



SUBSURFACE INVESTIGATION REPORT

VTRANS NORTHFIELD BRIDGE REPLACEMENT PROJECT

Route 12/Main Street
Northfield, Vermont

PREPARED FOR:

Christopher D. Baker, P.E.
Hardesty & Hanover
6 Bedford Farms Drive, Suite 111
Bedford, NH 03110

PREPARED BY:

Atlas Technical Consultants LLC
51 Knight Lane
Williston, VT 05495

November 1, 2021



51 Knight Lane
Williston, VT 05495
(802) 862-1980 | oneatlas.com

November 1, 2021

CHRISTOPHER D. BAKER, P.E.
HARDESTY & HANOVER
6 BEDFORD FARMS DRIVE, SUITE 111
BEDFORD, NH 03110

**Subject: Subsurface Investigation Report
VTRANS Northfield Bridge Replacement Project
Route 12/Main Street
Northfield, Vermont**

Dear Mr. Baker,

Atlas Technical Consultants, LLC (formerly ATC Group Services, LLC) is pleased to provide Hardesty & Hanover this *Subsurface Investigation Report* for the VTRANS Northfield Bridge Replacement Project on Route 12/Main Street in Northfield, Vermont

If you have any questions, please call us at (802) 862-1980.

Respectfully submitted,
Atlas Technical Consultants LLC

Erik Urch
Senior Project Manager

Joseph J. Hayes, CPG, PG
Vermont Operations Manager

Attachment: Subsurface Investigation Report

Distribution: James Donaldson, VTDEC (following client authorization), Andy Shively, VTrans (following client authorization), Gary Laroche, VTrans (following client authorization)



TABLE OF CONTENTS

1. INTRODUCTION.....	2
2. CONCEPTUAL SITE MODEL.....	3
3. INVESTIGATIVE PROCEDURES AND RESULTS.....	3
3.1 Soil Borings & Soil Sampling	4
3.2 Monitoring Wells & Groundwater Sampling	7
3.3 Work Plan Deviations and Data Gaps	8
4. CONCLUSIONS & RECOMMENDATIONS	8
5. SIGNATURES & CERTIFICATION.....	9

FIGURES

Figure 1	Vicinity Map
Figure 2	Site Plan
Figure 3	Soil Contaminant Distribution Map

TABLES

Table 1	Soil Quality Results
Table 2	Groundwater Elevation Data
Table 3	Groundwater Quality Results

APPENDICES

Appendix A	Boring Logs/Well Construction Details
Appendix B	Soil Laboratory Analytical Report
Appendix C	Groundwater Laboratory Analytical Report
Appendix D	Field Notes



EXECUTIVE SUMMARY

On behalf of Hardesty & Hanover, Atlas Technical Consultants, LLC (Atlas) presents this report to document a subsurface investigation conducted in September/October 2021 in accordance with the approved work plan. Atlas oversaw the advancement of 10 soil borings, two of which were completed as monitoring wells, and the field-screening, sampling and analyses of soil and groundwater. Based on the results of the investigation, Atlas concludes the following:

- Soil quality results indicate two areas (Areas B and G) that will require management of shallow soils due to polycyclic aromatic hydrocarbon (PAH) exceedances of Vermont Soil Standards (VSS) and two areas (Areas D and F) that will require management of petroleum contaminated soils (PCS) during the construction project.
- Groundwater quality results indicate that naphthalene exceeded Vermont Groundwater Enforcement Standards (VGES) in B-104MW which may result in dewatering permitting and treatment during the construction project.
- The soil and groundwater exceedances outlined above constitute a release in accordance with the Vermont Department of Environmental Conservation (VTDEC) Investigation and Remediation of Contaminated Properties Rule (IRule, July 2019); as such, the owner is obligated to report the release to VTDEC.

Based on these conclusions, Atlas recommends the following:

1. Submit this report to James Donaldson at VTDEC.
2. Generate a Soil & Groundwater Management Plan in accordance with Task 4 of the approved Work Plan.



1. INTRODUCTION

Atlas Technical Consultants, LLC (formerly ATC Group Services, LLC) on behalf Hardesty & Hanover (Client), presents this Subsurface Investigation Report for the VTRANS Northfield Bridge Replacement Project on Route 12/Main Street in Northfield, Vermont (Site). This work was performed in accordance with ATC's Revised Work Plan/Cost Estimate (WPCE) dated June 9, 2021. The objective of the work was to evaluate soil and groundwater quality in areas that are proposed to be disturbed during the upcoming bridge project with the understanding that the Site is adjacent to existing and closed Vermont Department of Environmental Conservation (VTDEC)-listed hazardous sites. These data will be utilized to inform a Soil and Groundwater Management Plan (SGMP) for the construction project which will be submitted under separate cover. Refer to **Figure 1** for a Vicinity Map and **Figure 2** for a Site Plan.

2. CONCEPTUAL SITE MODEL

The Site includes a Town owned bridge (Bridge 60) and roadway approaches that require rehabilitation due to existing deficiencies in deck, superstructure and substructures. Based on the preliminary geotechnical report, soils include "sand, gravel, silt and rubbish" and site geology is mapped as postglacial fluvial alluvium underlain by phyllite and metasilstone from the Cram Hill Formation. The preliminary geotechnical report also indicates that no water wells are located within an approximate 500-foot radius of the Site and that the closest well is located approximately 616 feet northeast of the Site. Bedrock is generally encountered at 20-35 feet below ground surface (fbgs) and groundwater is encountered at 18-19 fbgs at the Site.

Based on the Agency of Natural Resources (ANR) Natural Resource Atlas (NRA), the Site is located within an Urban Soils Background Area (USBA), which indicates polycyclic aromatic hydrocarbons (PAHs), arsenic and lead may have impacted the Site from urban fills and/or atmospheric deposition of incomplete combustion, commonly in shallow soils (0-1.5 fbgs). Two active hazardous sites are also located immediately adjacent to the Site to the northwest (Northfield Gulf Station, #2011-4199) and to the southwest (Merchants Bank, #96-2020), both with documented petroleum releases from underground storage tanks (USTs). This indicates volatile organic compounds (VOCs) may have impacted the Site, commonly in deeper soils that straddle the water table, although shallow soils can also be impacted by petroleum from subsurface infrastructure and/or surface spills. Other contaminants that are common to urban settings with historic commercial and industrial operations include polychlorinated biphenyls (PCBs) and metals. It should be noted the contaminants of concern (COC) outlined above were derived based on review of the project documents and other readily available resources (i.e. NRA) without completing a Phase I Environmental Site Assessment (ESA) which would provide a more comprehensive analysis of potential environmental concerns and COCs.

Sensitive receptors at the Site include soil, soil vapor, groundwater and underground utilities. Exposure risks are expected to be low during operational conditions following construction as the Site will be covered with impervious surfaces. However, the risk is higher during construction as workers may come in contact with these materials. These risks will be addressed under separate cover via proper adherence to the site specific health and safety plan (HASp). The Site does not/will not contain any occupied structures (buildings, etc.) and therefore exposure to soil vapors via the vapor intrusion pathway is not applicable for this project.

3. INVESTIGATIVE PROCEDURES AND RESULTS

Atlas completed a subsurface investigation in accordance with the VTDEC approved work plan.



The following sections outline investigative procedures and results.

3.1 Soil Borings & Soil Sampling

From September 20-28, 2021, Atlas oversaw the advancement of 10 soil borings in tandem with a geotechnical evaluation conducted by Hardesty & Hanover, including H-101, H-102, H-103, H-104, B-101, B-102, B-103, B-104, B-105, and B-106. The H-series borings included locations sited for geotechnical evaluation and soil characterization while the B-series borings included locations sited for soil characterization only. The boring locations were selected by Hardesty & Hanover and were advanced utilizing solid stem augers and mud rotary drilling methodologies with split spoon sampling by New England Boring Contractors (NEBC) of Derry, NH. Refer to **Figure 2** for the drilling locations and **Appendix A** for the boring logs.

During advancement, subsurface soils were logged and field-screened for total organic vapors (TOVs) utilizing a photoionization detector (PID) equipped with a 10.6 eV lamp. Any visual or olfactory indications of contamination (staining, odors) were also noted. Bedrock coring was also conducted in some of the borings which is outside the scope of this investigation. A summary of screening results is provided below:

- Soils generally consisted of sand and gravel fill materials with varying amounts of silt, bricks, wood and other debris over native silty fine sands over bedrock.
- All PID readings were generally background (up to 0.0 parts per million volume or ppmv) with the following exceptions:
 - B-102: up to 4.2 ppmv at 10-12 feet below ground surface (fbgs)
 - B-103: up to 3.2 ppmv at 7-8 fbgs
 - B-105: up to 0.6 ppmv at 22-24 fbgs
 - H-102: up to 0.8 ppmv at 20-22 fbgs
 - H-103: up to 4.9 ppmv at 14 fbgs

All readings over 1 ppmv exceed the action limit for thinspreading in accordance with IRule, which is a guidance level in lieu of a soil standard for PID readings, and since petroleum compounds were detected in soils (discussed later), the 1 ppmv value is utilized for defining soils as petroleum contaminated soils (PCS) at the Site, which is discussed later.

- No odors or staining was observed in any of the soils with the exception of petroleum odors observed in B-102 from 6 to 11 fbgs.

One soil sample was collected from each boring generally between 0 and 4 fbgs to evaluate shallow soil conditions (A-series samples). The actual profile was dependent on soil recovery from the split spoons which was often limited due to coarse grained fill materials. A second soil sample was collected from each boring at a deeper depth interval (B-series samples) that exhibited the highest PID response. In cases where all PID readings were background, the deeper sample was collected at the soil/groundwater interface or the bottom of the boring, whichever came first.

The soil samples were stored on ice and submitted to SGS Accutest of Dayton, NJ (SGS) under chain of custody. The shallow samples were analyzed for PAHs by EPA Method 8270 and 8 RCRA Metals by EPA Methods 6010/7471 and the deeper samples were analyzed for VOCs by

EPA Method 8260, PAHs by EPA Method 8270, PCBs by EPA Method 8082 w/soxhlet extraction, and 8 RCRA Metals by EPA Methods 6010/7471. Two duplicate samples were collected from one shallow sample (H-104-A) and one deeper sample (H-104-B) for quality assurance/quality control (QA/QC) purposes.

Refer to **Appendix B** for laboratory analytical reports and **Tables 1, 2, 3, and 4** which compare the results to Vermont Soil Standards for Resident (VSS-R) and Non-Resident (VSS-NR) Uses and Urban Background (UB, where appropriate) for PAHs, metals, PCBs and VOCs, respectively. A summary of the results is provided below:

- PAHs¹ were detected in all samples except H-102-B, B-103-B, B-104-A, B-104-B, B-105-B and B-106-B; all samples with detectable concentrations were below the applicable UB standard (580 µg/kg) with the following exceptions:
 - H-101-A (0.5-1.5') which had a concentration of 1,713 µg/kg exceeding VSS-NR (1,540 µg/kg),
 - H-104-A (0.5-4') which had a concentration of 2,076 µg/kg exceeding VSS-NR (1,540 µg/kg),
 - B-102-B (8-11') which had a concentration of 1,093 µg/kg exceeding UB (580 µg/kg),
 - B-103-A (1-3') which had a concentration of 765 µg/kg exceeding UB (580 µg/kg), and
 - B-105-A (0.5-2') which had a concentration of 4,262 µg/kg exceeding VSS-NR (1,540 µg/kg).

All of these PAHs exceedances are consistent with the CSM of elevated PAHs in shallow soils from urban fills and/or historic atmospheric deposition with the exception of B-102-B, which was detected in deeper soils and is an outlier. Coupling this data with field-screening results, these PAHs are likely related to petroleum contamination.

- Metals were detected above method detection limits (MDLs) in all soil samples; however no concentrations were detected above VSS-R.
- No PCBs were detected above MDLs in any of the soil samples analyzed for PCBs.
- Several VOCs were detected in all samples analyzed for VOCs; however, no detections exceeded VSS-R.

The project team indicated that the total proposed excavation volume was estimated at 6,600 cubic yards (CY) and that 2/3 of this volume would likely be repurposed as backfill for the project (4,400 CY). This leaves a balance of 2,200 CY that may require offsite disposal. Disposal facilities typically require one sample per 200 CY for representative waste characterization sampling. As such, 11 soil samples would be required for full waste characterization for facility acceptance. Therefore, Atlas collected two composite samples from one of the borings (H-104) and one composite sample from the remaining nine borings for a total of 11 composite soil samples to

¹ Normalized to benzo(a)pyrene (BaP) using toxicity equivalent quotient (TEQ) in accordance with IRule.

meet the waste characterization sampling requirement for facility acceptance (C-series samples). The entire boring profile was composited for the waste characterization sample analyses. The samples were stored on ice and submitted to SGS under chain of custody. Refer to **Appendix B** for the laboratory analytical reports. These results will be included as needed with the waste profile required for facility acceptance, which will be completed under separate cover.

3.2 Soil Management Considerations

Based on the data outlined in Section 3.1, soils within the proposed excavation areas were categorized for future soil management during the construction project. Refer to **Figure 3** for the soil classification areas which including the following:

- Area A (~550 SF) is unregulated (green polygon) so there is no restricted use for these soils.
- Area B (~1,300 square feet or SF) includes soils that contain PAHs above VSS-NR in shallow soils (red polygon). Assuming a conservative vertical profile of 0-5 fbgs to represent these sampling results, this equates to approximately 240 cubic yards (CY) of soil volume. Any soils within this volume slated for excavation should be removed for offsite disposal at a landfill or recycling facility and any soils within this volume that remain or are repurposed somewhere else within a regulated soil volume² should be covered with geotextile or other indicator fabric and at least six inches of clean fill/road materials.
- Area C (~1,300 SF) is unregulated (green polygon) so there is no restricted use for these soils.
- Area D (~630 SF) includes soils that contain PCS (purple polygon) and PAHs above UB (likely related to PCS) within the 5-12 fbgs profile³, which equates to an approximate soil volume of 165 CY. In lieu of removing this entire soil volume for offsite disposal or treatment, soil screening by an environmental professional should be conducted during construction utilizing a PID during the excavations to segregate PCS (>1 ppmv and/or visual/olfactory indications of contamination) from non-PCS in an attempt to reduce disposal/treatment volumes.
- Area E (~1,750 SF) includes soils that contain both PAHs above UB within an assumed vertical profile of 0-5 fbgs and PCS within the 5-12 fbgs profile (hatched purple and orange polygon). This equates to approximately 325 CY of PAH soil volume and 450 CY of PCS soil volume. Any soils within the PAH soil volume (0-5 fbgs) slated for excavation should be removed for offsite disposal at a landfill or recycling facility and any soils within this volume that remain or are repurposed within this volume should be covered with geotextile or other indicator fabric and at least six inches of clean fill/road materials. Soil segregation should be considered for the PCS soil volume (5-12 fbgs) in the same fashion as Area D above.

² Any contaminated soils that are repurposed must remain in Areas B or H above the seasonal high water table; additional requirements such as leachability tests may also be required, details of will be provided in the SGMP following consultation with VTDEC.

³ This profile is based on PID readings outlined in the boring logs.

- Area F (430 SF) is unregulated (green polygon) so there is no restricted use for these soils.
- Area G (~1,050 SF) includes soils that contain PCS (purple polygon) within the 12-15 fbgs profile, which equates to an approximately volume of 120 CY. Soil segregation should be considered for this area in the same fashion as Area D above.
- Area H (~2,300 SF) includes soils that contain PAHs above VSS-NR in shallow soils (red polygon). Assuming a conservative vertical profile of 0-5 fbgs to represent these sampling results, this equates to approximately 430 CY of soil volume. Any soils within this volume slated for excavation should be removed for offsite disposal at a landfill or recycling facility and any soils within this volume that remain or are repurposed somewhere else within the a regulated soil volume should be covered with geotextile or other indicator fabric and at least six inches of clean fill/road materials.
- Area I (~500 SF) is unregulated (green polygon) so there is no restricted use for these soils.

3.3 Monitoring Wells & Groundwater Sampling

On September 24 and 28, 2021, soil borings B-101 and B-104 were completed as groundwater monitoring wells B-101MW and B-104MW, one well on each side of the river. The wells were installed atop the bedrock surface constructed with 2-inch polyvinyl chloride (PVC) materials with 10-foot long 0.010-inch factory slotted screen sections set to span the water table and surrounded by sand pack. A two-foot thick bentonite seal was placed above the sandpack and the remaining annulus was backfilled with a combination of drilling spoils and sand. The wells were completed flush to grade with protective roadboxes and developed until clear with a peristaltic pump. Development water was deposited on the ground adjacent to the well since non-aqueous phase liquid (NAPL) was not observed. Atlas understands the wells will be surveyed by others under separate cover. Refer to **Appendix A** for the well construction details.

On October 5, 2021, Atlas sampled the monitoring wells for groundwater quality in accordance with USEPA low flow sampling methodology. The samples were stored on ice and transported to SGS under chain of custody for analyses of VOCs by EPA Method 8260 and Total 8-RCRA Metals by EPA Methods 6010/7471. A trip blank and duplicate (B-104MW) were also collected for QA/QC purposes. Purge water was deposited on the ground surface adjacent to each well since no NAPL was observed in any purge water. The analytical data was compared to Vermont Groundwater Enforcement Standards (VGES) in **Table 3** (detected analytes) and the laboratory report is provided in **Appendix C**. A brief summary of the results is provided below:

- No VOCs were detected above method detection limits (MDLs) in the trip blank.
- Relative percent differences (RPDs) ranged from 0 to 16% in the duplicate sample (B-104MW) which is within the EPA-recommended RPD of 30% for aqueous samples.
- No VOCs or metals were detected above method detection limits (MDLs) in MW-101MW.



- Several VOCs and arsenic were detected above MDLs in B-104MW; however, only naphthalene (8.7 µg/l) exceeded VGES (0.5 µg/l)⁴.

These results indicate a slight impact to groundwater at the Site, which may be related to the offsite Northfield Gulf Station, #2011-4199. Any construction dewatering in this area may require treatment prior to discharge in accordance with permitting requirements.

Refer to **Appendix D** for field notes.

3.4 Work Plan Deviations and Data Gaps

There were no work plan deviations or data gaps.

