #C-260S-H
7.3.11 Aroclor 1262 stock, 1,000ug/mL, Restek #32409
7.3.12 Aroclor 1268 stock, 1,000ug/mL, Restek #32410

7.4 Pesticides multi-point calibration, Primary Source

Pesticides/Surrogate Calibration (ug/ml)		Pesticides Stock			Final Volume Hexane
2.0 (Intermediate)	=	100 uL			10mL
0.005	=	25uL	of 2.0 ug/mL	Intermediate	10 mL
0.01	=	50uL	of 2.0 ug/mL	Intermediate	10 mL
0.025	=	125uL	of 2.0 ug/mL	Intermediate	10 mL
0.05	=	250uL	of 2.0 ug/mL	Intermediate	10 mL
0.1	=	500uL	of 2.0 ug/mL	Intermediate	10 mL
0.15	=	750uL	of 2.0 ug/mL	Intermediate	10 mL
0.25	=	1250uL	of 2.0 ug/mL	Intermediate	10 mL

7.5 Pesticides ICV, 2nd Source

Pesticides/Surrogate ICV (ug/ml)		Pesticides Stock	Final Volume Hexane
0.1	=	5uL	10mL

7.6 Technical Chlordane or Toxaphene multi-point calibration, Primary Source
7.6.1 The 1.0ug/mL calibration point may also be used as a singlepoint calibration.

Chlordane or Toxaphene Calibration (ug/ml)		Chlordane or Toxaphene Stock			Final Volume Hexane
1.0	=	10 uL			10mL
0.1	=	100uL	of 1.0	singlepoint	1 mL
0.5	=	500uL	of 1.0	singlepoint	1 mL

7.7 Technical Chlordane/Toxaphene ICV, 2nd Source

Chlordane or Toxaphene ICV (ug/ml)		Chlordane or Toxaphene Stock	Final Volume Hexane
0.5	=	5uL	10mL

7.8 Aroclor 1016/1260 multi-point calibration, Primary Source

PCB/Surrogate Calibration (ug/ml)		Aroclor 1016 Stock	Aroclor 1260 Stock	Surrogate Mix Stock	Final Volume Hexane
10/2 (Intermediate)	=	100 uL	100 uL	100 uL	10mL
0.025/0.005	=	25uL	of 10/2 ug/mL	Intermediate	10mL
0.04/0.008	=	40uL	of 10/2 ug/mL	Intermediate	10mL
0.1/0.02	=	100uL	of 10/2 ug/mL	Intermediate	10mL
0.25/0.05	=	250uL	of 10/2 ug/mL	Intermediate	10mL
0.5/0.1	=	500uL	of 10/2 ug/mL	Intermediate	10mL
0.75/0.15	=	750uL	of 10/2 ug/mL	Intermediate	10mL
1/0.2	=	1000uL	of 10/2 ug/mL	Intermediate	10mL

7.9 Aroclor 1016/1260 ICV, 2nd Source

PCB ICV (ug/ml)		Aroclor 1016 Stock	Aroclor 1260 Stock	Final Volume Hexane
0.5	=	50uL	50uL	10mL

7.10 Single Aroclor multi-point calibration, Primary Source

7.10.1 The 1.0 calibration point may also be used as a singlepoint calibration.

Single Aroclor Calibration (ug/ml)		Single Aroclor Stock			Final Volume Hexane
1.0	=	100 uL			10mL
0.1	=	100uL	of 1.0	singlepoint	1 mL
0.5	=	500uL	of 1.0	singlepoint	1 mL

7.11 Single Aroclor ICV, 2nd Source

Single Aroclor ICV (ug/ml)		Single Aroclor Stock	Final Volume Hexane
0.5	=	5 uL	10mL

7.12 DDT/Endrin Breakdown Check Standard

DDT/Endrin (ug/ml)		DDT/Endrin Mix Stock	Surrogate Stock	Final Volume Hexane
0.25	=	25 uL	12.5 uL	10mL

8 Procedure

8.1 Perform routine daily maintenance prior to instrument analysis. Daily maintenance may include changing the septum, inlet liner, gold seal, clipping the front end of the guard column, and filling the syringe rinse vials. To reduce inlet and column oxidation due to exposure to air, it is recommended to lower the inlet and GC oven temperature to below 100^0C.

8.2 Non-routine maintenance is performed on an as needed basis. This includes but is not limited to column replacement, injection port cleaning, or other troubleshooting activities. Record non-routine maintenance activities in the GC/ECD maintenance log.

8.3 GC/ECD acquisition conditions:

8.3.1 See PEST.M and PCB.M on the instrument control panel for sample acquisition parameters.

8.4 DDT/Endrin Breakdown Check

8.4.1 A standard containing DDT and Endrin is analyzed at the beginning of each pesticide analytical sequence. DDT breakdown is evaluated by comparing the total combined response of DDD and DDE to the total combined response of DDT, DDD, and DDE. Endrin breakdown is evaluated by comparing the total combined response of Endrin Aldehyde and Endrin Ketone to the total combined response of Endrin, Endrin Aldehyde, and Endrin Ketone. DDT and Endrin breakdown should be ≤15% for EPA 8081B and ≤20% for EPA 608.3. Analysis of standards or sample extracts may not begin until an acceptable breakdown check has been analyzed.