4. CONCLUSIONS & RECOMMENDATIONS

On behalf of Hardesty & Hanover, Atlas presents this report to document a subsurface investigation conducted in September/October 2021 in accordance with the approved work plan. Atlas oversaw the advancement of 10 soil borings, two of which were completed as monitoring wells, and the field-screening, sampling and analyses of soil and groundwater. Based on the results of the investigation, Atlas concludes the following:

- Soil quality results indicate two areas (Areas B and G) that will require management of shallow soils due to PAH exceedances and two areas (Areas D and F) that will require management of PCS during the construction project.
- Groundwater quality results indicate that naphthalene exceeded VGES in B-104MW which may result in dewatering permitting and treatment during the construction project.
- The soil and groundwater exceedances outlined above constitute a release in accordance with IRule; as such, the owner is obligated to report the release to VTDEC.

Based on these conclusions, Atlas recommends the following:

1. Submit this report to James Donaldson at VTDEC.
2. Generate a Soil & Groundwater Management Plan in accordance with Task 4 of the approved Work Plan.

⁴ The MDL for naphthalene in B-101MW (2.5 µg/l) also exceeded VGES, which is considered an exceedance in accordance with IRule.



5. SIGNATURES & CERTIFICATION

This report has been prepared by the employees of Atlas Technical Consultants, LLC whose signatures appear below. Requests for information on the contents of this report should be directed to these individuals.

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

Prepared by:

A handwritten signature in black ink, appearing to read "Erik Urch". The signature is stylized with a large, sweeping initial "E" and "U".

Erik Urch
Senior Project Manager

A handwritten signature in black ink, appearing to read "Joseph J. Hayes". The signature is written in a cursive style with a large, flowing initial "J".

Joseph J. Hayes, CPG, PG
Vermont Operations Manager

FIGURES





LEGEND

- Rare Threatened Endangered
 - Threatened or Endangered
 - Rare
- Hazardous Site
- Hazardous Waste Generators
- Brownfields
- Salvage Yard
- Aboveground Storage Tank
- Underground Storage Tank (w/)
- Dry Cleaner
- Private Wells
 - Incorrectly Located
 - GPS Located
 - Screen Digitized
 - E911 Address Matched
 - Welldriller/Clarion
 - Unknown Location Method
- Ground Water SPA
 - Active
 - Proposed
 - Inactive
- Parcels (standardized)
- Roads
 - Interstate
 - US Highway; 1
 - State Highway
 - Town Highway (Class 1)
 - Town Highway (Class 2)

1: 3,504
April 15, 2021

178.0 0 89.00 178.0 Meters
 WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 292 Ft. 1cm = 35 Meters
 © Vermont Agency of Natural Resources THIS MAP IS NOT TO BE USED FOR NAVIGATION

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

NOTES

VTRANS Northfield Bridge Replacement Project

SOIL CLASSIFICATION

AASHTO

- A1 Gravel and Sand
- A3 Fine Sand
- A2 Silty or Clayey Gravel and Sand
- A4 Silty Soil - Low Compressibility
- A5 Silty Soil - Highly Compressible
- A6 Clayey Soil - Low Compressibility
- A7 Clayey Soil - Highly Compressible

ROCK QUALITY DESIGNATION

R.Q.D. (%)	ROCK DESCRIPTION
<25	Very Poor
25 to 50	Poor
51 to 75	Fair
76 to 90	Good
>90	Excellent

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

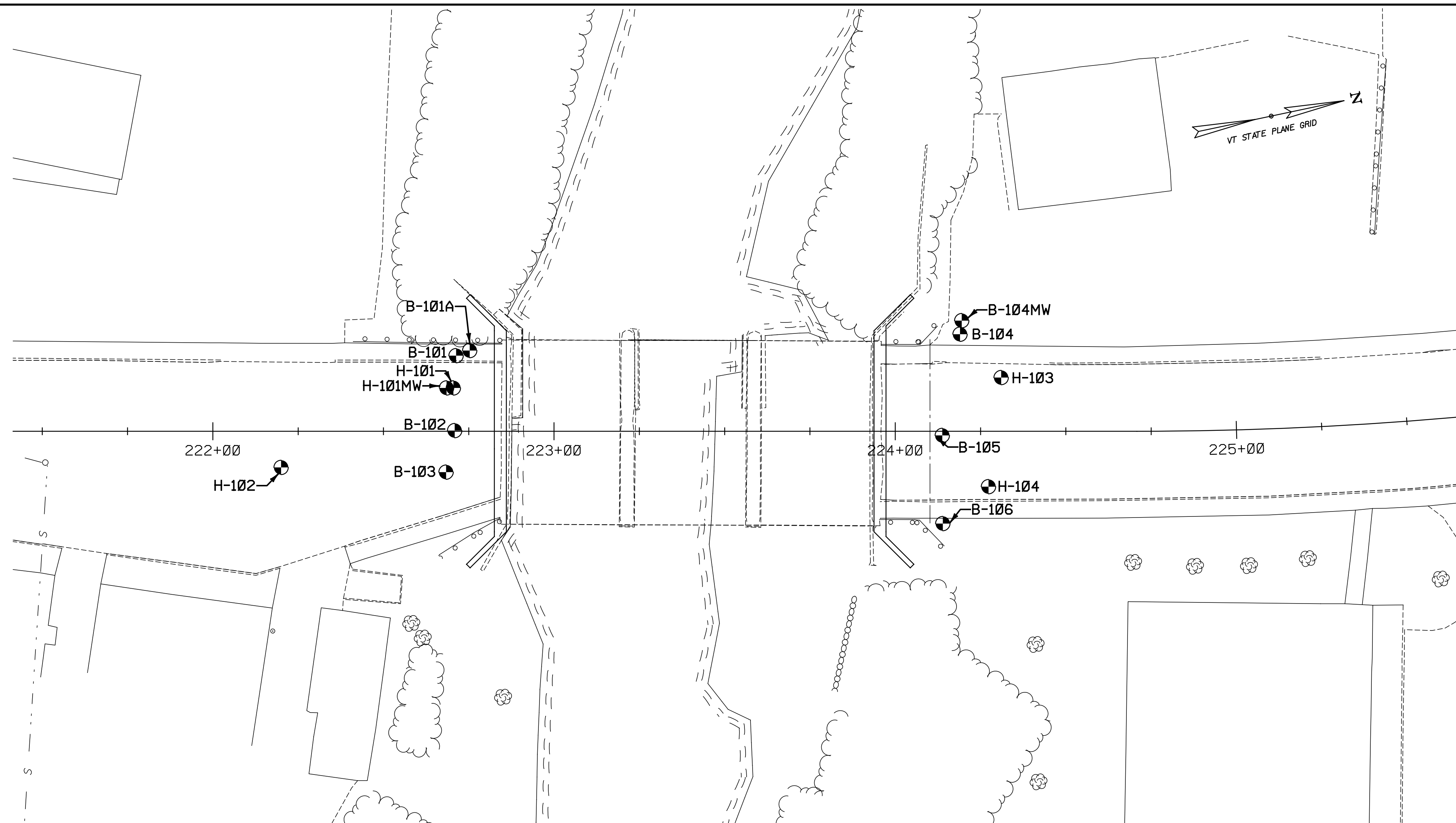
DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COMMONLY USED SYMBOLS

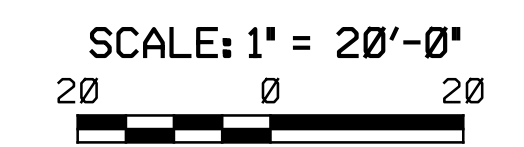
- ▼ Water Elevation
- ⊕ Standard Penetration Boring
- ⊕ Auger Boring
- ⊕ Rod Sounding
- ⊕ Sample
- N Standard Penetration Test
 - Blow Count Per Foot For:
 - 2" O. D. Sampler
 - 1 3/8" I. D. Sampler
 - Hammer Weight Of 140 Lbs.
 - Hammer Fall Of 30"
- VS Field Vane Shear Test
- US Undisturbed Soil Sample
- B Blast
- DC Diamond Core
- MD Mud Drill
- WA Wash Ahead
- HSA Hollow Stem Auger
 - AX Core Size 1 1/8"
 - BX Core Size 1 5/8"
 - NX Core Size 2 1/8"
- M Double Tube Core Barrel Used
- LL Liquid Limit
- PL Plastic Limit
- PI Plasticity Index
- NP Non Plastic
- w Moisture Content (Dry Wgt. Basis)
 - D Dry
 - M Moist
 - MTW Moist To Wet
 - W Wet
- Sat Saturated
- Bo Boulder
- Gr Gravel
- Sa Sand
- Si Silt
- Cl Clay
- HP Hardpan
- Le Ledge
- NLTD No Ledge To Depth
- CNPF Can Not Penetrate Further
- TLOB Top of Ledge Or Boulder
- NR No Recovery
- Rec. Recovery
- %Rec. Percent Recovery
- RQD Rock Quality Designation
- CBR California Bearing Ratio
- < Less Than
- > Greater Than
- R Refusal (N > 100)
- VTSPG NAD83 - See Note 7

COLOR

blk	Black	pnk	Pink
bl	Blue	pu	Purple
brn	Brown	rd	Red
dk	Dark	tn	Tan
gry	Gray	wh	White
gn	Green	yel	Yellow
lt	Light	mltc	Multicolored
or	Orange		



BORING LAYOUT PLAN



BORING CHART

HOLE NO.	NORTHING	EASTING	STATION	OFFSET
B-101	601218.43	1599459.36	222+71.29	22.2' LT
B-101A	601222.65	1599458.73	222+75.29	23.7' LT
B-102	601213.45	1599480.83	222+70.87	0.2' LT
B-103	601208.44	1599492.27	222+68.35	12.0' RT
B-104	601364.21	1599483.86	224+18.98	28.5' LT
B-104MW	601365.53	1599480.06	224+19.48	32.5' LT
B-105	601352.94	1599511.91	224+13.78	1.2' RT
B-106	601347.71	1599537.30	224+13.93	27.2' RT
H-101	601215.68	1599468.47	222+70.49	12.8' LT
H-101MW	601213.73	1599468.06	222+68.49	12.8' LT
H-102	601161.44	1599480.88	222+20.01	10.6' RT
H-103	601373.36	1599498.83	224+31.03	15.8' LT
H-104	601363.07	1599529.46	224+27.33	16.3' RT

DEFINITIONS (AASHTO)

- BEDROCK (LEDGE)** - Rock in its native location of indefinite thickness.
- BOULDER** - A rock fragment with an average dimension > 12 inches.
- COBBLE** - Rock fragments with an average dimension between 3 and 12 inches.
- GRAVEL** - Rounded particles of rock < 3" and > 0.075" (#10 sieve).
- SAND** - Particles of rock < 0.075" (#10 sieve) and > 0.0029" (#200 sieve).
- SLT** - Soil < 0.0029" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.
- CLAY** - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.
- VARVED** - Alternate layers of silt and clay.
- HARDPAN** - Extremely dense soil, cemented layer, not softened when wet.
- MUCK** - Soft organic soil (containing > 10% organic material).
- MOISTURE CONTENT** - Weight of water divided by dry weight of soil.
- FLOWING SAND** - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.
- STRIKE** - Angle from magnetic north to line of intersection of bed with a horizontal plane.
- DIP** - Inclination of bed with a horizontal plane.

GENERAL NOTES

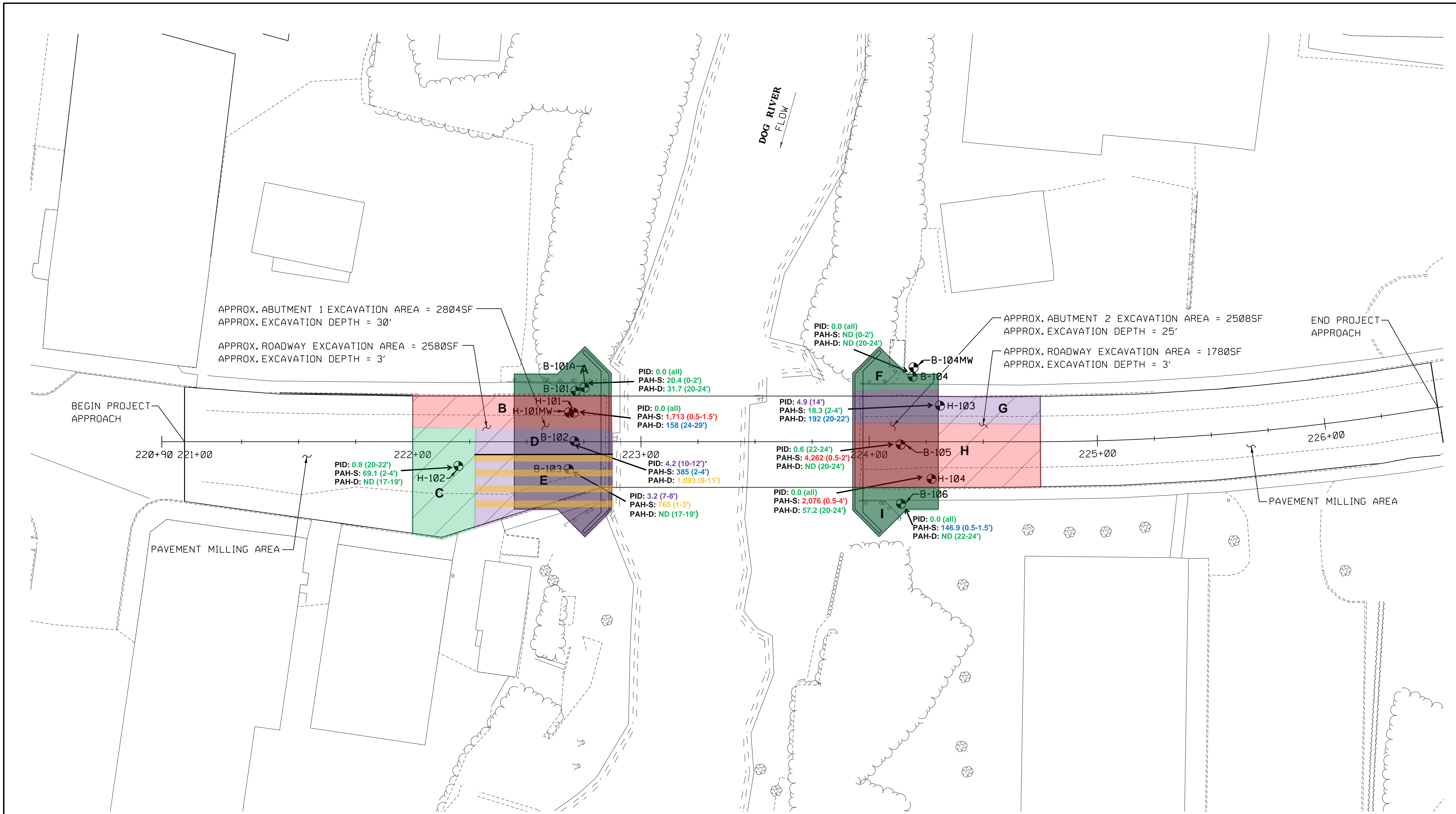
- The subsurface explorations shown herein were made between 9/20/2021 and 9/28/2021 by New England Boring Contractors.
- Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
- Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
- Engineering judgment was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgment by the Contractor.
- Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
- Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.
- Northing and Easting coordinates are shown in Vermont State Plane Grid North American Datum 1983 in meters and survey feet.

FIGURE 2



PROJECT NAME: NORTHFIELD
 PROJECT NUMBER: BF 0241(58)
 FILE NAME: z19j223bor.dgn
 PROJECT LEADER: C. BAKER
 DESIGNED BY: S. BROWN
 BORING LAYOUT SHEET

PLOT DATE: 10/25/2021
 DRAWN BY: S. BROWN
 CHECKED BY: K. SMITH
 SHEET 10 OF 31



LEGEND:
 PID = peak photoionization detector reading with screening depth
 PAH-S = polycyclic aromatic hydrocarbon (BaP TEQ, ug/kg) in shallow soils with sample depth
 PAH-D = PAH (BaP TEQ, ug/kg) in deeper soils with sample depth
 Green results are below Vermont Soil Standards for Resident Soils (VSS-R, 70 ug/kg) or <1 ppmv by PID
 Blue results are above VSS-R (70 ug/kg)
 Orange results are above urban background (UB, 580 ug/kg)
 Red results are above VSS-Non Resident Soils (VSS-NR, 1,540 ug/kg)
 Purple results are above thinspreading criteria for petroleum contaminated soils (PCS, >1 ppmv by PID)
 *indicates petroleum odor
 A = soil classification areas

**FIGURE 3:
 SOIL CONTAMINANT DISTRIBUTION MAP**

This figure and contaminant data prepared by Atlas on 10/29/21



PROJECT NAME: NORTHFIELD
 PROJECT NUMBER: BF 0241(58)
 FILE NAME: z19j223bor.dgn
 PROJECT LEADER: C. BAKER
 DESIGNED BY: S. BROWN
 PROPOSED EXCAVATION SHEET