8.5 Calibration (ICAL)

8.5.1 An ICAL is analyzed when a calibration verification does not pass acceptance criteria or whenever major instrument changes or maintenance is performed, such as new column installation.

8.5.2 Analyze a multipoint calibration on each column at a minimum of 5 points (6 points for quadratic regression). For Aroclors other than PCB 1016 and 1260, a singlepoint calibration is analyzed. Begin analysis with the least concentrated standard and progress to the highest.

8.5.3 For individual pesticide analytes, integrate each peak in each calibration point.

8.5.4 For technical chlordane and toxaphene, establish the retention time elution range of the pattern and integrate the corresponding area of the pattern in each calibration point.

8.5.5 For PCBs, select 5 representative peaks within each Aroclor and integrate each peak in each calibration point.

8.5.6 Update the quantitation method in Enviroquant and establish the response factor or regression for each peak or pattern area.

8.6 Calibration Evaluation

8.6.1 If the percent relative standard deviation (%RSD) of the response factor is ≤20%, linearity through the origin may be assumed and the average response factor may be used instead of a calibration curve.

8.6.2 Alternatively, a linear or quadratic calibration curve may be used if the % RSD criterion is not satisfied or they produce a better fit.

8.6.2.1 Linear regression: To use linear regression, the calibration must include a minimum of 5 calibration points. The regression coefficient "r^2" must be ≥0.990 ("r" ≥0.995).

8.6.2.2 Quadratic regression: To use quadratic regression, the calibration must include a minimum of

6 calibration points. The regression coefficient "r^2" must be ≥0.990 ("r" ≥0.995).

8.6.3 When a curve is established using linear or quadratic regression, requantitate the calibration standard for each analyte at the reporting limit. The recalculation should be within 30% of the true standard concentration. If not, the reporting limit must be raised to the value of the next calibration point that exhibits acceptable recoveries.

8.7 Independent Calibration Verification (ICV) is performed after each calibration at a midpoint concentration. A percent recovery of ±20% is considered valid.

8.8 Calibration Verification (CV)

8.8.1 A CV is performed daily before each analytical batch with a midpoint standard from the calibration curve.

8.8.2 The CV is analyzed at the beginning of the analytical sequence, every 20 injections, and at the end of the sequence.

8.8.3 Evaluate the CV by determining the % recovery for each analyte. See Appendix A for acceptance limits.

8.8.4 If the CV does not pass acceptance criteria, evaluate the sample for the presence of target analytes. If the CV fails high and the sample is non-detect, the data may be reported. If the CV fails high and the samples contain target analytes, the samples must be re-analyzed in a valid window. If the CV fails low, regardless if analytes are present or not, the samples must be re-analyzed in a valid window.

8.9 Quality Control Samples

8.9.1 Method Blank: a blank is analyzed once per batch or every 20 samples.

8.9.2 Single Component Laboratory Control Sample (LCS): a single component pesticide LCS is analyzed once per batch or every 20 samples. A single component pesticide LCS Duplicate is also analyzed if insufficient volume exists for an MS/MSD.

8.9.3 Multi-Component Laboratory Control Sample (LCS): a multi-component PCB LCS is analyzed if target analytes include PCBs.

8.9.4 Single component pesticide LCSs and multi-component PCB LCSs may be analyzed on a rotating batch basis, however, both LCSs must occur at least once per 20 samples.

8.9.5 Matrix Spike (MS) and Matrix Spike Duplicate (MSD): a single component MS and MSD is analyzed on 5% of the samples from each discharge being monitored. If insufficient sample volume is provided, then an MS/MSD may be analyzed on any sample in the extraction batch with sufficient volume.

8.9.6 Method blanks, laboratory control samples, and matrix spikes are subjected to exactly the same analytical procedure as employed on field samples.

8.10 Data Reduction

8.10.1 Upon successful completion of an analytical batch, create a quantitation report for each sample. The report contains the data from both the primary and secondary columns.

8.10.1.1 The area response for each analyte is quantitated against the calibration curve and the on-column concentration is calculated by the software.

8.10.1.2 Save any manual integration in QEdit. Additional guidance can be found in the SOP for Manual Integration.

8.10.1.3 Results determined to be below the lowest calibration standard are considered less than the reportable limit.

8.10.1.4 A reportable individual pesticide hit must have a concentration above the reporting limit, occur within the established retention time window, and be confirmed by the secondary column.

8.10.1.5 A reportable PCB, toxaphene, or chlordane hit must have a concentration above the reporting limit, match the pattern of known standards (typically those used for calibration), and be confirmed by the secondary column.