PLOT DATE: 10/29/2021
 DRAWN BY: S. BROWN
 CHECKED BY: C. BAKER
 SHEET 1 OF 1

TABLES



TABLE 1
SOIL QUALITY RESULTS - POLYCYCLIC AROMATIC HYDROCARBONS
VTRANS NORTHFIELD BRIDGE REPLACEMENT PROJECT

Compound	BaP TEQ	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene (BaP)	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene		
VSS Resident	70	NS	NS	NS	NS	TEQ	NS	NS	NS	NS	NS	2,301,000	2,301,000	NS	2,700	NS	NS		
Urban Background	580	NS	NS	NS	NS	TEQ	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
VSS Non-Resident	1,540	NS	NS	NS	NS	TEQ	NS	NS	NS	NS	NS	26,371,000	26,371,000	NS	16,000	NS	NS		
BaP TEF	--	--	--	--	0.1	1	0.1	--	0.01	0.01	1	--	--	0.1	--	--	--		
Sample ID:	Sample Depth (fbgs):	Sample Date:																	
H-101-A	0.5-1.5	09/21/21	1,713	62.2 J	577	671	1,520	1,110	1,430	722	660	1,410	196	3,770	362	910	47.3 J	3,450	3,290
H-101-B	24-29	09/21/21	158	ND<14	35.9 J	35.9 J	119	112	148	70.6	56.0	140	ND<19	232	ND<19	82.0	17.4 J	125	259
H-102-A	2-4	09/22/21	69.1	ND<12	ND<18	ND<22	49.4	40.3	49.0	22.2 J	22.1 J	45.8	ND<16	92.8	ND<16	23.2 J	ND<10	76.3	95.7
H-102-B	17-19	09/22/21	ND<19	ND<13	ND<19	ND<23	ND<11	ND<17	ND<17	ND<19	ND<18	ND<12	ND<17	ND<17	ND<18	ND<11	ND<13	ND<12	
H-103-A	2-4	09/27/21	18.3	ND<12	ND<17	ND<21	11.6 J	ND<16	ND<15	ND<19	ND<16	ND<11	ND<15	ND<16	ND<16	ND<9.7	ND<12	ND<11	
H-103-B	20-22	09/27/21	192	ND<17	ND<26	54.8	167	137	164	74.6	70.9	175	ND<22	366	27.8 J	87.3	31.8 J	244	331
H-104-A	0.5-4	09/20/21	2,076	149	825	1,280	1,940	1,330	1,690	852	745	1,760	250	5,840	760	1,080	1,930	7,810	4,680
		DUP-A	3,195	275	1,490	2,190	2,980	2,030	2,620	1,290	975	2,580	401	9,860	1,280	1,680	3,100	13,400	6,040
H-104-B	20-24	09/20/21	57.2	ND<13	ND<20	27.9 J	52.8	35.4 J	47.8	19.7 J	19.4 J	46.8	ND<17	135	ND<18	25.3 J	50.1	163	113
		DUP-B	219	ND<16	59.7	113	215	143	199	81.1	76.3	194	21.7 J	554	63.9	104	88.2	590	487
		RPD	--	59%	57%	52%	42%	43%	41%	27%	38%	46%	51%	51%	43%	47%	53%	25%	
		RPD	--	--	--	121%	121%	121%	123%	122%	119%	122%	24%	122%	112%	122%	55%	113%	125%
B-101-A	0-2	09/28/21	20.4	ND<12	ND<18	ND<22	18.0 J	ND<16	16.2 J	ND<18	ND<16	14.2 J	ND<16	30.9 J	ND<16	ND<16	ND<9.9	12.3 J	29.9 J
B-101-B	20-24	09/28/21	31.7	ND<20	ND<30	ND<36	22.7 J	ND<27	ND<26	ND<29	ND<27	ND<19	ND<26	34.7 J	ND<27	ND<28	ND<17	ND<20	29.6 J
B-102-A	2-4	09/22/21	385	ND<13	93.0	34.7 J	198	264	320	168	141	200	45.2	212	ND<17	204	21.0 J	73.4	284
B-102-B	8-11	09/22/21	1,093	194	266	248	648	750	794	522	313	644	132	767	224	573	373	919	1,160
B-103-A	1-3	09/21/21	765	38.5	226	210	459	520	641	356	277	511	86.1	643	57.9	414	275	681	745
B-103-B	17-19	09/21/21	ND<23	ND<16	ND<23	ND<28	ND<13	ND<21	ND<20	ND<23	ND<22	ND<15	ND<20	ND<21	ND<21	ND<22	ND<13	ND<15	ND<15
B-104-A	0-2	09/24/21	ND<17	ND<12	ND<17	ND<21	ND<9.5	ND<15	ND<15	ND<17	ND<16	ND<11	ND<15	ND<15	ND<15	ND<16	ND<9.5	ND<11	ND<11
B-104-B	20-24	09/24/21	ND<25	ND<17	ND<25	ND<30	ND<14	ND<22	ND<21	ND<24	ND<16	ND<15	ND<21	ND<22	ND<22	ND<23	54.3	37.9 J	21.3 J
B-105-A	0.5-2	09/23/21	4,262	250	1,770	2,460	3,950	2,710	3,500	1,710	1,370	3,490	529	11,500	1,300	2,290	1,240	12,200	9,120
B-105-B	20-24	09/23/21	ND<18	ND<12	ND<18	ND<22	ND<10	ND<16	ND<16	ND<18	ND<17	ND<11	ND<16	ND<16	ND<17	ND<17	ND<10	ND<12	ND<12
B-106-A	0.5-1.5	09/20/21	146.9	ND<12	32.0 J	ND<21	88.2	96.8	117	72.4	52.2	90.7	19.7 J	129	ND<16.0	84.3	ND<9.8	29.4 J	147
B-106-B	20-24	09/20/21	ND<22	ND<15	ND<22	ND<27	ND<12	ND<20	ND<19	ND<22	ND<20	ND<14	ND<19	ND<19	ND<20	ND<20	ND<12	ND<15	ND<14

NOTES:

All results provided in micrograms per kilogram (µg/kg) or parts per billion (ppb), analyzed by EPA Method 8270

Bold values indicate detections

NE = not encountered

VSS = Vermont Soil Standards (IRULE, July 2019)

TEF = Toxicity Equivalency Factor, TEQ = Toxicity Equivalency Quotient

BaP TEQ values were calculated from select PAH analytical concentrations as shown multiplied by the corresponding TEF and summed

TEF compounds that are non-detect were estimated based on half of the provided laboratory limit

BaP TEQ values are compared to VSS for Resident Soils, Non-Resident Soils and Urban Background Values

Green shaded values are below Resident Values

Blue shaded values indicate exceedance of Resident Values

Orange shaded values indicate exceedance of Urban Background Values

Red shaded values indicate exceedance of Non-Resident Values

ND = not detected above stated method detection limit (MDL)

NS = no standard available

NA = not analyzed

J = estimated value below laboratory reporting limit (RL)

fbgs = feet below ground surface

RPD = relative percent difference

**TABLE 2
SOIL QUALITY RESULTS - METALS
VTRANS NORTHFIELD BRIDGE REPLACEMENT PROJECT**

			Analyste	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
			VSS Resident	16	11,247	6.9	40,223	400	3.1	366	237
			VSS Non-Resident	16	127,382	87	360,223	800	3.1	4,900	2,483
Sample ID:	Depth (fbgs):	Date:									
H-101-A	0.5-1.5	09/21/21	7.8	29.9	ND<0.53	37.9	12.7	ND<0.034	ND<2.1	0.65	
H-101-B	24-29	09/21/21	8.0	ND<16	ND<0.82	16.7	10.9	0.072	ND<3.3	0.82	
H-102-A	2-4	09/22/21	11.6	23.2	ND<1.1	13.9	36.5	0.14	ND<4.5	ND<1.1	
H-102-B	17-19	09/22/21	6.5	ND<15	ND<0.38	36.2	12.6	ND<0.017	ND<1.5	ND<0.38	
H-103-A	2-4	09/27/21	10.4	ND<21	ND<0.52	12.5	16.1	ND<0.035	ND<2.1	ND<0.52	
H-103-B	20-22	09/27/21	12.6	37.0	ND<0.78	19.0	35.4	0.25	ND<3.1	ND<0.78	
H-104-A	0.5-4	09/20/21	6.3	21.3	ND<0.53	16.7	88.6	ND<0.034	ND<2.1	0.98	
		DUP-A	8.3	23.5	ND<1.1	19.1	16.3	ND<0.031	ND<4.2	ND<1.1	
		RPD	27%	10%	70%	13%	138%	9%	67%	12%	
H-104-B	20-24	09/20/21	7.2	ND<16	ND<0.79	10.1	7.2	ND<0.015	ND<3.1	ND<0.79	
		DUP-B	5.9	ND<18	ND<0.44	26.5	8.5	ND<0.039	ND<0.18	ND<0.44	
		RPD	20%	--	--	90%	17%	--	--	--	
B-101-A	0-2	09/28/21	10	58.2	ND<0.54	22.7	10.6	ND<0.032	ND<2.2	ND<0.54	
B-101-B	20-24	09/28/21	5.7	ND<36	ND<0.89	15.4	8.9	ND<0.039	ND<3.6	ND<0.89	
B-102-A	2-4	09/22/21	5.9	35.7	ND<0.55	9.3	29.1	0.16	ND<2.2	ND<0.55	
B-102-B	8-11	09/22/21	5.5	27.8	ND<0.55	14.3	319	0.036	ND<2.2	ND<0.55	
B-103-A	1-3	09/21/21	10.1	47.2	1.7	18.4	44.4	0.056	ND<2.3	ND<0.58	
B-103-B	17-19	09/21/21	4.9	ND<27	ND<0.67	15.3	8.5	ND<0.041	ND<2.7	ND<0.67	
B-104-A	0-2	09/24/21	11.9	ND<22	ND<0.55	11.2	7.2	ND<0.027	ND<2.2	ND<0.55	
B-104-B	20-24	09/24/21	6.6	ND<29	ND<0.73	15.7	9.3	ND<0.046	ND<2.9	ND<0.73	
B-105-A	0.5-2	09/23/21	8.2	25.2	ND<0.5	13.2	13.6	ND<0.032	ND<2.0	0.61	
B-105-B	20-24	09/23/21	4.6	ND<22	ND<0.54	8.8	4.3	ND<0.016	ND<2.2	ND<0.54	
B-106-A	0.5-1.5	09/20/21	6.3	25.7	ND<0.53	19.4	18.0	ND<0.035	ND<2.1	0.61	
B-106-B	20-24	09/20/21	5.3	ND<17	ND<0.43	7.9	4.9	ND<0.041	ND<1.7	ND<0.43	

NOTES:

All results provided in milligrams per kilogram (mg/kg) or parts per million (ppm)

All samples analyzed by EPA Methods 6010/7470

Bold values indicate detections

VSS = Vermont Soil Standards (IRULE, July 2019)

Orange shaded values indicate exceedance of Resident Values

Red shaded values indicate exceedance of Non-Resident Values

ND = not detected above provided detection limit

fbgs = feet below ground surface

RPD = relative percent difference

Lead exceeds RCRA "Rule of 20" (100 mg/kg) in B-102-B

Chromium results assume Chromium III

**TABLE 3
SOIL QUALITY RESULTS - POLYCHLORINATED BIPHENYLS
VTRANS NORTHFIELD BRIDGE REPLACEMENT PROJECT**

			Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1258	Arochlor 1260	Arochlor 1268	Arochlor 1262	Total PCBs
Analyte												
VSS Resident			NS	NS	NS	NS	NS	NS	NS	NS	NS	114
VSS Non-Resident			NS	NS	NS	NS	NS	NS	NS	NS	NS	680
Sample ID:	Depth (fbgs):	Date:										
H-101-B	24-29	09/21/21	ND<28	ND<38	ND<39	ND<25	ND<54	ND<33	ND<26	ND<26	ND<40	ND
H-102-B	17-19	09/22/21	ND<26	ND<34	ND<35	ND<23	ND<50	ND<30	ND<24	ND<23	ND<36	ND
H-103-B	20-22	09/27/21	ND<37	ND<49	ND<51	ND<32	ND<71	ND<43	ND<34	ND<33	ND<52	ND
H-104-B	20-24	09/20/21	ND<31	ND<41	ND<42	ND<27	ND<59	ND<36	ND<28	ND<28	ND<43	ND
		DUP-B RPD	--	--	--	--	--	--	--	--	--	--
B-101-B	20-24	09/28/21	ND<40	ND<53	ND<54	ND<35	ND<76	ND<46	ND<36	ND<36	ND<55	ND
B-102-B	8-11	09/22/21	ND<22	ND<29	ND<29	ND<19	ND<41	ND<25	ND<20	ND<19	ND<30	ND
B-103-B	17-19	09/21/21	ND<28	ND<38	ND<39	ND<25	ND<54	ND<33	ND<26	ND<26	ND<40	ND
B-104-B	20-24	09/24/21	ND<27	ND<35	ND<36	ND<23	ND<51	ND<31	ND<24	ND<24	ND<37	ND
B-105-B	20-24	09/26/21	ND<22	ND<29	ND<30	ND<19	ND<41	ND<25	ND<20	ND<20	ND<30	ND
B-106-B	20-24	09/20/21	ND<29	ND<39	ND<40	ND<26	ND<56	ND<34	ND<27	ND<26	ND<41	ND

NOTES:

All results provided in micrograms per kilogram (µg/kg) or parts per billion (ppb)

All samples analyzed by EPA Method 8082 w/soxhlet extraction

Bold values indicate detections

VSS = Vermont Soil Standards (IRULE, July 2019)

Orange shaded values indicate exceedance of Resident Values

Red shaded values indicate exceedance of Non-Resident Values

ND = not detected above provided detection limit

fbgs = feet below ground surface

RPD = relative percent difference

**TABLE 4
SOIL QUALITY RESULTS - VOLATILE ORGANIC COMPOUNDS
VTRANS NORTHFIELD BRIDGE REPLACEMENT PROJECT**

			Acetone	2-Butanone (MEK)	Carbon Disulfide	Chloro form	Ethyl benzene	p-Isopropyl toluene	Naphthalene	Styrene	1,2,4-TMB	1,3,5-TMB	m,p-Xylene	o-Xylene	Xylenes, total
Analyte															
VSS Resident			40,609,000	16,952,000	608,000	NS	3,700	NS	2,700	NS	144,000	NS	NS	NS	252,000
VSS Non-Resident			100,028,000	26,991,000	662,000	NS	22,000	NS	16,000	NS	177,000	NS	NS	NS	257,000
Sample ID:	Depth (fbgs):	Date:													
H-101-B	24-29	09/21/21	44.2	ND<2.5	0.93 J	ND<0.53	ND<0.46	ND<0.41	ND<2.6	ND<0.41	ND<0.51	ND<0.44	ND<0.92	ND<0.47	ND<0.47
H-102-B	17-19	09/22/21	19.3	ND<2.6	ND<0.57	ND<0.55	ND<0.48	ND<0.42	ND<2.7	ND<0.43	ND<0.53	ND<0.46	ND<0.95	ND<0.49	ND<0.49
H-103-B	20-22	09/27/21	628	140	2.9 J	ND<0.82	ND<0.72	ND<0.63	ND<4.0	ND<0.64	ND<0.79	ND<0.68	ND<1.4	ND<0.73	ND<0.73
H-104-B	20-24	09/20/21	13.5	ND<2.3	2.3	ND<0.49	ND<0.43	ND<0.37	ND<2.4	ND<0.38	0.58 J	ND<0.41	ND<0.85	ND<0.43	ND<0.43
		DUP-B RPD	18.7 32%	ND<2.6	1.8 J 24%	ND<0.54	ND<0.48	ND<0.41	10.1	ND<0.42	0.80 J 32%	ND<0.45	ND<0.94	ND<0.48	ND<0.48
B-101-B	20-24	09/28/21	334	71.0	2.4 J	ND<0.99	ND<0.87	ND<0.76	ND<4.8	ND<0.77	ND<0.96	ND<0.82	ND<1.7	ND<0.88	ND<0.88
B-102-B	8-11	09/22/21	22.5	ND<2.1	0.60 J	ND<0.44	0.62 J	ND<0.34	156	0.40 J	4.4	2.0	1.2	2.5	3.7
B-103-B	17-19	09/21/21	69.4	17.5	0.80 J	ND<0.62	ND<0.55	ND<0.48	ND<3.0	ND<0.48	ND<0.60	ND<0.52	ND<1.1	ND<0.55	ND<0.55
B-104-B	20-24	09/24/21	153	29.5	1.8 J	ND<0.68	ND<0.60	ND<0.52	ND<3.3	ND<0.53	ND<0.66	ND<0.57	ND<1.2	ND<0.60	ND<0.60
B-105-B	20-24	09/26/21	10.5	ND<0.99	0.59 J	ND<0.21	ND<0.19	ND<0.16	ND<1.0	ND<0.16	ND<0.20	ND<0.18	0.40 J	ND<0.19	0.40 J
B-106-B	20-24	09/20/21	15.0	ND<2.6	0.95 J	4.9	ND<0.48	0.53 J	ND<2.6	ND<0.43	ND<0.53	ND<0.46	ND<0.95	ND<0.48	ND<0.48

NOTES:

All results provided in micrograms per kilogram (µg/kg) or parts per billion (ppb)

All samples analyzed by EPA Method 8260

Bold values indicate detections

VSS = Vermont Soil Standards (IRULE, July 2019)

Orange shaded values indicate exceedance of Resident Values

Red shaded values indicate exceedance of Non-Resident Values

ND = not detected above provided detection limit

fbgs = feet below ground surface

RPD = relative percent difference

**TABLE 5
GROUNDWATER QUALITY RESULTS
VTRANS NORTHFIELD BRIDGE REPLACEMENT PROJECT**

	Analyte:	Benzene	Isopropyl benzene	Naphthalene	Toluene	1,2,4-TMB	1,3,5-TMB	m,p-Xylene	Xylene (total)	Arsenic
	VGES:	5.0	NS	0.5	1,000	23		NS	10,000	10
Sample ID	Sample Date									
B-101 MW	10/05/21	ND<0.43	ND<0.65	<i>ND<2.5</i>	ND<0.53	ND<1.0	ND<1.0	ND<0.78	ND<0.59	ND<3.0
B-104 MW	10/05/21	0.56	1.3	8.7	0.57 J	29.4	6.5	62.5	62.5	4.4
QA/QC Samples										
DUP-2 (B-104 MW)	10/05/21	0.66	1.3	10.0	0.67 J	32.6	7.0	69.3	69.3	4.2
<i>RPD</i>	--	<i>16%</i>	<i>0%</i>	<i>14%</i>	<i>16%</i>	<i>10%</i>	<i>7%</i>	<i>10%</i>	<i>10%</i>	<i>5%</i>
Trip Blank	10/05/21	ND<0.43	ND<0.65	ND<2.5	ND<0.53	ND<1.0	ND<1.0	ND<0.78	ND<0.59	--

NOTES:

All samples analyzed by SGS Accutest of Dayton, NJ via EPA Method 8260 (VOCs) and EPA Method 6010 (Metals)

Results provided in micrograms per liter (µg/l)

ND<# = not detected at or above method detection limit (MDL), specified.

VGES = Vermont Groundwater Enforcement Standards, updated July 2019

RPD = relative percent difference

Red shaded values exceed VGES or 30% RPD

Italicized ND value indicates that the MDL is exceeded the VGES.

J = analyte detected at or above MDL, but below reporting limit, and is therefore estimated.