8.10.1.6 Results determined above the highest calibration are diluted and reanalyzed.

8.10.1.7 Print the quantitation report. After inspecting and accepting the data, date and initial the report.

8.10.2 Instrument results for individual pesticides are in the units of ng/ml. Instrument results for PCBs, chlordane and toxaphene are in the units of ug/ml. The values are entered in the LIMS database, applied to known default parameter conversion values and extraction sample/extract values to derive the final reportable concentrations. Surrogate results are expressed as a percent (%).

8.10.3 For Massachusetts Presumptive Certainty projects, report the higher concentration value of the dual column analysis.

9 Quality Control

9.1 The objectives of the quality control program are to demonstrate that the analytical results obtained meet the quality needs of a project, and to provide the documentation necessary to adequately support the results. There are several components to a quality control program which contribute to the demonstration that a procedure is in control.

9.2 Method Detection Limits (MDL): At method startup or major procedural/instrument modification, annually or as required, a method detection limit study is performed to document a statistical Method Detection Limit, as described in 40 CFR Pt. 136 App. B, Revision 2.

9.3 Limit of Quantitation (LOQ): Annually or as required, a low level standard will be taken through the entire method and evaluated against calculated or method criteria to determine the ability of the method to see concentrations at the lowest reporting level. Typical acceptance limits are 10% wider than those used to evaluate an LCS.

9.4 Initial Demonstration of Capability (IDC): Performed at method startup, after major instrument or procedural modification, and when there is any change in personnel to document that the analyst is capable of generating accurate and precise results. Use the IDC to document precision and accuracy of all new employees. The IDC is a compilation of four LCS samples containing all the compounds to be analyzed. Acceptance criteria is found in Appendix A.

9.5 Stock solution and standard expiration: Purchased stock solutions and prepared standards expire according to the manufacturer's expiration date or one year from preparation date, whichever comes first.

9.6 Retention times: Retention times are established when an initial calibration is analyzed. Laboratory retention time windows are defined by calculating ±3 standard deviations of three retention time measurements over a 72 hour period. If the calculated retention time window is less than 0.01 minutes, then use 0.01 minutes as the window.

9.7 Method Blank

9.7.1 A blank matrix is prepared with every matrix batch of samples to demonstrate the freedom from background contamination. This sample is subject to all reagents, glassware, and procedures as a field sample.

9.7.2 An acceptable blank must have analyte concentrations below the reporting limit. For all analytes, the reporting limit is at or above the first calibration point. If required, estimated blank concentrations may be reported to the MDL.

9.7.3 If Blank concentrations exceed limits, the following procedure is followed.

9.7.3.1 Investigate and document the source of contamination.

9.7.3.2 Initiate and document the steps required to minimize or eliminate the problem.

9.7.3.3 Evaluate the data impact.

9.7.3.3.1 If impacted target analytes are not detected in the field samples, the data may be reported and the blank contamination and reasons for data acceptance are documented internally.

9.7.3.3.2 If the impacted target analytes are detected in the field samples above the reporting limit and greater than ten times the blank level, the results may be reported without additional action.

9.7.3.3.3 If the impacted target analytes are detected in the field samples above the reporting limit but less than ten times the blank level, the samples and QC may first be re-injected to determine if the contamination was instrument related. If the blank still exceeds the limit then the impacted samples should be re-extracted

and re-analyzed if sample volume permits.

9.7.3.4 If sample volumes are not sufficient for re-extraction or a clean blank cannot be achieved then the deviation must be noted on the final report and the data qualified. Blank contamination must be included in the QC narrative.

9.8 Lab Control Sample (LCS)

9.8.1 The LCS consists of reagent water or a blank matrix spiked with known analytes at a known concentration. The purpose of the LCS is to monitor the efficiency of sample preparation and analytical procedure. The LCS also provides helpful information necessary to ascertain whether a matrix spike recovery failure is a result of matrix interference or another procedural problem. In the event that adequate sample volumes are not provided for matrix spikes an LCS Duplicate is prepared. Percent recovery and percent RSD are calculated and compared to specific acceptance limits.

9.8.2 The formula for % Recovery is as follows:

$$\% \text{ Recovery} = \frac{SC - UC}{EV} \times 100$$

Where:
SC = Concentration in the spiked sample
UC = Concentration in the unspiked sample
EV = Expected value

9.8.3 The formula for RPD is as follows:

$$RPD = \frac{|R_1 - R_2|}{\left(\frac{R_1 + R_2}{2}\right)} \times 100$$

Where:
R_1 = Results of Sample #1
R_2 = Results of Sample #2

9.8.4 Acceptance criteria is presented in Appendix A. If the percent recovery of a compound exceeds the upper limit criteria, re-extraction is not necessary as long as the sample was non-detect for the compound in question. Note all other exceedances in the laboratory narrative.