TMB = trimethylbenzene



APPENDIX A

BORING LOGS / WELL CONSTRUCTION DETAILS



ATLAS

51 KNIGHT LANE (802) 862-1980
WILLISTON, VERMONT 05495 (737) 207-8272 - FAX

BORING / WELL IDENTIFICATION: B-101M/W

SITE NAME: North Red Bridge
SITE LOCATION: Rt 12
INSTALLATION DATE: 9/28/21
JOB NUMBER: 280BS02090

WELL DEPTH:	24'	BORING DEPTH:	24'	ATLAS REPRESENTATIVE:	AP / AG
DEPTH TO WATER (DURING DRILLING):	~ 18'			DRILLING COMPANY:	NEBC
SCREEN DIAMETER:	2"	DEPTH:	24-14'	SAMPLING METHOD:	SPT
SCREEN TYPE/SIZE:	0.010" slot			REFERENCE POINT (RP):	ground
RISER DIAMETER:	2"	DEPTH:	14-0'	ELEVATION OF RP:	
RISER TYPE/SIZE:	PVC				
REMARKS:	H+H doing geotechnical on all overburden plus 10' bedrock (did not core bedrock here)				

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	WELL PROFILE	LEGEND
0	1.0'	0.5" concrete 0.5-2' brown, dry, silty f. sand and f. gravel, some c. gravel 2-4' SAA (FILL)		0.0		Concrete
1				-		Native
2				0.0		Bentonite
3	1.0'			-		Filter Sand
4	1.0'	4-6' SAA, more c. gravel (FILL)		0.0		Riser
5				-		Screen
6	NR	6-8' —		-		Water level
7				-		
8	0.5'	8-10' SAA (FILL) some reddish mottling, moist		0.0		
9				-		
10	13"	10-12' SAA		0.0		
11				-		
12		#		-		
13				-		
14				-		
15	8"	15-17' sandy gravel (6"), silty sand w/ some sub-rounded gravel (2")		0.0		
16				-		
17		broke casing; move hole ~3ft toward river		-		
18		boulder or similar 17-18' concrete?		-		
19				-		
20				-		

Screen: 24-14'
riser: 14-0'
sand: 24-13'
bent: 13-11'
native: 11-1'
read box flush mount

PROPORTIONS USED AND	PERCENTAGE
SOME	33-50%
LITTLE	20-33%
TRACE	10-20%
	0-10%

BLOW COUNT (COHESIVE SOILS)	
<2	VERY SOFT
2-4	SOFT
4-8	MEDIUM STIFF
8-15	STIFF
15-30	VERY STIFF
>30	HARD

BLOW COUNT (GRANULAR SOILS)	
0-4	VERY LOOSE
4-10	LOOSE
10-30	MEDIUM DENSE
30-50	DENSE
>50	VERY DENSE

Notes:
PID used: IonScience Tiger #3

pg 1 of 2

ATLAS

BORING / WELL IDENTIFICATION: **B-101MW**

51 KNIGHT LANE (802) 862-1980
 WILLISTON, VERMONT 05495 (737) 207-8272 - FAX

SITE NAME: Northfield Bridge
 SITE LOCATION: Rt 12
 INSTALLATION DATE: 9/20/21
 JOB NUMBER: 280BS02090

WELL DEPTH:		BORING DEPTH:		ATLAS REPRESENTATIVE:	JP, AG
DEPTH TO WATER (DURING DRILLING):				DRILLING COMPANY:	NEBC
SCREEN DIAMETER:	2"	DEPTH:		SAMPLING METHOD:	SPT
SCREEN TYPE/SIZE:	0.010" slot			REFERENCE POINT (RP):	ground
RISER DIAMETER:	2"	DEPTH:		ELEVATION OF RP:	
RISER TYPE/SIZE:	PVC				
REMARKS:					

20
21
22
23

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	WELL PROFILE	LEGEND
0	14"	20-22' clayey silt & sand, brown, some organics/wood debris		0.0		Concrete
1				0.0		Native
2	1'	22-24' SAA				Bentonite
3						Filter Sand
24						Riser
25						Screen
26						Water level
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

JP 2082

PROPORTIONS USED AND 33-50% SOME 20-33% LITTLE 10-20% TRACE 0-10%	BLOW COUNT (COHESIVE SOILS) <2 VERY SOFT 2-4 SOFT 4-8 MEDIUM STIFF 8-15 STIFF 15-30 VERY STIFF >30 HARD	BLOW COUNT (GRANULAR SOILS) 0-4 VERY LOOSE 4-10 LOOSE 10-30 MEDIUM DENSE 30-50 DENSE >50 VERY DENSE	Notes: PID used: IonScience Tiger
--	--	---	--------------------------------------



BORING / WELL IDENTIFICATION: B-102

51 KNIGHT LANE (802) 862-1980
WILLISTON, VERMONT 05495 (737) 207-8272 - FAX

SITE NAME: Northfield Bridge

SITE LOCATION: Rt 12

INSTALLATION DATE: 9/22/21

JOB NUMBER: B502090

WELL DEPTH:	—	BORING DEPTH:	32'	ATLAS REPRESENTATIVE:	JP
DEPTH TO WATER (DURING DRILLING):	n 20'	DRILLING COMPANY:	NEBC		
SCREEN DIAMETER:	—	DEPTH:	—	SAMPLING METHOD:	SPT
SCREEN TYPE/SIZE:	—	REFERENCE POINT (RP):	ground		
RISER DIAMETER:	—	ELEVATION OF RP:	—		
RISER TYPE/SIZE:	—	REMARKS:	H+H doing geotechnical on all overburden plus 10' bedrock		

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	WELL PROFILE	LEGEND
0		0-2 asphalt, maybe some soil between, then concrete		—		Concrete
1				—		Native
2		2-4' brown, dry f-c sand and f-e gravel (fill)		0.0		Bentonite
3				—		Filter Sand
4	0.8'	4-6' lt. greyish brown, slight odor, c. sand and gravel (fill)		0.0	1.6	Riser
5				—		Screen
6	0.8'	0-8' SAA		0.0		Water level
7				—		
8	1.4'	8-10' SAA } petrol odor		3.8		
9		B-102-B @ 1330 (8-10')		0.9		
10	1.0'	10-12' SAA; some black c. sand (switch to auger + ss every 5ft.)		4.2	(5.6 in bag)	
11				—		
12				—		
13		lost water to formation ~ 14ft		—	25-27' SS (1.5' Rec) - grey silty gravel, little f. sand (0.0ppm)	
14				—		
15	0.5'	15-17 - SAA; some wood		0.0		
16		boulder @ ~ 18'		—	30-32' SS (1.5' Rec) - SAA; bottom 0.5' is grey clayey silt (0.0 ppm)	
17		20-20.1 - bouncing on wood, little rec.		0.0		
18	0.5'	21-23' (0.0ppm) c. sand, f. gravel + wood pulp		—		
19				—		
20		- begin rock coring (10') @ 33' - 9/23/21		0.0		TOR = 32'

PROPORTIONS USED AND 33-50% SOME 20-33% LITTLE 10-20% TRACE 0-10%	BLOW COUNT (COHESIVE SOILS) <2 VERY SOFT 2-4 SOFT 4-8 MEDIUM STIFF 8-15 STIFF 15-30 VERY STIFF >30 HARD	BLOW COUNT (GRANULAR SOILS) 0-4 VERY LOOSE 4-10 LOOSE 10-30 MEDIUM DENSE 30-50 DENSE >50 VERY DENSE	Notes: PID used: IonScience Tiger #3
--	--	---	---

ATLAS

BORING / WELL IDENTIFICATION: **B-103**

51 KNIGHT LANE (802) 862-1980
 WILLISTON, VERMONT 05495 (737) 207-8272 - FAX

SITE NAME: **Northfield Bridge**
 SITE LOCATION: **Rt 12**
 INSTALLATION DATE: **9/21/21**
 JOB NUMBER: **B502090**

WELL DEPTH:	—	BORING DEPTH:	30'	ATLAS REPRESENTATIVE:	JP
DEPTH TO WATER (DURING DRILLING):	—	DRILLING COMPANY:	NEBC	SAMPLING METHOD:	SPT / SS + mud rotary
SCREEN DIAMETER:	—	DEPTH:	—	REFERENCE POINT (RP):	ground
SCREEN TYPE/SIZE:	—	ELEVATION OF RP:	—	REMARKS:	H+H doing geotechnical on overburden + 10' bedrock
RISER DIAMETER:	—				
RISER TYPE/SIZE:	—				

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	WELL PROFILE	LEGEND
0		0-2' - concrete		—		Concrete
1		2-4' brown, dry, silty f. sand; Some c. sand and f. gravel		—		Native
2	1' rec.			0.0		Bentonite
3				—		Filter Sand
4	1.0 rec.	4-6' brown, dry, silty f. sand and gravel		0.4		Riser
5		gravel had base		0.0		Water level
6	1.2'	6-8' SAA		2.8		
7				2.2		
8	1.0'	8-10' SAA		0.9		
9				—		
10	1.2'	10-12' SAA, less gravel		0.7		
11				0.1		
12		switch to mud rotary		—		
13				—		
14				—		
15	1.1'	15-17' wet from drilling; brown, f-c sand and f. gravel, trace c. gravel		0.0		
16				0.0		
17		20-22' brown, wet, silty f. sand		—		
18		25-27' (0.8' rec) brown, wet, silty f. sand and f. gravel (all 0.0)		—		
19		TOR = 30' bgs		—		
20	2.0'			0.0 (20-22)		

not enough recovery for sample after geotech sample was collected

PROPORTIONS USED
 AND 33-50%
 SOME 20-33%
 LITTLE 10-20%
 TRACE 0-10%

BLOW COUNT (COHESIVE SOILS)
 <2 VERY SOFT
 2-4 SOFT
 4-8 MEDIUM STIFF
 8-15 STIFF
 15-30 VERY STIFF
 >30 HARD

BLOW COUNT (GRANULAR SOILS)
 0-4 VERY LOOSE
 4-10 LOOSE
 10-30 MEDIUM DENSE
 30-50 DENSE
 >50 VERY DENSE

Notes:
 PID used: IonScience Tiger 713

IV

ATLAS

51 KNIGHT LANE (802) 862-1980
WILLISTON, VERMONT 05495 (737) 207-8272 - FAX

BORING / WELL IDENTIFICATION: B-104/MW

SITE NAME: Northfield Bridge

SITE LOCATION: Rt 12

INSTALLATION DATE: 9/24/21

JOB NUMBER: B502090

WELL DEPTH:	25'	BORING DEPTH:	28'	ATLAS REPRESENTATIVE:	JP
DEPTH TO WATER (DURING DRILLING):	N 20'	DRILLING COMPANY:	NEBC		
SCREEN DIAMETER:	2"	DEPTH:	25-15'	SAMPLING METHOD:	SPT
SCREEN TYPE/SIZE:	0.010" slot	DEPTH:	15-0'	REFERENCE POINT (RP):	gravel
RISER DIAMETER:	2"	DEPTH:	15-0'	ELEVATION OF RP:	
RISER TYPE/SIZE:	PVC				
REMARKS:	H/H down geotechnical on overburden plus 10' bedrock				

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	WELL PROFILE	LEGEND
0	0.0	0-2' brown, f. sand and f. gravel		0.0		Concrete
1	0.0	dry (FILL)		-		Native
2	0.9'	2-4' SAA (FILL)		0.0		Bentonite
3	0.0			-		Bentonite
4	0.9'	4-6' SAA, some grey silty f. sand		0.0		Filter Sand
5	0.0	(FILL)		-		Filter Sand
6	0.8'	6-8' brown, dry, silty f. sand and		0.0		Riser
7	0.0	c. sand and frc gravel (FILL)		-		Screen
8	0.8'	8-10' SAA (FILL)		0.0		Screen
9	0.0			-		Water level
10	1.0'	10-12' SAA (FILL)		0.0		Water level
11	0.0			-		screen - 25-15'
12	0.0			-		riser - 15-0'
13	0.0			-		bent. - 14-12'
14	0.0			-		sand - 25-14'
15	1.0'	15-17' wet from rig; 0-0.7' - SAA;		0.0		native to top
16	0.0	0.7-1.0' - dark grey, soft, silty f.		-		flush mount
17	0.0	sand, some clay		-		w/ road box
18	1.5'	20-22' brown, wet, soft, silty f. sand, some f. gravel		-		TOR = 28'
19	1.0'	22-24' SAA, more gravel. some wood. 0.0-0.2 ppm		-		
20	1.0'	25-27' SAA; weathered rock @ 26.5' (0.1 ppm)		0.0		0.2 ppm @ 21'

PROPORTIONS USED AND 33-50% SOME 20-33% LITTLE 10-20% TRACE 0-10%	BLOW COUNT (COHESIVE SOILS) <2 VERY SOFT 2-4 SOFT 4-8 MEDIUM STIFF 8-15 STIFF 15-30 VERY STIFF >30 HARD	BLOW COUNT (GRANULAR SOILS) 0-4 VERY LOOSE 4-10 LOOSE 10-30 MEDIUM DENSE 30-50 DENSE >50 VERY DENSE	Notes: PID used: IonScience Tiger #3
--	--	---	---



BORING / WELL IDENTIFICATION: **B-105**

51 KNIGHT LANE (802) 862-1980
WILLISTON, VERMONT 05495 (737) 207-8272 - FAX

SITE NAME: **Northfield Bridge**
SITE LOCATION: **Rte 12**
INSTALLATION DATE: **9/23/21**
JOB NUMBER: **B502090**

WELL DEPTH: _____ BORING DEPTH: **25'** ATLAS REPRESENTATIVE: **F Urh**
DEPTH TO WATER (DURING DRILLING): _____ DRILLING COMPANY: **NEBC**
SCREEN DIAMETER: _____ DEPTH: _____ SAMPLING METHOD: **SPT/SS/Mud rotary**
SCREEN TYPE/SIZE: _____ REFERENCE POINT (RP): **Ground surface**
RISER DIAMETER: _____ DEPTH: _____ ELEVATION OF RP: _____
RISER TYPE/SIZE: _____
REMARKS: _____

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRA TA CHANGE	PID (PPM)	WELL PROFILE	LEGEND
0		0.5-2' ss				
1		0-0.5 asphalt, 0.5-2' st-gr fill, clay FILL		0.0		Concrete
2		2-4' AA, gravel more fine FILL		0.0		Native
3						Bentonite
4		4-6' m br sand over rock gravel pieces, angular FILL		0.0		Filter Sand
5						Riser
6		6-8' rock gravel pieces, angular FILL		0.0		Screen
7		8-10' dk br m sand fill, w/gravel FILL		0.0		
8		10-12' rock gravel w/some sand FILL		0.0		
9		— switch to mud rotary				Water level
10		15-17' pulverized rock, some sand		0.0		
11		20-22 grey ft m sand, trace gravel				
12		22-24 grey black ft m sand, little silt		0.6		
13		25' refusal on rock, lost water indr formation				
14						
15						
16						
17						
18						
19						
20						

PROPORTIONS USED
AND 33-50%
SOME 20-33%
LITTLE 10-20%
TRACE 0-10%

BLOW COUNT (COHESIVE SOILS)
<2 VERY SOFT
2-4 SOFT
4-8 MEDIUM STIFF
8-15 STIFF
15-30 VERY STIFF
>30 HARD

BLOW COUNT (GRANULAR SOILS)
0-4 VERY LOOSE
4-10 LOOSE
10-30 MEDIUM DENSE
30-50 DENSE
>50 VERY DENSE

Notes:
PID used: IonScience Tiger 10.6 cv

1230
B 10513
(20'-24')

ATLAS

BORING / WELL IDENTIFICATION: B-106

51 KNIGHT LANE (802) 862-1980
 WILLISTON, VERMONT 05495 (737) 207-8272 - FAX

SITE NAME: Northfield Bridge Project
 SITE LOCATION: Rt 12 Northfield
 INSTALLATION DATE: 9/20/21
 JOB NUMBER: 8502090

WELL DEPTH:	—	BORING DEPTH:	23.8	ATLAS REPRESENTATIVE:	JP
DEPTH TO WATER (DURING DRILLING):	N20'	DRILLING COMPANY:	NEBC	SAMPLING METHOD:	split spoon / SPT
SCREEN DIAMETER:	—	DEPTH:	—	REFERENCE POINT (RP):	ground
SCREEN TYPE/SIZE:	—	ELEVATION OF RP:	—	REMARKS: Geotechnical performed @ - logs by H+H	
RISER DIAMETER:	—				
RISER TYPE/SIZE:	—				

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	WELL PROFILE	LEGEND
0	Sample	B-106-A (25-1.5') / 0-2' - 0.8' Rec. brown, dry, silty fine sand, some rounded c. gravel		0.0		Concrete
1	@ 0950	2-4' - 0.3' Rec. - SAA		-		Native
3				0.0		Bentonite
4	1'	4-6' SAA		0.0		Filter Sand
5				-		Riser
6	1.2'	6-8' 0-0.8' H. brown, dry, f. sand 0.8-1.2' SAA (4-6')		0.0		Screen
7				-		Water level
8	0.5'	8-10' brown, dry, f-c sand, trace c. gravel, some silt		0.0		
9				-		
10	1.4'	10-12' SAA		0.0		
11				0.0		
12				-		
13				-		switch to mud rotary
14				-		
15	1'	15-17' moist, brown, silty f-c sand, trace f. + c rounded gravel		0.0		
16				-		
17		2' Rec. brown, wet f. sand, some silt, trace f. gravel + c. sand		-		
18		- need more sample volume - collect spoon from 22-24' refusal @ 23.8'		-		
19	B-106-B (20-24')			-		
20	@ 1115	20-22'		0.0		

PROPORTIONS USED AND 33-50% SOME 20-33% LITTLE 10-20% TRACE 0-10%	BLOW COUNT (COHESIVE SOILS) <2 VERY SOFT 2-4 SOFT 4-8 MEDIUM STIFF 8-15 STIFF 15-30 VERY STIFF >30 HARD	BLOW COUNT (GRANULAR SOILS) 0-4 VERY LOOSE 4-10 LOOSE 10-30 MEDIUM DENSE 30-50 DENSE >50 VERY DENSE	Notes: PID used: IonScience Tiger #3
--	--	---	---



BORING / WELL IDENTIFICATION: H-101

51 KNIGHT LANE (802) 862-1980
 WILLISTON, VERMONT 05495 (737) 207-8272 - FAX

SITE NAME: Northfield Bridge
 SITE LOCATION: Rt 17
 INSTALLATION DATE: 9/21/21
 JOB NUMBER: BS02090