9.9 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

9.9.1 A matrix spike consists of a field sample spiked with a known concentration of single component analytes. The matrix spike is used to demonstrate that the field sample matrix has no effect on accurate quantitation.

9.9.2 An MS/MSD should be performed on 5% of the samples from each discharge being monitored. If insufficient sample volume is provided, then an MS/MSD may be analyzed on any sample in the extraction batch with sufficient volume.

9.9.3 Acceptance criteria is presented in Appendix A. If the matrix spike exceeds limits, determine procedural control by reviewing results of the laboratory control sample. If the LCS is in control it may be determined that the procedure is in control. Unless other supporting data can be found, reanalysis of the customer sample may be necessary to demonstrate that the problem is reproducible and thus related to the specific sample matrix.

9.9.4 In the event that the investigation shows the failure is matrix specific, and thus the analytical results generated could be impacted, deviations are documented in a case narrative.

9.10 Surrogates

9.10.1 Surrogates are added to each field and QC sample associated with each batch. Surrogates are used to

monitor the prep procedure used, fractionation efficiency, and to verify matrix interference/effects.

9.10.2 Acceptance criteria is presented in Appendix A. If a surrogate recovery is below acceptance limit, re-extraction should be performed, if sample volume and hold time permit. If not, re-inject the extract to confirm the results. Re-extraction or re-analysis is not necessary as long percent recovery exceeds the upper limit criteria and the sample was non-detect for the associated compounds. Re-extraction is also not required if obvious matrix interference is present. Note exceedances in the laboratory narrative.

9.11 Initial Calibration

9.11.1 Initial calibrations are analyzed when a CV to begin an analytical sequence does not meet acceptance criteria or when major instrument maintenance or repairs are performed (i.e. new column installation, new injection port).

9.11.2 Initial calibrations consist of at least 5 points for linear regression and at least 6 points for quadratic regression.

9.11.3 If the percent relative standard deviation (%RSD) of the response factor is ≤20%, linearity through the origin may be assumed and the average response factor may be used instead of a calibration curve.

9.11.4 Alternatively, a linear or quadratic calibration curve may be used if the %RSD criteria is not satisfied or they produce a better fit. Linear or quadratic regressions (not forced through origin) are accepted if the regression coefficient "r^2" is ≥0.990 ("r" ≥0.995).

9.11.5 When a curve is established using linear or quadratic regression, requantitate the calibration standard for each analyte at the reporting limit to determine a valid calculation. The recalculation should be within 30% of the true standard concentration. If not, the reporting limit must be raised to the value of the next calibration point that exhibits acceptable recoveries.

9.12 Independent Calibration Verification (ICV):

9.12.1 An ICV is analyzed after each calibration at a midpoint concentration. The percent recovery of all target analytes must be ≤ 20%.

9.13 Calibration verification (CV):

9.13.1 CV is performed daily before each analytical batch with a midpoint standard from the calibration curve.

9.13.2 The CV is analyzed at the beginning of the analytical sequence, every 20 injections, and at the end of the sequence.

9.13.3 Acceptance criteria is presented in Appendix A. If the CV does not pass acceptance criteria, evaluate the samples for the presence of analytes. If the CV fails high and the samples are non-detect, the data may be reported. If the CV fails high and the samples contain target analytes, the samples must be re-analyzed in a valid window. If the CV fails low, regardless if analytes are present or not, the samples should be re-analyzed unless the failures are due to sample matrix. Note exceedances in the case narrative.

10 Corrective Actions

10.1 The corrective actions outlined in the referenced method(s) are followed.

10.2 The corrective actions outlined in the referenced EAI QA/QC Manual are followed.

10.3 The multipoint calibration is reanalyzed if the daily CV fails the % recovery criteria.

10.4 Samples are reanalyzed at a dilution if an analyte's measured concentration exceeds the calibration range.

10.5 Extraction Blank contamination above acceptance limits is investigated and rectified. If blank contamination impacts data quality of related extraction batch samples, the affected samples should be re-extracted.

11 Safety, Pollution Prevention and Waste Management

11.1 The safety procedures outlined in the EAI Safety Manual are followed.

11.2 Reagents and chemicals should be purchased and/or prepared in volumes consistent with laboratory requirements to minimize the volume disposed.

11.3 The waste generated from the analysis is handled as described in the EAI Lab Safety Manual.
11.4 See SOP QA0000*current revision Waste Disposal for specifics on the disposal reagent wastes.
11.5 Target vials are place in the appropriate waste drum in the waste room after 40 days.
11.6 EAI uses the services of a subcontractor for the transportation and disposal of any wastes deemed to be hazardous. In addition, EAI uses a subcontractor for the disposal of non-hazardous soil and solid samples.

12 References

12.1 EPA 8081B
12.2 EPA 8082A
12.3 EPA 608.3
12.4 EAI Lab Safety Manual* current revision
12.5 EAI QA/QC Manual * current revision
12.6 TNI Standards 2009
12.7 SOP QA0000 Waste Disposal* current revision
12.8 EAI QA667001_ManualIntegration* current revision
12.9 EAI QA664003_MDL* current revision
12.10 EAI QA 665001_DOC* current revision

APPENDIX A

Calibration Verification, Laboratory Control Sample, and Matrix Spike Acceptance Criteria

Name	EPA 608.3 CV %	EPA 608.3 IDC %	EPA 608.3 LCS/MS %	EPA 608.3 RPD	EPA 8081/82 CV %	EPA 8081/82 LCS/IDC %	EPA 8081/82 MS %	EPA 8081/82 RPD aqueous/soil
alpha-BHC	69-125	49-130	37-140	36	80-120	40-140	30-150	20 / 30
gamma-BHC	75-125	43-130	32-140	39	80-120	40-140	30-150	20 / 30
beta-BHC	75-125	39-130	17-147	44	80-120	40-140	30-150	20 / 30
delta-BHC	75-125	51-130	19-140	52	80-120	40-140	30-150	20 / 30
Heptachlor	75-125	43-130	34-140	43	80-120	40-140	30-150	20 / 30
Aldrin	75-125	54-130	42-140	35	80-120	40-140	30-150	20 / 30
Heptachlor Epoxide	75-125	57-132	37-142	26	80-120	40-140	30-150	20 / 30
gamma-Chlordane	75-125	55-130	45-140	35	80-120	40-140	30-150	20 / 30
alpha-Chlordane	73-125	55-130	45-140	35	80-120	40-140	30-150	20 / 30
4,4'-DDE	75-125	54-130	30-145	35	80-120	40-140	30-150	20 / 30
Endosulfan I	75-125	57-141	45-153	28	80-120	40-140	30-150	20 / 30
Dieldrin	48-125	58-130	36-146	49	80-120	40-140	30-150	20 / 30
Endrin	5-125	51-130	30-147	48	80-120	40-140	30-150	20 / 30
4,4'-DDD	75-125	48-130	31-141	39	80-120	40-140	30-150	20 / 30
Endosulfan II	75-125	22-171	1-202	53	80-120	40-140	30-150	20 / 30
4,4'-DDT	75-125	46-137	25-160	42	80-120	40-140	30-150	20 / 30
Endrin Aldehyde	75-125	40-140	40-140	35	80-120	40-140	30-150	20 / 30
Methoxychlor	75-125	40-140	40-140	35	80-120	40-140	30-150	20 / 30
Endosulfan Sulfate	70-125	38-132	26-144	38	80-120	40-140	30-150	20 / 30
Endrin Ketone	75-125	40-140	40-140	35	80-120	40-140	30-150	20 / 30
Chlordane	75-125	55-130	45-140	35	80-120	40-140	30-150	20 / 30
Toxaphene	68-134	56-130	41-140	41	80-120	40-140	30-150	20 / 30
PCB-1016	75-125	61-103	50-140	36	80-120	40-140	40-140	20 / 30
PCB-1221	75-125	44-150	15-178	48	80-120	40-140	40-140	20 / 30
PCB-1232	75-125	28-197	10-215	25	80-120	40-140	40-140	20 / 30
PCB-1242	75-125	50-139	39-150	29	80-120	40-140	40-140	20 / 30
PCB-1248	75-125	58-140	38-158	35	80-120	40-140	40-140	20 / 30
PCB-1254	75-125	44-130	29-140	45	80-120	40-140	40-140	20 / 30
PCB-1260	75-125	37-130	8-140	38	80-120	40-140	40-140	20 / 30
PCB-1262	75-125	40-140	40-140	20	80-120	40-140	40-140	20 / 30
PCB-1268	75-125	40-140	40-140	20	80-120	40-140	40-140	20 / 30
TCMX (surrogate)	75-125	30-150	30-150		80-120	30-150	30-150	
DCB (surrogate)	75-125	30-150	30-150		80-120	30-150	30-150	

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ORIGINAL

Standard Operating Procedure

QA3540C_07_Soxhlet

Soxhlet Extraction

Date Effective	Replaces SOP
1/29/2015	QA3540C_06_Soxhlet

EASTERN ANALYTICAL, INC.
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Position	Role/Task	Signature	Date
Dept Mgr	Auth/Review		2-20-15
Technical Director	Reviewed		2-20-15
QA Officer	Validated	Kathleen M Keeley	02-20-15

Section/Page	Modification	Date/Initials	Validated (date/initials)

1 Scope and Application

1.1 This standard operating procedure (SOP) covers the steps required to isolate organic compounds from soil samples using Soxhlet extraction. It also describes concentration techniques suitable for preparing the extract for GC analysis.

1.2 This is a summary SOP for internal use by Eastern Analytical, Inc. (EAI). The procedures outlined in EPA Method 3540C are followed with the addition of laboratory specific modified procedures as specified below.