WELL DEPTH:	—	BORING DEPTH:	29'	ATLAS REPRESENTATIVE:	AP
DEPTH TO WATER (DURING DRILLING):	—		N20'	DRILLING COMPANY:	NEBC
SCREEN DIAMETER:	—	DEPTH:	—	SAMPLING METHOD:	SPT/SS + mud rotary
SCREEN TYPE/SIZE:	—			REFERENCE POINT (RP):	ground
RISER DIAMETER:	—	DEPTH:	—	ELEVATION OF RP:	
RISER TYPE/SIZE:	—				
REMARKS:					

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	WELL PROFILE	LEGEND
0		H-101-A (0.5-1.5) 0-2' - 1' rec. grey-brown, dry		0.0		Concrete
1		road base f-c sand and c. gravel		-		Native
2		- boulder or similar @ 2 ft, auger through + auger to 20'		0.0		Bentonite
3				-		Filter Sand
4		- collect samples from auger to 20'		0.0		Riser
5				-		Screen
6		2-20' - brown, dry, f-c sand and f+c gravel, trace silt		0.0		Water level
7				-		
8				0.0		
9		auger to 20'		-		
10				0.0		
11				-		
12				0.0		
13				-		
14		SS 20-22' - 0.3' rec. wet (all 0.0)		0.0		
15		c. angular gravel, very salt		-		
16		22-24' - NR		0.0		
17		24-26' - 0.8' rec. (1.4 PID)		-		
18		wet, silty f. sand and c. angular gravel.		0.0		
19				-		
20		27-29' - wet brown f-m sand, trace gravel, trace silt. Top of rock @ 29'.		0.0		

PROPORTIONS USED AND
 33-50%
 20-33%
 10-20%
 0-10%

BLOW COUNT (COHESIVE SOILS)
 <2 VERY SOFT
 2-4 SOFT
 4-8 MEDIUM STIFF
 8-15 STIFF
 15-30 VERY STIFF
 >30 HARD

BLOW COUNT (GRANULAR SOILS)
 0-4 VERY LOOSE
 4-10 LOOSE
 10-30 MEDIUM DENSE
 30-50 DENSE
 >50 VERY DENSE

Notes:
 PID used: IonScience Tiger

- 0.0 PID



BORING / WELL IDENTIFICATION:

H-102

51 KNIGHT LANE (802) 862-1980
 WILLISTON, VERMONT 05495 (737) 207-8272 - FAX

SITE NAME: Northfield Bridge
 SITE LOCATION: Rt 12
 INSTALLATION DATE: 9/22/21
 JOB NUMBER: BS02090

WELL DEPTH:	—	BORING DEPTH:	25'	ATLAS REPRESENTATIVE:	JP
DEPTH TO WATER (DURING DRILLING):	—	DEPTH:	N 17	DRILLING COMPANY:	NEBC
SCREEN DIAMETER:	—	DEPTH:	—	SAMPLING METHOD:	SPT / SS + mud
SCREEN TYPE/SIZE:	—	DEPTH:	—	REFERENCE POINT (RP):	ground
RISER DIAMETER:	—	DEPTH:	—	ELEVATION OF RP:	—
RISER TYPE/SIZE:	—	REMARKS:			

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	WELL PROFILE	LEGEND
0		0-2' concrete (old road?)		—		Concrete
1				—		Native
2		2-4' H. i. dk. brown, dry, f-c sand and broken rock/gravel (fill)		0.0		Bentonite
3	1.4'			0.0		Filter Sand
4	1.5'	4-6' brown, dry, silty f. sand and f. gravel - looks potentially native		0.0		Riser
5				0.0		Screen
6				0.0		Water level
7		Switch to augers		0.0		
8		SAA		—		
9				0.0		
10				0.0		
11				—		
12				0.0		
13		hitting some cobbles @ ~14'		—		
14		SAA, more f+c gravel, rounded		0.0		
15				0.0		
16		brown f. sand, wet @ ~17'		0.0		
17		SS 20-22' (1.5' sec.) brown, wet f. sand		0.8		
18		22-25' (2' sec.) SAA		0.0		
19				0.0		
20		20-25' = 0.0 ppm		0.0		

PROPORTIONS USED
 AND 33-50%
 SOME 20-33%
 LITTLE 10-20%
 TRACE 0-10%

BLOW COUNT (COHESIVE SOILS)
 <2 VERY SOFT
 2-4 SOFT
 4-8 MEDIUM STIFF
 8-15 STIFF
 15-30 VERY STIFF
 >30 HARD

BLOW COUNT (GRANULAR SOILS)
 0-4 VERY LOOSE
 4-10 LOOSE
 10-30 MEDIUM DENSE
 30-50 DENSE
 >50 VERY DENSE

Notes:
 PID used: IonScience Tiger #3

ATLAS

51 KNIGHT LANE (802) 862-1980
WILLISTON, VERMONT 05495 (737) 207-8272 - FAX

BORING / WELL IDENTIFICATION: H-103

SITE NAME: Northfield Bridge

SITE LOCATION: Rt 12

INSTALLATION DATE: 9/27/21

JOB NUMBER: BS02090

WELL DEPTH:	—	BORING DEPTH:	25'	ATLAS REPRESENTATIVE:	JR
DEPTH TO WATER (DURING DRILLING):	—	DEPTH:	21'	DRILLING COMPANY:	NBBC
SCREEN DIAMETER:	—	DEPTH:	—	SAMPLING METHOD:	SPT
SCREEN TYPE/SIZE:	—	DEPTH:	—	REFERENCE POINT (RP):	ground
RISER DIAMETER:	—	DEPTH:	—	ELEVATION OF RP:	—
RISER TYPE/SIZE:	—	DEPTH:	—	REMARKS:	—

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	WELL PROFILE	LEGEND
1	1.3'	0-1 asphalt + concrete		—		Concrete
2	1.5'	1-3' crushed road base / greyish brown, dry, sand and c. gravel		0.0		Native
3	0.5'	3-5' SAA		0.0		Bentonite
4				—		Filter Sand
5		auger to 20' then SS		—		Riser
6				0.0		Screen
7		brown, dry, silty f. sand and f. rounded gravel		—		Water level
8				—		
9				—		
10				0.0		
11				—		
12				—		
13				—		
14				3.8		
15	1.0'	15-17' brown, dry, silty f. sand		4.9		(off auger spoils)
16		cobble at bottom		—		
17	1.5'	17-19' 0-0.4" SAA. 0.4-1.5' black, dry, f. sandy silt		0.1		
18				0.2		
19	2.0'	19-21' top 0.5' - silty sand + cobble from above;		0.0		
20		0.5-2.0' - dark brown, wet @ 21', silty f. sand		0.0		

PROPORTIONS USED AND 33-50% SOME 20-33% LITTLE 10-20% TRACE 0-10%	BLOW COUNT (COHESIVE SOILS) <2 VERY SOFT 2-4 SOFT 4-8 MEDIUM STIFF 8-15 STIFF 15-30 VERY STIFF >30 HARD	BLOW COUNT (GRANULAR SOILS) 0-4 VERY LOOSE 4-10 LOOSE 10-30 MEDIUM DENSE 30-50 DENSE >50 VERY DENSE	Notes: PID used: IonScience Tiger #3 10.6 Camp
--	--	---	--

21-23' (18' rec.) SAA (0.0 ppm) wet
 23-25' (rec.) f. sand, brown, wet (0.2 ppm)

ATLAS

51 KNIGHT LANE (802) 862-1980
 WILLISTON, VERMONT 05495 (737) 207-8272 - FAX

BORING / WELL IDENTIFICATION: H-104

SITE NAME: Northfield Bridge
 SITE LOCATION: Rt 12
 INSTALLATION DATE: 9/20/21
 JOB NUMBER: BS02090

WELL DEPTH:	—	BORING DEPTH:	24'	ATLAS REPRESENTATIVE:	JR
DEPTH TO WATER (DURING DRILLING):	—	DEPTH:	~20'	DRILLING COMPANY:	NEBC
SCREEN DIAMETER:	—	DEPTH:	—	SAMPLING METHOD:	SPT / split spoon + mud logging
SCREEN TYPE/SIZE:	—	DEPTH:	—	REFERENCE POINT (RP):	ground
RISER DIAMETER:	—	DEPTH:	—	ELEVATION OF RP:	—
RISER TYPE/SIZE:	—	REMARKS: H+H performed geotechnical on overburden + 10' below next on H-borings			

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	WELL PROFILE	LEGEND
0		H-104-A (0.5-4')		0.0		Concrete
1		0-2' - 0.8' Rec' brown matrix, ls		-		Native
2		silty sand, broken cobbles / FILL		0.0		Bentonite
3		2-4' - 1.5' Rec' SAA		0.0		Filter Sand
4		Auger		-		Riser
5		4-10' sample from auger		0.0		Screen
6		brown, dry, f-c sand, some silt		-		Water level
7		+ f-c gravel		0.0		
8		moist from augers		-		
9				0.0		
10				-		
11		silty f. sand (all fill)		0.0		
12				-		
13				0.0		
14				-		
15	20-24'	SS @ 20-22' wet, brown, (all 0.0)		0.0		
16		f-c sand and f-c gravel		-		
17		H-104-B		0.0		
18		SS @ 22-24' - SAA (all 0.0)		-		
19		both recoveries 1.5-1.8'		0.0		
20		end of boring 24'		-		

PROPORTIONS USED AND 33-50% SOME 20-33% LITTLE 10-20% TRACE 0-10%	BLOW COUNT (COHESIVE SOILS) <2 VERY SOFT 2-4 SOFT 4-8 MEDIUM STIFF 8-15 STIFF 15-30 VERY STIFF >30 HARD	BLOW COUNT (GRANULAR SOILS) 0-4 VERY LOOSE 4-10 LOOSE 10-30 MEDIUM DENSE 30-50 DENSE >50 VERY DENSE	Notes: PID used: IonScience Tiger #3
--	--	---	---



APPENDIX B

SOIL LABORATORY ANALYTICAL REPORT



The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Atlas Technical Consultants, LLC

Northfield Bridge, Route 12, VT

280BS02090

SGS Job Number: JD32315

Sampling Dates: 09/20/21 - 09/24/21



Report to:

Atlas Technical Consultants, LLC
51 Knight Lane
Williston, VT 05495
erik.urch@oneatlas.com

ATTN: Erik Urch

Total number of pages in report: 350



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Mike Earp
General Manager

Client Service contact: Marie Meidhof 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	4
Section 2: Case Narrative/Conformance Summary	7
Section 3: Summary of Hits	17
Section 4: Sample Results	27
4.1: JD32315-1: B-106-A	28
4.2: JD32315-2: B-106-B	30
4.3: JD32315-3: B-106-C	36
4.4: JD32315-4: H-104-A	45
4.5: JD32315-5: H-104-B	47
4.6: JD32315-6: H-104-C1	53
4.7: JD32315-7: H-104-C2	62
4.8: JD32315-8: DUP-A	71
4.9: JD32315-9: DUP-B	73
4.10: JD32315-10: H-101-A	79
4.11: JD32315-11: H-101-B	81
4.12: JD32315-12: H-101-C	87
4.13: JD32315-13: B-103-A	96
4.14: JD32315-14: B-103-B	98
4.15: JD32315-15: B-103-C	104
4.16: JD32315-16: H-102-A	113
4.17: JD32315-17: H-102-B	115
4.18: JD32315-18: H-102-C	121
4.19: JD32315-19: B-102-A	130
4.20: JD32315-20: B-102-B	132
4.21: JD32315-21: B-102-C	138
4.22: JD32315-22: B-105-A(0.5-2')	147
4.23: JD32315-23: B-105-B(20-24')	149
4.24: JD32315-24: B-105-C(0.5-24')	155
4.25: JD32315-25: B-104-A	164
4.26: JD32315-26: B-104-B	166
4.27: JD32315-27: B-104-C	172
Section 5: Misc. Forms	181
5.1: Certification Exceptions	182
5.2: Chain of Custody	183
Section 6: MS Volatiles - QC Data Summaries	189
6.1: Method Blank Summary	190
6.2: Leachate Blank Summary	195
6.3: Blank Spike Summary	197
6.4: Matrix Spike/Matrix Spike Duplicate Summary	201
6.5: Leachate Spike Summary	205
6.6: Instrument Performance Checks (BFB)	206
6.7: Surrogate Recovery Summaries	215

Table of Contents

-2-

Section 7: MS Semi-volatiles - QC Data Summaries	217
7.1: Method Blank Summary	218
7.2: Leachate Blank Summary	223
7.3: Blank Spike Summary	226
7.4: Matrix Spike/Matrix Spike Duplicate Summary	229
7.5: Leachate Spike Summary	232
7.6: Instrument Performance Checks (DFTPP)	233
7.7: Surrogate Recovery Summaries	252
Section 8: GC Volatiles - QC Data Summaries	255
8.1: Method Blank Summary	256
8.2: Blank Spike Summary	258
8.3: Matrix Spike/Matrix Spike Duplicate Summary	259
8.4: Surrogate Recovery Summaries	260
Section 9: GC/LC Semi-volatiles - QC Data Summaries	261
9.1: Method Blank Summary	262
9.2: Leachate Blank Summary	272
9.3: Blank Spike Summary	278
9.4: Blank Spike/Blank Spike Duplicate Summary	282
9.5: Matrix Spike/Matrix Spike Duplicate Summary	286
9.6: Leachate Spike Summary	293
9.7: Surrogate Recovery Summaries	295
Section 10: Metals Analysis - QC Data Summaries	300
10.1: Prep QC MP28913: As,Ba,Cd,Cr,Pb,Se,Ag	301
10.2: Prep QC MP28930: Hg	311
10.3: Prep QC MP28967: Hg	315
10.4: Prep QC MP29010: As,Ba,Cd,Cr,Pb,Se,Ag	319
10.5: Prep QC MP29028: As,Ba,Cd,Cr,Pb,Se,Ag	329
10.6: Prep QC MP29030: Hg	339
10.7: Prep QC MP29059: Hg	343
Section 11: General Chemistry - QC Data Summaries	347
11.1: Method Blank and Spike Results Summary	348
11.2: Duplicate Results Summary	349
11.3: Matrix Spike Results Summary	350



Sample Summary

Atlas Technical Consultants, LLC

Job No: JD32315

**Northfield Bridge, Route 12, VT
Project No: 280BS02090**

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
---------------	----------------	---------	----------	-------------	------	------------------

**This report contains results reported as ND = Not detected. The following applies:
Organics ND = Not detected above the MDL**

JD32315-1	09/20/21	09:50	09/28/21	SO	Soil	B-106-A
JD32315-2	09/20/21	11:15	09/28/21	SO	Soil	B-106-B
JD32315-3	09/20/21	11:30	09/28/21	SO	Soil	B-106-C
JD32315-4	09/20/21	14:20	09/28/21	SO	Soil	H-104-A
JD32315-5	09/20/21	15:20	09/28/21	SO	Soil	H-104-B
JD32315-6	09/20/21	15:40	09/28/21	SO	Soil	H-104-C1
JD32315-7	09/20/21	15:42	09/28/21	SO	Soil	H-104-C2
JD32315-8	09/20/21	00:01	09/28/21	SO	Soil	DUP-A
JD32315-9	09/20/21	00:02	09/28/21	SO	Soil	DUP-B
JD32315-10	09/21/21	09:15	09/28/21	SO	Soil	H-101-A
JD32315-11	09/21/21	10:10	09/28/21	SO	Soil	H-101-B
JD32315-12	09/21/21	10:30	09/28/21	SO	Soil	H-101-C

Soil samples reported on a dry weight basis unless otherwise indicated on result page.



Sample Summary (continued)

Atlas Technical Consultants, LLC

Job No: JD32315

Northfield Bridge, Route 12, VT
Project No: 280BS02090

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
JD32315-13	09/21/21	11:10	09/28/21	SO	Soil	B-103-A
JD32315-14	09/21/21	13:20	09/28/21	SO	Soil	B-103-B
JD32315-15	09/21/21	13:40	09/28/21	SO	Soil	B-103-C
JD32315-16	09/22/21	09:30	09/28/21	SO	Soil	H-102-A
JD32315-17	09/22/21	11:20	09/28/21	SO	Soil	H-102-B
JD32315-18	09/22/21	11:40	09/28/21	SO	Soil	H-102-C
JD32315-19	09/22/21	13:10	09/28/21	SO	Soil	B-102-A
JD32315-20	09/22/21	13:30	09/28/21	SO	Soil	B-102-B
JD32315-21	09/22/21	14:20	09/28/21	SO	Soil	B-102-C
JD32315-22	09/23/21	11:00	09/28/21	SO	Soil	B-105-A(0.5-2')
JD32315-23	09/23/21	13:30	09/28/21	SO	Soil	B-105-B(20-24')
JD32315-24	09/23/21	14:00	09/28/21	SO	Soil	B-105-C(0.5-24')
JD32315-25	09/24/21	08:40	09/28/21	SO	Soil	B-104-A

Soil samples reported on a dry weight basis unless otherwise indicated on result page.



Sample Summary (continued)

Atlas Technical Consultants, LLC

Job No: JD32315

Northfield Bridge, Route 12, VT
Project No: 280BS02090

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
JD32315-26	09/24/21	09:50	09/28/21	SO	Soil	B-104-B
JD32315-27	09/24/21	10:00	09/28/21	SO	Soil	B-104-C

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Atlas Technical Consultants, LLC

Job No: JD32315

Site: Northfield Bridge, Route 12, VT

Report Date 10/20/2021 11:35:20 A

On 09/28/2021, 27 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 2.5 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JD32315 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

MS Volatiles By Method SW846 8260D

Matrix: LEACHATE

Batch ID: V2V3357

- Sample(s) JD32528-16AMS, JD32528-16AMSD were used as the QC samples indicated.
- Sample(s) JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27, JD32315-3, JD32315-6, JD32315-7 have compound(s) reported with a "B" qualifier, indicating analyte is found in the associated method blank. Indicates analyte found in associated leachate blank.
- JD32315-6 for 2-Butanone (MEK): Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.
- JD32315-18 for 2-Butanone (MEK): Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.
- JD32315-21 for 2-Butanone (MEK): Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.
- JD32315-15 for 2-Butanone (MEK): Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.
- JD32315-7 for 2-Butanone (MEK): Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.
- JD32315-3 for 2-Butanone (MEK): Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.
- JD32315-24 for 2-Butanone (MEK): Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.
- JD32315-27 for 2-Butanone (MEK): Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.
- V2V3357-BS for 2-Butanone (MEK): High percent recovery and no associated positive reported in the QC batch.
- JD32315-12 for 2-Butanone (MEK): Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.