1.3 This method is restricted for use by, or under, trained analysts. Each analyst must demonstrate the ability to generate acceptable results with this method.

1.4 A list of target analytes and reporting limits are found in the associated analytical methods.

1.5 All applicable definitions can be found in the EAI QA Manual.

2 Summary of Method

2.1 A measured mass of soil sample is dried with sodium sulfate and extracted with methylene chloride employing the soxhlet technique. Extracts are concentrated to a specified final volume and may be solvent exchanged and submitted for extract "clean-up" before analysis.

3 Sample Preservation, Containers and Storage

3.1 Once logged into EAI's database, samples are stored in the appropriate refrigerator at 4 ± 2°C.

3.2 Samples must be collected in pre-cleaned glass containers.

3.3 All soil samples are extracted within 14 days from sample collection. All sample extracts are analyzed within 40 days of sample extraction. The samples are stored in the designated Extractions Laboratory storage refrigerator at 4 ± 2°C. Sample extracts are stored in the designated Extractions Laboratory storage freezer at –15 ºC ±5 ºC, protected from the light, in vials with PTFE-lined caps.

3.4 The sample collection, preservation and handling requirements are found in the referenced EPA Method and/or the EAI QA/QC Manual.

4 Health and Safety

4.1 The toxicity of reagents and target analytes used in this method are not precisely defined. Exposure to these chemicals must be reduced to the lowest possible level. This may be done with the use of personal protective equipment such as: latex or nitrile gloves, safety glasses and lab coats. Standards must be prepared in a fume hood, when applicable. Solvent use should be restricted to a hood whenever possible.

4.2 The MSDS sheets for all chemicals in-house are kept on file and may be used as a reference to answer specific questions.

4.3 Reference the appropriate analytical method for specific compounds known or suspected to be a carcinogen.

5 Interferences

5.1 Solvents, reagents, glassware and other sample hardware may yield artifacts and/or interference to sample analysis. All materials must be demonstrated to be free from interference under analytical conditions by measuring method blanks.

5.2 Sodium Sulfate is thermally purified by baking at 400°C for 4 hours.

5.3 The presence of water in the sample extracts can cause instrumental analysis interferences.
5.4 Samples should not be collected in plastic due to possible phthalate contamination. All contact with plastic materials, such as Tygon tubing, must be avoided.
5.5 Refer to EPA Method 3540C for specific and any other known interferences.

6 Apparatus and Materials

6.1 Soxhlet Extractor, Organomation Associates, Inc., ROT-X-TRACT-S, Solid-Liquid Extractor, capable of maintaining a water bath temperature of 85°C
6.2 Soxhlet extractor glassware
6.3 Allihn condensers
6.4 Water chiller and circulator, capable of maintaining a water temperature of 15°C
6.5 Balance, Top loading, capacity: 4,000 grams, readability: 0.01 grams
6.6 TurboVap® II concentrator
6.7 TurboVap® glass concentrator tubes, 200mL capacity
6.8 Beakers, 250 ml
6.9 Extraction filters, fluted, 24 cm, VWR #28333-087
6.10 Round bottom flask, 250 ml, 24/40
6.11 Disposable pipettes
6.12 Graduated cylinder, 250ml
6.13 Boiling chips, Chemware Ultra-Pure PTFE
6.14 Amber 12mL screw top vial with PFTE lined cap
6.15 Amber 2mL target vial 12x32mm
6.16 11mm crimp seals, PFTE lined
6.17 Gas-tight syringes; 1,000uL, 500uL, 250uL, 100uL, and 25uL
6.18 Spatula stainless steel
6.19 Volumetric flasks, Class A, 10mL, 25mL, 50mL, and 100mL
6.20 Liquid Nitrogen (99.7%), low pressure delivery

7 Reagents

7.1 All preparations are assigned a unique lot number, title and date of preparation. The information is recorded in the EAI LIMS system. Certificates of analysis are kept on file in the Extraction Laboratory.
7.2 Solvents
- 7.2.1 Methylene chloride: pesticide residue analysis and spectrophotometry grade
- 7.2.2 Hexane: pesticide residue analysis and spectrophotometry grade
- 7.2.3 Acetone: pesticide residue analysis and spectrophotometry grade
- 7.2.4 Methanol: purge and trap grade

7.3 Sodium sulfate (Na_2SO_4), anhydrous, mesh 12-60. Purify by baking at 400°C for 4 hours.
7.4 Surrogate standard solutions
- 7.4.1 Acid, Base/Neutrals Surrogate
  - 7.4.1.1 Acid Surrogates Mix, 2000ug/mL, ECS #ECS-Z-003
  - 7.4.1.2 Base/Neutral Surrogates Mix, 1000ug/mL, ECS #ECS-Z-002
- 7.4.2 PAH 8270, TPH 8100, DRO 8015, MATEPH Surrogate
  - 7.4.2.1 P-Terphenyl-d14, 5000ug/ml, Absolute #90714
- 7.4.3 Extractable Petroleum Hydrocarbons (EPH) Surrogates