Matrix: SO

Batch ID: V1C7900

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32428-1MS, JD32428-1MSD were used as the QC samples indicated.
- Blank Spike Recovery(s) for 1,3-Dichlorobenzene, Trichlorofluoromethane are outside control limits.
- RPD(s) for MSD for Bromobenzene, Chlorobenzene, Chloromethane, cis-1,3-Dichloropropene, Dibromochloromethane, Ethylbenzene, Isopropylbenzene, o-Xylene, Toluene, Xylene (total), 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,2,4-Trimethylbenzene, 1,2-Dibromo-3-chloropropane, 1,2-Dichlorobenzene, 1,3,5-Trimethylbenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Hexachlorobutadiene, m,p-Xylene, n-Butylbenzene, n-Propylbenzene, Naphthalene, o-Chlorotoluene, p-Chlorotoluene, p-Isopropyltoluene, sec-Butylbenzene, tert-Butylbenzene are outside control limits for sample JD32428-1MSD. Probable cause due to sample homogeneity.
- JD32428-1MSD for 1,3,5-Trimethylbenzene: Outside control limits due to matrix interference.
- JD32428-1MSD for 1,2-Dichlorobenzene: Outside control limits due to matrix interference.

Wednesday, October 20, 2021

Page 1 of 10

MS Volatiles By Method SW846 8260D

Matrix: SO

Batch ID: VIC7900

- JD32428-1MSD for p-Isopropyltoluene: Outside control limits due to matrix interference.
- JD32428-1MSD for p-Chlorotoluene: Outside control limits due to matrix interference.
- JD32428-1MSD for Naphthalene: Outside control limits due to matrix interference.
- JD32315-20 for Dichlorodifluoromethane: Associated CCV outside of control limits high, sample was ND.
- JD32428-1MSD for n-Propylbenzene: Outside control limits due to matrix interference.
- JD32428-1MSD for n-Butylbenzene: Outside control limits due to matrix interference.
- JD32428-1MSD for m,p-Xylene: Outside control limits due to matrix interference.
- JD32315-23 for Hexachlorobutadiene: Associated CCV outside of control limits high, sample was ND.
- JD32428-1MSD for 1,4-Dichlorobenzene: Outside control limits due to matrix interference.
- JD32315-5 for Dibromochloromethane: Associated CCV outside of control limits high, sample was ND.
- JD32428-1MSD for o-Chlorotoluene: Outside control limits due to matrix interference.
- JD32428-1MSD for sec-Butylbenzene: Outside control limits due to matrix interference.
- JD32315-17 for Trichlorofluoromethane: Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.
- JD32315-2 for Trichlorofluoromethane: Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.
- JD32315-23 for Trichlorofluoromethane: Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.
- JD32315-5 for 1,3-Dichlorobenzene: This compound in blank spike is outside in house QC limits bias high.
- JD32315-5 for Trichlorofluoromethane: Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.
- JD32315-11 for Dibromochloromethane: Associated CCV outside of control limits high, sample was ND.
- JD32315-2 for Dichlorodifluoromethane: Associated CCV outside of control limits high, sample was ND.
- JD32315-2 for 1,3-Dichlorobenzene: This compound in blank spike is outside in house QC limits bias high.
- JD32315-2 for Dibromochloromethane: Associated CCV outside of control limits high, sample was ND.
- JD32428-1MSD for tert-Butylbenzene: Outside control limits due to matrix interference.
- JD32428-1MSD for 1,3-Dichlorobenzene: Outside control limits due to matrix interference.
- JD32315-17 for 1,3-Dichlorobenzene: This compound in blank spike is outside in house QC limits bias high.
- JD32315-23 for 1,3-Dichlorobenzene: This compound in blank spike is outside in house QC limits bias high.
- VIC7900-BS for 1,3-Dichlorobenzene: High percent recovery and no associated positive reported in the QC batch.
- JD32315-17 for Hexachlorobutadiene: Associated CCV outside of control limits high, sample was ND.
- JD32315-5 for Dichlorodifluoromethane: Associated CCV outside of control limits high, sample was ND.
- JD32315-14 for Hexachlorobutadiene: Associated CCV outside of control limits high, sample was ND.
- JD32315-11 for 1,3-Dichlorobenzene: This compound in blank spike is outside in house QC limits bias high.
- JD32315-26 for Dibromochloromethane: Associated CCV outside of control limits high, sample was ND.
- JD32315-14 for Dichlorodifluoromethane: Associated CCV outside of control limits high, sample was ND.
- JD32315-5 for Hexachlorobutadiene: Associated CCV outside of control limits high, sample was ND.
- JD32315-14 for Trichlorofluoromethane: Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.
- JD32315-17 for Dichlorodifluoromethane: Associated CCV outside of control limits high, sample was ND.
- JD32315-11 for Trichlorofluoromethane: Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.
- JD32315-26 for 1,3-Dichlorobenzene: This compound in blank spike is outside in house QC limits bias high.
- JD32315-14 for 1,3-Dichlorobenzene: This compound in blank spike is outside in house QC limits bias high.

Wednesday, October 20, 2021

Page 2 of 10

MS Volatiles By Method SW846 8260D

Matrix: SO

Batch ID: V1C7900

- JD32315-26 for Dichlorodifluoromethane: Associated CCV outside of control limits high, sample was ND.
- JD32428-1MSD for 1,2-Dibromo-3-chloropropane: Outside control limits due to matrix interference.
- JD32315-17 for Dibromochloromethane: Associated CCV outside of control limits high, sample was ND.
- JD32315-2 for Hexachlorobutadiene: Associated CCV outside of control limits high, sample was ND.
- JD32315-26 for Trichlorofluoromethane: Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.
- JD32315-26 for Hexachlorobutadiene: Associated CCV outside of control limits high, sample was ND.
- JD32315-20 for Hexachlorobutadiene: Associated CCV outside of control limits high, sample was ND.
- JD32315-20 for Trichlorofluoromethane: Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.
- JD32315-20 for Dibromochloromethane: Associated CCV outside of control limits high, sample was ND.
- JD32315-14 for Dibromochloromethane: Associated CCV outside of control limits high, sample was ND.
- JD32428-1MSD for 1,2,4-Trimethylbenzene: Outside control limits due to matrix interference.
- JD32428-1MSD for 1,2,4-Trichlorobenzene: Outside control limits due to matrix interference.
- JD32428-1MSD for 1,2,3-Trichlorobenzene: Outside control limits due to matrix interference.
- V1C7900-BS for Trichlorofluoromethane: High percent recovery and no associated positive reported in the QC batch.
- JD32428-1MSD for Hexachlorobutadiene: Outside control limits due to matrix interference.
- JD32315-23 for Dichlorodifluoromethane: Associated CCV outside of control limits high, sample was ND.
- JD32315-23 for Dibromochloromethane: Associated CCV outside of control limits high, sample was ND.
- JD32315-9 for Dibromochloromethane: Associated CCV outside of control limits high, sample was ND.
- JD32315-11 for Hexachlorobutadiene: Associated CCV outside of control limits high, sample was ND.
- JD32315-11 for Dichlorodifluoromethane: Associated CCV outside of control limits high, sample was ND.
- JD32315-9 for Hexachlorobutadiene: Associated CCV outside of control limits high, sample was ND.
- JD32315-20 for 1,3-Dichlorobenzene: This compound in blank spike is outside in house QC limits bias high.
- JD32315-9 for Trichlorofluoromethane: Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.
- JD32315-9 for 1,3-Dichlorobenzene: This compound in blank spike is outside in house QC limits bias high.
- JD32315-9 for Dichlorodifluoromethane: Associated CCV outside of control limits high, sample was ND.

MS Semi-volatiles By Method SW846 8270E

Matrix: LEACHATE **Batch ID:** OP35940

- All samples were extracted within the recommended method holding time.
- Sample(s) JD32315-3LS, JD32315-3MS, JD32315-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JD32315-27 for 2,4,6-Tribromophenol: Outside of in house control limits.

Matrix: SO **Batch ID:** OP35710

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32315-1MS, JD32315-1MSD were used as the QC samples indicated.
- Matrix Spike Duplicate Recovery(s) for Fluoranthene, Benzo(b)fluoranthene are outside control limits. Probable cause due to matrix interference.
- RPD(s) for MSD for Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluorene, Indeno(1,2,3-cd)pyrene, Naphthalene are outside control limits for sample OP35710-MSD.
- JD32315-8: Confirmation run.
- JD32315-10: Dilution required due to matrix interference.
- JD32315-22: Confirmation run.
- JD32315-20: Dilution required due to matrix interference.
- JD32315-8 for 2-Fluorobiphenyl: Outside of in house control limits. Refer to re-extract.
- JD32315-22 for 2-Fluorobiphenyl: Outside of in house control limits. Refer to re-extract.
- JD32315-10 for Benzo(g,h,i)perylene: Associated CCV outside of control limits high. Estimated value, due to corresponding failure in the batch associated CCV.
- JD32315-20 for Benzo(g,h,i)perylene: Associated CCV outside of control limits high. Estimated value, due to corresponding failure in the batch associated CCV.
- JD32315-1 for Benzo(g,h,i)perylene: Associated CCV outside of control limits high. Estimated value, due to corresponding failure in the batch associated CCV.
- JD32315-1 for Dibenzo(a,h)anthracene: Associated CCV outside of control limits high. Estimated value, due to corresponding failure in the batch associated CCV.
- JD32315-1 for Indeno(1,2,3-cd)pyrene: Associated CCV outside of control limits high. Estimated value, due to corresponding failure in the batch associated CCV.

Matrix: SO **Batch ID:** OP35857

- Sample(s) JD31890-2MS, JD31890-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- The following samples were extracted outside of holding time for method SW846 8270E: JD32315-22, JD32315-8 Reextract due to surrogate outside QC limits. Original prep date within holding time. Dilution required due to viscosity of the extract matrix.
- JD32315-22: Sample extracted outside the holding time.
- JD32315-22: Reextract due to surrogate outside QC limits. Original prep date within holding time. Dilution required due to viscosity of the extract matrix.
- JD32315-8: Sample extracted outside the holding time.
- JD32315-8: Sample extracted outside the holding time. Reextract due to surrogate outside QC limits. Original prep date within holding time.

GC Volatiles By Method SW846 8015D

Matrix: SO **Batch ID:** GLM4714

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32192-3AMS, JD32192-3AMSD were used as the QC samples indicated.

GC/LC Semi-volatiles By Method SW846 8015D

Matrix: SO	Batch ID: OP35757
-------------------	--------------------------

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32459-1MS, JD32459-1MSD were used as the QC samples indicated.

GC/LC Semi-volatiles By Method SW846 8081B

Matrix: LEACHATE	Batch ID: OP35939
-------------------------	--------------------------

- All samples were extracted within the recommended method holding time.
- Sample(s) JD32315-3LS, JD32315-3MS, JD32315-3MSD, OP35939-MSMSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

GC/LC Semi-volatiles By Method SW846 8082A

Matrix: SO

Batch ID: OP35562

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD31803-24MS, JD31803-24MSD, OP35562-MSMSD were used as the QC samples indicated.
- Matrix Spike / Matrix Spike Duplicate Recovery(s) for Aroclor 1260 are outside control limits.
- OP35562-BS1: Had TBA cleanup.
- OP35562-MB1: Had TBA cleanup.
- OP35562-BS1 for Aroclor 1260: Reported from the 1st signal. The %D of the CCV on the 2nd signal exceeds the method criteria of 20%, so it being used for confirmation only.
- OP35562-BS1 for Aroclor 1260: Reported from the 1st signal. The %D of the CCV on the 2nd signal exceeds the method criteria of 20%, so it being used for confirmation only.

Matrix: SO

Batch ID: OP35567

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD31911-23MS, JD31911-23MSD, OP35567-MSMSD were used as the QC samples indicated.
- OP35567-MB1: Had TBA cleanup.
- OP35567-BS1: Had TBA cleanup.
- OP35567-BS1 for Aroclor 1260: Reported from the 1st signal. The %D of the CCV on the 2nd signal exceeds the method criteria of 20%, so it being used for confirmation only.
- OP35567-BS1 for Aroclor 1260: Reported from the 1st signal. The %D of the CCV on the 2nd signal exceeds the method criteria of 20%, so it being used for confirmation only.
- OP35567-BSD for Aroclor 1260: Reported from the 1st signal. The %D of the CCV on the 2nd signal exceeds the method criteria of 20%, so it being used for confirmation only.

Matrix: SO

Batch ID: OP35714

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32329-5MS, JD32329-5MSD, OP35714-MSMSD were used as the QC samples indicated.

Matrix: SO

Batch ID: OP35760

- All samples were extracted within the recommended method holding time.
- Sample(s) JD32424-4MS, JD32424-4MSD, OP35760-MSMSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JD32315-15: Had TBA cleanup.
- JD32315-27: Had TBA cleanup.

GC/LC Semi-volatiles By Method SW846 8151A

Matrix: LEACHATE

Batch ID: OP35941

- All samples were extracted within the recommended method holding time.
- Sample(s) JD32315-3LS, JD32315-3MS, JD32315-3MSD, JD32315-3LS were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike / Matrix Spike Duplicate Recovery(s) for 2,4-D are outside control limits.
- OP35941-BS1 for 2,4-D: Reported from 2nd signal. 1st signal used for confirmation.
- JD32315-21 for 2,4-D: Associated CCV outside of control limits high, sample was ND.
- JD32315-27 for 2,4-D: Associated CCV outside of control limits high, sample was ND.
- JD32315-24 for 2,4-D: Associated CCV outside of control limits high, sample was ND.
- JD32315-12 for 2,4-D: Associated CCV outside of control limits high, sample was ND.
- JD32315-18 for 2,4-D: Associated CCV outside of control limits high, sample was ND.
- JD32315-15 for 2,4-D: Associated CCV outside of control limits high, sample was ND.
- JD32315-3 for 2,4-D: Associated CCV outside of control limits high, sample was ND.
- JD32315-6 for 2,4-D: Associated CCV outside of control limits high, sample was ND.
- JD32315-7 for 2,4-D: Associated CCV outside of control limits high, sample was ND.
- OP35941-BS1 for 2,4,5-TP (Silvex): Reported from 1st signal. 2nd signal used for confirmation.

Wednesday, October 20, 2021

Page 7 of 10

Metals Analysis By Method SW846 6010D

Matrix: LEACHATE **Batch ID:** MP29010

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32226-1AMS, JD32226-1AMSD, JD32226-1ASDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Cadmium, Selenium, Silver are outside control limits for sample MP29010-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Matrix: LEACHATE **Batch ID:** MP29028

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32315-21MS, JD32315-21MSD, JD32315-21SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic, Cadmium, Silver are outside control limits for sample MP29028-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Matrix: SO **Batch ID:** MP28913

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32315-1MS, JD32315-1MSD, JD32315-1SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Cadmium, Selenium, Silver are outside control limits for sample MP28913-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- JD32315-5 for Lead: Elevated detection limit due to dilution required for high interfering element.
- JD32315-16 for Cadmium: Elevated detection limit due to dilution required for high interfering element.
- JD32315-11 for Arsenic: Elevated detection limit due to dilution required for high interfering element.
- JD32315-5 for Arsenic: Elevated detection limit due to dilution required for high interfering element.
- JD32315-5 for Selenium: Elevated detection limit due to dilution required for high interfering element.
- JD32315-16 for Arsenic: Elevated detection limit due to dilution required for high interfering element.
- JD32315-11 for Silver: Elevated detection limit due to dilution required for high interfering element.
- MP28913-SD1 for Chromium: Serial dilution indicates possible matrix interference.
- JD32315-11 for Selenium: Elevated detection limit due to dilution required for high interfering element.
- JD32315-16 for Silver: Elevated detection limit due to dilution required for high interfering element.
- JD32315-11 for Lead: Elevated detection limit due to dilution required for high interfering element.
- JD32315-8 for Arsenic: Elevated detection limit due to dilution required for high interfering element.
- JD32315-8 for Lead: Elevated detection limit due to dilution required for high interfering element.
- JD32315-5 for Cadmium: Elevated detection limit due to dilution required for high interfering element.
- JD32315-5 for Silver: Elevated detection limit due to dilution required for high interfering element.
- JD32315-8 for Selenium: Elevated detection limit due to dilution required for high interfering element.
- JD32315-11 for Cadmium: Elevated detection limit due to dilution required for high interfering element.
- JD32315-8 for Silver: Elevated detection limit due to dilution required for high interfering element.
- JD32315-16 for Lead: Elevated detection limit due to dilution required for high interfering element.
- JD32315-16 for Selenium: Elevated detection limit due to dilution required for high interfering element.
- JD32315-8 for Cadmium: Elevated detection limit due to dilution required for high interfering element.

Metals Analysis By Method SW846 7470A

Matrix: LEACHATE **Batch ID:** MP29030

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32226-1AMS, JD32226-1AMSD were used as the QC samples for metals.

Matrix: LEACHATE **Batch ID:** MP29059

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32315-21MS, JD32315-21MSD were used as the QC samples for metals.

Metals Analysis By Method SW846 7471B

Matrix: SO **Batch ID:** MP28930

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32329-5MS, JD32329-5MSD were used as the QC samples for metals.

Matrix: SO **Batch ID:** MP28967

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32315-4MS, JD32315-4MSD were used as the QC samples for metals.

General Chemistry By Method SM2540 G 18TH ED MOD

Matrix: SO **Batch ID:** GN22293

- Sample(s) JD32434-7DUP were used as the QC samples for Solids, Percent.

Matrix: SO **Batch ID:** GN22296

- Sample(s) JD32337-1DUP were used as the QC samples for Solids, Percent.

Matrix: SO **Batch ID:** GN22414

- Sample(s) JD32673-9DUP were used as the QC samples for Solids, Percent.

General Chemistry By Method SW846 1010A/ASTM D93

Matrix: SO **Batch ID:** GN22455

- Sample(s) JD32315-3DUP were used as the QC samples for Ignitability (Flashpoint).

General Chemistry By Method SW846 9045D

Matrix: SO **Batch ID:** GN22399

- Sample(s) JD32226-1ADUP were used as the QC samples for Corrosivity as pH.