7.4.3.1 EPH Extraction Surrogate, 40ug/ml, Ultra Scientific #ISM-581X. Used as received.
7.4.3.2 EPH Fractionation Surrogate, 40ug/ml, Ultra Scientific #ISM-651X. Used as received.
7.4.4 Pesticide/PCB Surrogate
7.4.4.1 Pesticide/PCB Surrogate, 200ug/ml, Restek #32000
7.5 Matrix Spike Standard Solutions
7.5.1 Acid, Base/Neutrals Spike and Benzidines Spike
7.5.1.1 Semivolatiles Mega Mix, 1000ug/mL, Restek #31850
7.5.1.2 Phenols Mix, 2000ug/mL, ECS #ECS-N-006
7.5.1.3 A-Terpineol, 2000ug/mL, ECS #ECS-N-TERP
7.5.1.4 Benzoic acid, 2000ug/mL, Restek #31879
7.5.1.5 Benzidines Mix at 2000ug/mL, Restek #31030
7.5.2 PAH 8270, TPH 8100, DRO 8015
7.5.2.1 Aromatics Mix, 2000ug/ml, Absolute #51073
7.5.2.2 Composite #2 Fuel Oil, 50,000ug/ml, Ultra Scientific #RGO-616
7.5.3 EPH, MATEPH Spike
7.5.3.1 EPH Matrix Spike, 200ug/ml, Absolute #51044
7.5.4 Pesticide Spike
7.5.4.1 Pesticide Mix, 200ug/ml, Restek #32291
7.5.5 PCB Spike
7.5.5.1 Aroclor 1016, 1000ug/ml, Supelco #4-8097
7.5.5.2 Aroclor 1260, 1000ug/ml, Supelco #4-8056

7.6 Surrogate and Spike Preparation

Surrogates	Volume of Stock	Final Volume (solvent)	Spike Conc. (ug/mL)	Volume spiked per sample
ABN	5mL Acid surr 5mL Base surr	50mL (methanol)	200 100	250uL
PAH/TPH/DRO/ MATEPH	2mL PTP	100mL (methanol)	100	250uL
EPH (Extraction)	used as rec'd	-------	40	1mL
EPH (Fractionation)	used as rec'd	-------	40	1mL
PEST/PCB	1mL TCX,DCB	100mL (methanol)	2	250uL

Matrix Spikes	Volume of Stock	Final Volume (solvent)	Spike Conc. (ug/mL)	Volume spiked per sample
ABN (no Benzidine)	2mL Megamix 2mL Benzoic acid 1mL Phenols Mix 1mL a-Terpineol	40mL (methanol)	50 100 50 50	500uL
ABN (Benzidines)	1mL Benzidines	40mL (methanol)	50	500uL
PAH/TPH/DRO	2.5mL PAH mix 3mL #2 FO	50mL (acetone)	100 3000	250uL
EPH/MATEPH	20mL EPH MS	100mL (acetone)	40	1mL
PEST	250uL Pesticides	25mL (methanol)	2	250uL
PCB	400uL ea. PCB	50mL (methanol)	8	250uL

8 Procedure

8.1 Solvent rinse and label the appropriate quantity of beakers, spatulas, round bottom flasks, thimbles and soxhlet glassware.

8.2 Turn on the soxhlet water bath and set to 85°C.

8.3 Turn on the water circulator cooler and set to 15°C.

8.4 Label Quality Control (QC) samples as follows: BLNKS (date, analysis), LCSaS (date, analysis), LCSDS (date, analysis). For example, the first ABN Blank prepped on 2/3/2012, would have an ID of "BLNKS020312ABN1."

8.5 Record the chemical ID number or lot number of all standards and reagents used during the extraction in the Extractions Logbook.

8.6 Weigh 15g sodium sulfate into the Blank, LCS and LCSD designated beakers for all analyses.

8.7 Discard any large rocks, decant water, and weigh approximately 15g homogenized client field samples to each designated beaker for all analyses. Record the actual weight in the corresponding Extractions Logbook.

8.8 Weigh sample mass equivalent of sodium sulfate into the samples. Mix until free-flowing. Do not exceed 30 grams total weight or the sample may not fit into the fluted filter. If percent dry-weight is to be determined, refer to EAI SOP QA-66100.