General Chemistry By Method SW846 9095/9095B

Matrix: SO

Batch ID: GN22409

- Sample(s) JD32226-1DUP were used as the QC samples for Paint Filter Test.
- JD32315-27 for Paint Filter Test: No free liquids.
- JD32315-12 for Paint Filter Test: No free liquids.
- JD32315-18 for Paint Filter Test: No free liquids.
- JD32315-24 for Paint Filter Test: No free liquids.
- JD32315-3 for Paint Filter Test: No free liquids.
- JD32315-7 for Paint Filter Test: No free liquids.
- JD32315-21 for Paint Filter Test: No free liquids.
- JD32315-6 for Paint Filter Test: No free liquids.
- JD32315-15 for Paint Filter Test: No free liquids.

General Chemistry By Method SW846 CHAP7/9012 B

Matrix: SO

Batch ID: GP36268

- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32315-3DUP were used as the QC samples for Cyanide Reactivity.
- The following samples were prepared outside of holding time for method SW846 CHAP7/9012 B: JD32315-12, JD32315-15, JD32315-18, JD32315-3, JD32315-6, JD32315-7 Analyzed outside the 14 day holding time applied by laboratory SOP. No regulatory holding time published for this method.

Matrix: SO

Batch ID: GP36379

- All method blanks for this batch meet method specific criteria.
- Sample(s) JD33148-3DUP were used as the QC samples for Cyanide Reactivity.
- The following samples were prepared outside of holding time for method SW846 CHAP7/9012 B: JD32315-21 Analyzed outside the 14 day holding time applied by laboratory SOP. No regulatory holding time published for this method.

General Chemistry By Method SW846 CHAP7/9034

Matrix: SO

Batch ID: GP36267

- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32315-3DUP, JD32315-3MS were used as the QC samples for Sulfide Reactivity.
- The following samples were prepared outside of holding time for method SW846 CHAP7/9034: JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-3, JD32315-6, JD32315-7 Analyzed outside the 14 day holding time applied by laboratory SOP. No regulatory holding time published for this method.
- JD32315-27 for Sulfide Reactivity: Analyzed outside the 14 day holding time applied by laboratory SOP. No regulatory holding time published for this method.
- JD32315-24 for Sulfide Reactivity: Analyzed outside the 14 day holding time applied by laboratory SOP. No regulatory holding time published for this method.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Summary of Hits

Job Number: JD32315
 Account: Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT
 Collected: 09/20/21 thru 09/24/21



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

JD32315-1 B-106-A

Acenaphthylene	32.0 J	35	18	ug/kg	SW846 8270E
Benzo(a)anthracene	88.2	35	9.8	ug/kg	SW846 8270E
Benzo(a)pyrene	96.8	35	16	ug/kg	SW846 8270E
Benzo(b)fluoranthene	117	35	15	ug/kg	SW846 8270E
Benzo(g,h,i)perylene ^a	72.4	35	17	ug/kg	SW846 8270E
Benzo(k)fluoranthene	52.2	35	16	ug/kg	SW846 8270E
Chrysene	90.7	35	11	ug/kg	SW846 8270E
Dibenzo(a,h)anthracene ^a	19.7 J	35	15	ug/kg	SW846 8270E
Fluoranthene	129	35	15	ug/kg	SW846 8270E
Indeno(1,2,3-cd)pyrene ^a	84.3	35	16	ug/kg	SW846 8270E
Phenanthrene	29.4 J	35	12	ug/kg	SW846 8270E
Pyrene	147	35	11	ug/kg	SW846 8270E
Arsenic	6.3	2.1		mg/kg	SW846 6010D
Barium	25.7	21		mg/kg	SW846 6010D
Chromium	19.4	1.1		mg/kg	SW846 6010D
Lead	18.0	2.1		mg/kg	SW846 6010D
Silver	0.61	0.53		mg/kg	SW846 6010D

JD32315-2 B-106-B

Acetone	15.0	11	4.4	ug/kg	SW846 8260D
Carbon disulfide	0.95 J	2.1	0.57	ug/kg	SW846 8260D
Chloroform	4.9	2.1	0.55	ug/kg	SW846 8260D
p-Isopropyltoluene	0.52 J	2.1	0.42	ug/kg	SW846 8260D
Arsenic	5.3	1.7		mg/kg	SW846 6010D
Chromium	7.9	0.86		mg/kg	SW846 6010D
Lead	4.9	1.7		mg/kg	SW846 6010D

JD32315-3 B-106-C

TPH-DRO (C10-C28)	10.4	7.2	2.4	mg/kg	SW846 8015D
Corrosivity as pH	7.95 NC			su	SW846 9045D
Ignitability (Flashpoint)	> 200			Deg. F	SW846 1010A/ASTM D93
Chloroform ^b	0.0114 B	0.0050	0.0025	mg/l	SW846 8260D

JD32315-4 H-104-A

Acenaphthene	149	34	12	ug/kg	SW846 8270E
Acenaphthylene	835	34	18	ug/kg	SW846 8270E
Anthracene	1280	34	21	ug/kg	SW846 8270E
Benzo(a)anthracene	1940	34	9.8	ug/kg	SW846 8270E
Benzo(a)pyrene	1330	34	16	ug/kg	SW846 8270E
Benzo(b)fluoranthene	1690	34	15	ug/kg	SW846 8270E

Summary of Hits

Job Number: JD32315
 Account: Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT
 Collected: 09/20/21 thru 09/24/21



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
		852	34	17	ug/kg	SW846 8270E
		745	34	16	ug/kg	SW846 8270E
		1760	34	11	ug/kg	SW846 8270E
		250	34	15	ug/kg	SW846 8270E
		5840	170	77	ug/kg	SW846 8270E
		760	34	16	ug/kg	SW846 8270E
		1080	34	16	ug/kg	SW846 8270E
		1930	34	9.7	ug/kg	SW846 8270E
		7810	170	58	ug/kg	SW846 8270E
		4680	170	55	ug/kg	SW846 8270E
		6.3	2.1		mg/kg	SW846 6010D
		21.3	21		mg/kg	SW846 6010D
		16.7	1.1		mg/kg	SW846 6010D
		88.6	2.1		mg/kg	SW846 6010D
		0.98	0.53		mg/kg	SW846 6010D

JD32315-5 H-104-B

Acetone	13.5	9.5	3.9	ug/kg	SW846 8260D
Carbon disulfide	2.3	1.9	0.51	ug/kg	SW846 8260D
1,2,4-Trimethylbenzene	0.58 J	1.9	0.47	ug/kg	SW846 8260D
Anthracene	27.9 J	38	24	ug/kg	SW846 8270E
Benzo(a)anthracene	52.8	38	11	ug/kg	SW846 8270E
Benzo(a)pyrene	35.4 J	38	18	ug/kg	SW846 8270E
Benzo(b)fluoranthene	47.8	38	17	ug/kg	SW846 8270E
Benzo(g,h,i)perylene	19.7 J	38	19	ug/kg	SW846 8270E
Benzo(k)fluoranthene	19.4 J	38	18	ug/kg	SW846 8270E
Chrysene	46.8	38	12	ug/kg	SW846 8270E
Fluoranthene	135	38	17	ug/kg	SW846 8270E
Indeno(1,2,3-cd)pyrene	25.3 J	38	18	ug/kg	SW846 8270E
Naphthalene	50.1	38	11	ug/kg	SW846 8270E
Phenanthrene	163	38	13	ug/kg	SW846 8270E
Pyrene	113	38	12	ug/kg	SW846 8270E
Arsenic ^c	7.2	3.1		mg/kg	SW846 6010D
Chromium	10.1	0.79		mg/kg	SW846 6010D
Lead ^c	7.2	3.1		mg/kg	SW846 6010D

JD32315-6 H-104-C1

TPH-DRO (C10-C28)	13.1	7.1	2.4	mg/kg	SW846 8015D
Corrosivity as pH	7.64 NC			su	SW846 9045D
Ignitability (Flashpoint)	> 200			Deg. F	SW846 1010A/ASTM D93
Chloroform ^b	0.0113 B	0.0050	0.0025	mg/l	SW846 8260D
Chromium	0.033	0.010		mg/l	SW846 6010D

Summary of Hits

Job Number: JD32315
 Account: Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT
 Collected: 09/20/21 thru 09/24/21



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

JD32315-7 H-104-C2

TPH-DRO (C10-C28)	7.08	6.8	2.3	mg/kg	SW846 8015D
Corrosivity as pH	7.62 NC			su	SW846 9045D
Ignitability (Flashpoint)	> 200			Deg. F	SW846 1010A/ASTM D93
Chloroform ^b	0.0116 B	0.0050	0.0025	mg/l	SW846 8260D
Chromium	0.034	0.010		mg/l	SW846 6010D

JD32315-8 DUP-A

Acenaphthene ^d	275	68	23	ug/kg	SW846 8270E
Acenaphthylene ^d	1490	68	34	ug/kg	SW846 8270E
Anthracene ^d	2190	68	42	ug/kg	SW846 8270E
Benzo(a)anthracene ^d	2980	68	19	ug/kg	SW846 8270E
Benzo(a)pyrene ^d	2030	68	31	ug/kg	SW846 8270E
Benzo(b)fluoranthene ^d	2620	68	30	ug/kg	SW846 8270E
Benzo(g,h,i)perylene ^d	1290	68	34	ug/kg	SW846 8270E
Benzo(k)fluoranthene ^d	975	68	32	ug/kg	SW846 8270E
Chrysene ^d	2580	68	21	ug/kg	SW846 8270E
Dibenzo(a,h)anthracene ^d	401	68	30	ug/kg	SW846 8270E
Fluoranthene ^e	9860	680	300	ug/kg	SW846 8270E
Fluorene ^d	1280	68	31	ug/kg	SW846 8270E
Indeno(1,2,3-cd)pyrene ^d	1680	68	32	ug/kg	SW846 8270E
Naphthalene ^d	3100	68	19	ug/kg	SW846 8270E
Phenanthrene ^e	13400	680	230	ug/kg	SW846 8270E
Pyrene ^d	6040	68	22	ug/kg	SW846 8270E
Arsenic ^c	8.3	4.2		mg/kg	SW846 6010D
Barium	23.5	21		mg/kg	SW846 6010D
Chromium	19.1	1.1		mg/kg	SW846 6010D
Lead ^c	16.3	4.2		mg/kg	SW846 6010D

JD32315-9 DUP-B

Acetone	18.7	10	4.3	ug/kg	SW846 8260D
Carbon disulfide	1.8 J	2.1	0.56	ug/kg	SW846 8260D
Naphthalene	10.1	5.2	2.6	ug/kg	SW846 8260D
1,2,4-Trimethylbenzene	0.80 J	2.1	0.52	ug/kg	SW846 8260D
Acenaphthylene	59.7	45	23	ug/kg	SW846 8270E
Anthracene	113	45	28	ug/kg	SW846 8270E
Benzo(a)anthracene	215	45	13	ug/kg	SW846 8270E
Benzo(a)pyrene	143	45	21	ug/kg	SW846 8270E
Benzo(b)fluoranthene	199	45	20	ug/kg	SW846 8270E
Benzo(g,h,i)perylene	81.1	45	23	ug/kg	SW846 8270E
Benzo(k)fluoranthene	76.3	45	21	ug/kg	SW846 8270E
Chrysene	194	45	14	ug/kg	SW846 8270E

Summary of Hits

Job Number: JD32315
 Account: Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT
 Collected: 09/20/21 thru 09/24/21



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

Dibenzo(a,h)anthracene		21.7 J	45	20	ug/kg	SW846 8270E
Fluoranthene		554	45	20	ug/kg	SW846 8270E
Fluorene		63.9	45	21	ug/kg	SW846 8270E
Indeno(1,2,3-cd)pyrene		104	45	21	ug/kg	SW846 8270E
Naphthalene		88.2	45	13	ug/kg	SW846 8270E
Phenanthrene		590	45	15	ug/kg	SW846 8270E
Pyrene		487	45	14	ug/kg	SW846 8270E
Arsenic		5.9	1.8		mg/kg	SW846 6010D
Chromium		26.5	0.88		mg/kg	SW846 6010D
Lead		8.5	1.8		mg/kg	SW846 6010D

JD32315-10 H-101-A

Acenaphthene ^f		62.2 J	68	24	ug/kg	SW846 8270E
Acenaphthylene ^f		577	68	35	ug/kg	SW846 8270E
Anthracene ^f		671	68	42	ug/kg	SW846 8270E
Benzo(a)anthracene ^f		1520	68	19	ug/kg	SW846 8270E
Benzo(a)pyrene ^f		1110	68	31	ug/kg	SW846 8270E
Benzo(b)fluoranthene ^f		1430	68	30	ug/kg	SW846 8270E
Benzo(g,h,i)perylene ^g		722	68	34	ug/kg	SW846 8270E
Benzo(k)fluoranthene ^f		660	68	32	ug/kg	SW846 8270E
Chrysene ^f		1410	68	22	ug/kg	SW846 8270E
Dibenzo(a,h)anthracene ^g		196	68	30	ug/kg	SW846 8270E
Fluoranthene ^f		3770	68	30	ug/kg	SW846 8270E
Fluorene ^f		362	68	31	ug/kg	SW846 8270E
Indeno(1,2,3-cd)pyrene ^g		910	68	32	ug/kg	SW846 8270E
Naphthalene ^f		47.3 J	68	19	ug/kg	SW846 8270E
Phenanthrene ^f		3450	68	23	ug/kg	SW846 8270E
Pyrene ^f		3290	68	22	ug/kg	SW846 8270E
Arsenic		7.8	2.1		mg/kg	SW846 6010D
Barium		29.9	21		mg/kg	SW846 6010D
Chromium		37.9	1.1		mg/kg	SW846 6010D
Lead		12.7	2.1		mg/kg	SW846 6010D
Silver		0.65	0.53		mg/kg	SW846 6010D

JD32315-11 H-101-B

Acetone		44.2	10	4.2	ug/kg	SW846 8260D
Carbon disulfide		0.93 J	2.1	0.55	ug/kg	SW846 8260D
Acenaphthylene		35.9 J	42	21	ug/kg	SW846 8270E
Anthracene		35.9 J	42	25	ug/kg	SW846 8270E
Benzo(a)anthracene		119	42	12	ug/kg	SW846 8270E
Benzo(a)pyrene		112	42	19	ug/kg	SW846 8270E
Benzo(b)fluoranthene		148	42	18	ug/kg	SW846 8270E
Benzo(g,h,i)perylene		70.6	42	21	ug/kg	SW846 8270E

Summary of Hits

Job Number: JD32315
 Account: Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT
 Collected: 09/20/21 thru 09/24/21



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
		56.0	42	19	ug/kg	SW846 8270E
		140	42	13	ug/kg	SW846 8270E
		232	42	19	ug/kg	SW846 8270E
		82.0	42	20	ug/kg	SW846 8270E
		17.4 J	42	12	ug/kg	SW846 8270E
		125	42	14	ug/kg	SW846 8270E
		259	42	13	ug/kg	SW846 8270E
		8.0	3.3		mg/kg	SW846 6010D
		16.7	0.82		mg/kg	SW846 6010D
		10.9	3.3		mg/kg	SW846 6010D
		0.072	0.039		mg/kg	SW846 7471B
		0.82	0.82		mg/kg	SW846 6010D
JD32315-12 H-101-C						
		120	6.3	2.1	mg/kg	SW846 8015D
		8.83 NC			su	SW846 9045D
		> 200			Deg. F	SW846 1010A/ASTM D93
		0.0118 B	0.0050	0.0025	mg/l	SW846 8260D
		0.024	0.010		mg/l	SW846 6010D
JD32315-13 B-103-A						
		38.5	37	13	ug/kg	SW846 8270E
		226	37	19	ug/kg	SW846 8270E
		210	37	23	ug/kg	SW846 8270E
		459	37	10	ug/kg	SW846 8270E
		520	37	17	ug/kg	SW846 8270E
		641	37	16	ug/kg	SW846 8270E
		356	37	18	ug/kg	SW846 8270E
		277	37	17	ug/kg	SW846 8270E
		511	37	12	ug/kg	SW846 8270E
		86.1	37	16	ug/kg	SW846 8270E
		643	37	16	ug/kg	SW846 8270E
		57.9	37	17	ug/kg	SW846 8270E
		414	37	17	ug/kg	SW846 8270E
		275	37	10	ug/kg	SW846 8270E
		681	37	12	ug/kg	SW846 8270E
		745	37	12	ug/kg	SW846 8270E
		10.1	2.3		mg/kg	SW846 6010D
		47.2	23		mg/kg	SW846 6010D
		1.7	0.58		mg/kg	SW846 6010D
		18.4	1.2		mg/kg	SW846 6010D
		44.4	2.3		mg/kg	SW846 6010D
		0.056	0.036		mg/kg	SW846 7471B

Summary of Hits

Job Number: JD32315
 Account: Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT
 Collected: 09/20/21 thru 09/24/21



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

JD32315-14 B-103-B

Acetone	69.4	12	5.0	ug/kg	SW846 8260D
2-Butanone (MEK)	17.5	12	2.9	ug/kg	SW846 8260D
Carbon disulfide	0.80 J	2.4	0.64	ug/kg	SW846 8260D
Arsenic	4.9	2.7		mg/kg	SW846 6010D
Chromium	15.3	1.3		mg/kg	SW846 6010D
Lead	8.5	2.7		mg/kg	SW846 6010D

JD32315-15 B-103-C

TPH-DRO (C10-C28)	68.7	7.1	2.4	mg/kg	SW846 8015D
Corrosivity as pH	10.32 NC			su	SW846 9045D
Ignitability (Flashpoint)	> 200			Deg. F	SW846 1010A/ASTM D93
Chloroform ^b	0.0114 B	0.0050	0.0025	mg/l	SW846 8260D
Cadmium	0.0067	0.0040		mg/l	SW846 6010D

JD32315-16 H-102-A

Benzo(a)anthracene	49.4	36	10	ug/kg	SW846 8270E
Benzo(a)pyrene	40.3	36	16	ug/kg	SW846 8270E
Benzo(b)fluoranthene	49.0	36	16	ug/kg	SW846 8270E
Benzo(g,h,i)perylene	22.2 J	36	18	ug/kg	SW846 8270E
Benzo(k)fluoranthene	22.1 J	36	17	ug/kg	SW846 8270E
Chrysene	45.8	36	11	ug/kg	SW846 8270E
Fluoranthene	92.8	36	16	ug/kg	SW846 8270E
Indeno(1,2,3-cd)pyrene	23.2 J	36	17	ug/kg	SW846 8270E
Phenanthrene	76.3	36	12	ug/kg	SW846 8270E
Pyrene	95.7	36	11	ug/kg	SW846 8270E
Arsenic ^c	11.6	4.5		mg/kg	SW846 6010D
Barium	23.5	22		mg/kg	SW846 6010D
Chromium	13.9	1.1		mg/kg	SW846 6010D
Lead ^c	36.5	4.5		mg/kg	SW846 6010D
Mercury	0.14	0.034		mg/kg	SW846 7471B