8.9 Measure 190mL of methylene chloride into each 250mL round bottom flask.

8.10 Add 2-3 Boiling Stones into each round bottom flask.

8.11 Connect the round bottom flask to the soxhlet evaporator and clamp together with a joint clip.

8.12 Transfer the sample into a fluted filter and place into the soxhlet extractor.
8.13 Add the appropriate surrogate and/or spike solution to all QC samples and field samples.
8.14 Place each extractor/flask on the water bath circulator and record the start time and date in the Extractions Logbook.
8.15 Extract samples for 16-24 hours. Record stop time and date in the Extractions Logbook.
8.16 Remove the flask from the water bath and cool to room temperature. Leave the extractor connected to the water chiller while cooling.
8.17 When cool, separate the extractor from the flask and pour any remaining solvent in the extractor into a rinsed turbo tube. Discard the sample.
8.18 Pour the solvent in the flask into the turbo tube.
8.19 Rinse the flask three times, pouring the rinseate into the turbo tube.
8.20 Concentrate the extract in the Zymark TurboVap workstation at 20 psi Nitrogen pressure at a water bath temperature of 35°C.
8.21 ABN, TPH, DRO: Concentrate the extract to just above the 1mL mark on the turbo tube. Rinse the bottom third of the turbo tube with the extract. When the volume is at the 1mL mark, transfer the extract to a 2mL target vial.
8.22 EPH and Pesticides/PCB: Hexane Exchange
8.22.1 Concentrate the extract to 5-7mL.
8.22.2 Add 100mL hexane to the turbo tube and swirl until adequately mixed.
8.22.3 Pesticides/PCB: Continue concentration and bring to a final volume of approximately 4mL. Transfer the extract to a 12mL amber vial. Rinse the turbo with approximately 0.5mL of hexane and transfer to the vial. Bring the extract to a 5mL final volume.
8.22.4 EPH: Continue concentration to a volume of 5-7mL. Transfer the extract to a 10mL volumetric flask. Add 1mL of fractionation surrogate. Rinse the turbo with approximately 1mL of hexane and transfer to the flask. Bring the extract to volume and transfer to a 12mL amber vial.

9 Quality Control

9.1 The objectives of the quality control program are to demonstrate that the analytical results obtained meet the quality needs of a project, and to provide the documentation necessary to adequately support the results. There are several components to a quality control program which contribute to the demonstration that a procedure is in control.
9.2 Method Detection Limits (MDL): At method startup or major procedural/instrument modification, a method detection limit study must be performed to document a statistical Method Detection Limit, as described in 40 CFR Pt. 136 App. B. A minimum of seven replicates should be analyzed and used to calculate a theoretical minimum concentration that can be measured at a 99% confidence level that the result is greater than zero.
9.3 Limit of Quantitation (LOQ): Annually, after the initial MDL study has been completed, a low level standard will be taken through the entire method and evaluated against calculated or method criteria to determine the ability of the method to see concentrations at the lowest calibration level. Typical acceptance limits are 10% wider than those used to evaluate an LCS.
9.4 Initial Demonstration of Capability (IDC): At method startup, major procedural/instrument modification, or when there is any change in personnel, an initial demonstration of capability must be performed to document that the analyst is capable of generating accurate and precise

results. Use the IDC to document precision and accuracy of all new employees. The IDC is a compilation of four LCS samples containing all the compounds to be analyzed. The average recovery for each analyte is evaluated against LCS acceptance criteria.

9.5 Method Blank: A blank is analyzed with every batch of 20 samples to demonstrate the extraction and analytical process is free from background contamination. This sample is subject to all reagents, glassware, and procedures as field samples.

9.6 LCS/LCS Duplicate: An LCS/LCS duplicate is analyzed with every batch of 20 samples. The LCS consists of a clean matrix spiked with known analytes at a known concentration. The purpose of the LCS is to monitor the efficiency of the sample preparation and analytical procedures. The LCS also provides helpful information necessary to ascertain whether a matrix spike recovery failure is the result of matrix interference or another procedural problem.

9.7 Matrix Spike/Matrix Spike Duplicate: A matrix spike/matrix spike duplicate is analyzed upon request for project specific quality control. A matrix spike consists of a field sample spiked with known analytes at a known concentration. The matrix spike is used to demonstrate that the field sample matrix has no effect on accurate quantitation.

9.8 Surrogates: Surrogate is added to each field and QC sample associated with each batch. Surrogates are used to monitor extraction and analytical procedures, and to identify matrix interferences and effects.

10 Corrective Actions

10.1 The corrective actions outlined in the referenced EAI QA/QC Manual are followed.

10.2 Describe specific corrective actions taken in the Extraction Logbook.

11 Safety, Pollution Prevention and Waste Management

11.1 The safety procedures outlined in the EAI Safety Manual are followed.

11.2 When possible, steps are taken to reduce waste generated from the analysis.

11.3 The waste generated from the analysis is handled as described in the EAI Lab Safety Manual.

12 References

12.1 EPA SW-846, 3rd Edition, with Update IV-A and IV-B, February 2007

12.2 EPA Method 3540C

12.3 EPA Method 8015C

12.4 EPA Method 8100

12.5 EPA Method 8081B

12.6 EPA Method 8082A

12.7 EPA Method 8270D

12.8 MA EPH, May 2004, Rev 1.1

12.9 EAI QA/QC manual, 2010

12.10 TNI Standards, 2009

12.11 NELAC Standards, 2003