JD32315-17 H-102-B

Acetone	19.3	11	4.4	ug/kg	SW846 8260D
Arsenic	6.5	1.5		mg/kg	SW846 6010D
Chromium	36.2	0.76		mg/kg	SW846 6010D
Lead	12.6	1.5		mg/kg	SW846 6010D

Summary of Hits

Job Number: JD32315
 Account: Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT
 Collected: 09/20/21 thru 09/24/21



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JD32315-18	H-102-C					
TPH-DRO (C10-C28)		7.25	6.8	2.3	mg/kg	SW846 8015D
Corrosivity as pH		8.52 NC			su	SW846 9045D
Ignitability (Flashpoint)		> 200			Deg. F	SW846 1010A/ASTM D93
Chloroform ^b		0.0121 B	0.0050	0.0025	mg/l	SW846 8260D
Chromium		0.031	0.010		mg/l	SW846 6010D
JD32315-19	B-102-A					
Acenaphthylene		93.0	37	19	ug/kg	SW846 8270E
Anthracene		34.7 J	37	23	ug/kg	SW846 8270E
Benzo(a)anthracene		198	37	10	ug/kg	SW846 8270E
Benzo(a)pyrene		264	37	17	ug/kg	SW846 8270E
Benzo(b)fluoranthene		320	37	16	ug/kg	SW846 8270E
Benzo(g,h,i)perylene		168	37	18	ug/kg	SW846 8270E
Benzo(k)fluoranthene		141	37	17	ug/kg	SW846 8270E
Chrysene		200	37	12	ug/kg	SW846 8270E
Dibenzo(a,h)anthracene		45.2	37	16	ug/kg	SW846 8270E
Fluoranthene		212	37	16	ug/kg	SW846 8270E
Indeno(1,2,3-cd)pyrene		204	37	17	ug/kg	SW846 8270E
Naphthalene		21.0 J	37	10	ug/kg	SW846 8270E
Phenanthrene		73.4	37	12	ug/kg	SW846 8270E
Pyrene		284	37	12	ug/kg	SW846 8270E
Arsenic		5.9	2.2		mg/kg	SW846 6010D
Barium		35.7	22		mg/kg	SW846 6010D
Chromium		9.3	1.1		mg/kg	SW846 6010D
Lead		29.1	2.2		mg/kg	SW846 6010D
Mercury		0.16	0.034		mg/kg	SW846 7471B
JD32315-20	B-102-B					
Acetone		22.5	8.5	3.5	ug/kg	SW846 8260D
Carbon disulfide		0.60 J	1.7	0.45	ug/kg	SW846 8260D
Ethylbenzene		0.62 J	0.85	0.38	ug/kg	SW846 8260D
Naphthalene		156	4.2	2.1	ug/kg	SW846 8260D
Styrene		0.40 J	1.7	0.34	ug/kg	SW846 8260D
1,2,4-Trimethylbenzene		4.4	1.7	0.42	ug/kg	SW846 8260D
1,3,5-Trimethylbenzene		2.0	1.7	0.37	ug/kg	SW846 8260D
m,p-Xylene		1.2	0.85	0.76	ug/kg	SW846 8260D
o-Xylene		2.5	0.85	0.39	ug/kg	SW846 8260D
Xylene (total)		3.7	0.85	0.39	ug/kg	SW846 8260D
Acenaphthene ^f		194	71	24	ug/kg	SW846 8270E
Acenaphthylene ^f		266	71	36	ug/kg	SW846 8270E
Anthracene ^f		248	71	43	ug/kg	SW846 8270E

Summary of Hits

Job Number: JD32315
 Account: Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT
 Collected: 09/20/21 thru 09/24/21



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method	
		Benzo(a)anthracene ^f	648	71	20	ug/kg	SW846 8270E
		Benzo(a)pyrene ^f	750	71	32	ug/kg	SW846 8270E
		Benzo(b)fluoranthene ^f	794	71	31	ug/kg	SW846 8270E
		Benzo(g,h,i)perylene ^g	522	71	35	ug/kg	SW846 8270E
		Benzo(k)fluoranthene ^f	313	71	33	ug/kg	SW846 8270E
		Chrysene ^f	644	71	22	ug/kg	SW846 8270E
		Dibenzo(a,h)anthracene ^g	132	71	31	ug/kg	SW846 8270E
		Fluoranthene ^f	767	71	32	ug/kg	SW846 8270E
		Fluorene ^f	224	71	33	ug/kg	SW846 8270E
		Indeno(1,2,3-cd)pyrene ^g	573	71	33	ug/kg	SW846 8270E
		Naphthalene ^f	373	71	20	ug/kg	SW846 8270E
		Phenanthrene ^f	919	71	24	ug/kg	SW846 8270E
		Pyrene ^f	1160	71	23	ug/kg	SW846 8270E
		Arsenic	5.5	2.2		mg/kg	SW846 6010D
		Barium	27.8	22		mg/kg	SW846 6010D
		Chromium	14.3	1.1		mg/kg	SW846 6010D
		Lead	319	2.2		mg/kg	SW846 6010D
		Mercury	0.036	0.030		mg/kg	SW846 7471B
JD32315-21 B-102-C							
		TPH-DRO (C10-C28)	217	7.5	2.6	mg/kg	SW846 8015D
		Corrosivity as pH	10.91 NC			su	SW846 9045D
		Ignitability (Flashpoint)	> 200			Deg. F	SW846 1010A/ASTM D93
		Chloroform ^b	0.0120 B	0.0050	0.0025	mg/l	SW846 8260D
		Barium	0.22	0.20		mg/l	SW846 6010D
JD32315-22 B-105-A(0.5-2')							
		Acenaphthene ^h	250	68	23	ug/kg	SW846 8270E
		Acenaphthylene ^h	1770	68	34	ug/kg	SW846 8270E
		Anthracene ^h	2460	68	41	ug/kg	SW846 8270E
		Benzo(a)anthracene ^h	3950	68	19	ug/kg	SW846 8270E
		Benzo(a)pyrene ^h	2710	68	31	ug/kg	SW846 8270E
		Benzo(b)fluoranthene ^h	3500	68	30	ug/kg	SW846 8270E
		Benzo(g,h,i)perylene ^h	1710	68	34	ug/kg	SW846 8270E
		Benzo(k)fluoranthene ^h	1370	68	32	ug/kg	SW846 8270E
		Chrysene ^h	3490	68	21	ug/kg	SW846 8270E
		Dibenzo(a,h)anthracene ^h	529	68	30	ug/kg	SW846 8270E
		Fluoranthene ^e	11500	680	300	ug/kg	SW846 8270E
		Fluorene ^h	1300	68	31	ug/kg	SW846 8270E
		Indeno(1,2,3-cd)pyrene ^h	2290	68	32	ug/kg	SW846 8270E
		Naphthalene ^h	1240	68	19	ug/kg	SW846 8270E
		Phenanthrene ^e	12200	680	230	ug/kg	SW846 8270E
		Pyrene ^e	9120	680	220	ug/kg	SW846 8270E

Summary of Hits

Job Number: JD32315
 Account: Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT
 Collected: 09/20/21 thru 09/24/21

Lab Sample ID	Client Sample ID	Result/ Analyte	RL	MDL	Units	Method
		Arsenic	8.2	2.0	mg/kg	SW846 6010D
		Barium	25.2	20	mg/kg	SW846 6010D
		Chromium	13.2	1.0	mg/kg	SW846 6010D
		Lead	13.6	2.0	mg/kg	SW846 6010D
		Silver	0.61	0.50	mg/kg	SW846 6010D
JD32315-23	B-105-B(20-24')					
		Acetone	10.5	4.1	1.7	ug/kg SW846 8260D
		Carbon disulfide	0.59 J	0.82	0.22	ug/kg SW846 8260D
		m,p-Xylene	0.40 J	0.41	0.37	ug/kg SW846 8260D
		Xylene (total)	0.40 J	0.41	0.19	ug/kg SW846 8260D
		Arsenic	4.6	2.2	mg/kg	SW846 6010D
		Chromium	8.8	1.1	mg/kg	SW846 6010D
		Lead	4.3	2.2	mg/kg	SW846 6010D
JD32315-24	B-105-C(0.5-24')					
		TPH-DRO (C10-C28)	9.56	7.2	2.4	mg/kg SW846 8015D
		Corrosivity as pH	7.68 NC			su SW846 9045D
		Ignitability (Flashpoint)	> 200			Deg. F SW846 1010A/ASTM D93
		Chloroform ^b	0.0117 B	0.0050	0.0025	mg/l SW846 8260D
JD32315-25	B-104-A					
		Arsenic	11.9	2.2	mg/kg	SW846 6010D
		Chromium	11.2	1.1	mg/kg	SW846 6010D
		Lead	7.2	2.2	mg/kg	SW846 6010D
JD32315-26	B-104-B					
		Acetone	153	13	5.5	ug/kg SW846 8260D
		2-Butanone (MEK)	29.5	13	3.2	ug/kg SW846 8260D
		Carbon disulfide	1.8 J	2.6	0.70	ug/kg SW846 8260D
		Naphthalene	54.3	48	14	ug/kg SW846 8270E
		Phenanthrene	37.9 J	48	16	ug/kg SW846 8270E
		Pyrene	21.3 J	48	15	ug/kg SW846 8270E
		Arsenic	6.6	2.9	mg/kg	SW846 6010D
		Chromium	15.7	1.5	mg/kg	SW846 6010D
		Lead	9.3	2.9	mg/kg	SW846 6010D
JD32315-27	B-104-C					
		TPH-DRO (C10-C28)	35.5	7.7	2.6	mg/kg SW846 8015D
		Corrosivity as pH	6.89 NC			su SW846 9045D

Summary of Hits

Job Number: JD32315
Account: Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT
Collected: 09/20/21 thru 09/24/21

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Ignitability (Flashpoint)		> 200			Deg. F	SW846 1010A/ASTM D93
Chloroform ^b		0.0120 B	0.0050	0.0025	mg/l	SW846 8260D

- (a) Associated CCV outside of control limits high. Estimated value, due to corresponding failure in the batch associated CCV.
- (b) Indicates analyte found in associated leachate blank.
- (c) Elevated detection limit due to dilution required for high interfering element.
- (d) Sample extracted outside the holding time. Reextract due to surrogate outside QC limits. Original prep date within holding time.
- (e) Sample extracted outside the holding time.
- (f) Dilution required due to matrix interference.
- (g) Dilution required due to matrix interference. Associated CCV outside of control limits high. Estimated value, due to corresponding failure in the batch associated CCV.
- (h) Reextract due to surrogate outside QC limits. Original prep date within holding time. Dilution required due to viscosity of the extract matrix.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: B-106-A Lab Sample ID: JD32315-1 Matrix: SO - Soil Method: SW846 8270E SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/20/21 Date Received: 09/28/21 Percent Solids: 94.4
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2P103320.D	1	10/06/21 17:32	BL	10/04/21 10:00	OP35710	E2P4640
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.5 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	35	12	ug/kg	
208-96-8	Acenaphthylene	32.0	35	18	ug/kg	J
120-12-7	Anthracene	ND	35	21	ug/kg	
56-55-3	Benzo(a)anthracene	88.2	35	9.8	ug/kg	
50-32-8	Benzo(a)pyrene	96.8	35	16	ug/kg	
205-99-2	Benzo(b)fluoranthene	117	35	15	ug/kg	
191-24-2	Benzo(g,h,i)perylene ^a	72.4	35	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	52.2	35	16	ug/kg	
218-01-9	Chrysene	90.7	35	11	ug/kg	
53-70-3	Dibenzo(a,h)anthracene ^a	19.7	35	15	ug/kg	J
206-44-0	Fluoranthene	129	35	15	ug/kg	
86-73-7	Fluorene	ND	35	16	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene ^a	84.3	35	16	ug/kg	
91-20-3	Naphthalene	ND	35	9.8	ug/kg	
85-01-8	Phenanthrene	29.4	35	12	ug/kg	J
129-00-0	Pyrene	147	35	11	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	36%		15-114%
321-60-8	2-Fluorobiphenyl	41%		22-104%
1718-51-0	Terphenyl-d14	57%		23-121%

(a) Associated CCV outside of control limits high. Estimated value, due to corresponding failure in the batch associated CCV.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: B-106-A Lab Sample ID: JD32315-1 Matrix: SO - Soil Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/20/21 Date Received: 09/28/21 Percent Solids: 94.4
--	--

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	6.3	2.1	mg/kg	1	09/30/21	09/30/21 ND	SW846 6010D ²	SW846 3050B ³
Barium	25.7	21	mg/kg	1	09/30/21	09/30/21 ND	SW846 6010D ²	SW846 3050B ³
Cadmium	< 0.53	0.53	mg/kg	1	09/30/21	09/30/21 ND	SW846 6010D ²	SW846 3050B ³
Chromium	19.4	1.1	mg/kg	1	09/30/21	09/30/21 ND	SW846 6010D ²	SW846 3050B ³
Lead	18.0	2.1	mg/kg	1	09/30/21	09/30/21 ND	SW846 6010D ²	SW846 3050B ³
Mercury	< 0.035	0.035	mg/kg	1	09/30/21	10/01/21 TM	SW846 7471B ¹	SW846 7471B ⁴
Selenium	< 2.1	2.1	mg/kg	1	09/30/21	09/30/21 ND	SW846 6010D ²	SW846 3050B ³
Silver	0.61	0.53	mg/kg	1	09/30/21	09/30/21 ND	SW846 6010D ²	SW846 3050B ³

- (1) Instrument QC Batch: MA51206
- (2) Instrument QC Batch: MA51210
- (3) Prep QC Batch: MP28913
- (4) Prep QC Batch: MP28930

RL = Reporting Limit

4.1
4

Report of Analysis

Client Sample ID: B-106-B		
Lab Sample ID: JD32315-2		Date Sampled: 09/20/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8260D		Percent Solids: 75.0
Project: Northfield Bridge, Route 12, VT		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	1C181467.D	1	10/02/21 19:34	PS	n/a	n/a	V1C7900

Run #1	Initial Weight
Run #2	6.3 g

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	15.0	11	4.4	ug/kg	
71-43-2	Benzene	ND	0.53	0.48	ug/kg	
108-86-1	Bromobenzene	ND	5.3	0.59	ug/kg	
74-97-5	Bromochloromethane	ND	5.3	0.59	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	0.45	ug/kg	
75-25-2	Bromoform	ND	5.3	1.4	ug/kg	
74-83-9	Bromomethane	ND	5.3	0.81	ug/kg	
78-93-3	2-Butanone (MEK)	ND	11	2.6	ug/kg	
104-51-8	n-Butylbenzene	ND	2.1	0.43	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.1	0.45	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.1	0.53	ug/kg	
75-15-0	Carbon disulfide	0.95	2.1	0.57	ug/kg	J
56-23-5	Carbon tetrachloride	ND	2.1	0.65	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	0.49	ug/kg	
75-00-3	Chloroethane	ND	5.3	0.63	ug/kg	
67-66-3	Chloroform	4.9	2.1	0.55	ug/kg	
74-87-3	Chloromethane	ND	5.3	2.1	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.1	0.57	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.1	0.47	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.1	0.73	ug/kg	
124-48-1	Dibromochloromethane ^a	ND	2.1	0.59	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.1	0.45	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.1	0.58	ug/kg	
541-73-1	1,3-Dichlorobenzene ^b	ND	1.1	0.52	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.1	0.52	ug/kg	
75-71-8	Dichlorodifluoromethane ^a	ND	5.3	0.77	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.1	0.52	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.1	0.50	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.1	0.69	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.1	0.89	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.1	0.65	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	0.50	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.2
4

Report of Analysis

Client Sample ID:	B-106-B	Date Sampled:	09/20/21
Lab Sample ID:	JD32315-2	Date Received:	09/28/21
Matrix:	SO - Soil	Percent Solids:	75.0
Method:	SW846 8260D		
Project:	Northfield Bridge, Route 12, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.1	0.55	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.1	0.45	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.1	0.49	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.50	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.48	ug/kg	
100-41-4	Ethylbenzene	ND	1.1	0.48	ug/kg	
87-68-3	Hexachlorobutadiene ^a	ND	5.3	0.69	ug/kg	
591-78-6	2-Hexanone	ND	5.3	2.2	ug/kg	
74-88-4	Iodomethane	ND	5.3	2.5	ug/kg	
98-82-8	Isopropylbenzene	ND	2.1	1.5	ug/kg	
99-87-6	p-Isopropyltoluene	0.52	2.1	0.42	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	1.1	0.50	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.3	2.4	ug/kg	
74-95-3	Methylene bromide	ND	5.3	0.56	ug/kg	
75-09-2	Methylene chloride	ND	5.3	2.8	ug/kg	
91-20-3	Naphthalene	ND	5.3	2.6	ug/kg	
103-65-1	n-Propylbenzene	ND	2.1	0.50	ug/kg	
100-42-5	Styrene	ND	2.1	0.43	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.1	0.45	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.63	ug/kg	
127-18-4	Tetrachloroethene	ND	2.1	0.61	ug/kg	
108-88-3	Toluene	ND	1.1	0.56	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.3	2.6	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.3	2.6	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.51	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.59	ug/kg	
79-01-6	Trichloroethene	ND	1.1	0.81	ug/kg	
75-69-4	Trichlorofluoromethane ^c	ND	5.3	0.72	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.3	0.59	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.53	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.46	ug/kg	
108-05-4	Vinyl Acetate	ND	11	2.1	ug/kg	
75-01-4	Vinyl chloride	ND	2.1	0.51	ug/kg	
	m,p-Xylene	ND	1.1	0.95	ug/kg	
95-47-6	o-Xylene	ND	1.1	0.48	ug/kg	
1330-20-7	Xylene (total)	ND	1.1	0.48	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		72-130%

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: B-106-B	
Lab Sample ID: JD32315-2	Date Sampled: 09/20/21
Matrix: SO - Soil	Date Received: 09/28/21
Method: SW846 8260D	Percent Solids: 75.0
Project: Northfield Bridge, Route 12, VT	

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	111%		75-131%
2037-26-5	Toluene-D8	108%		81-121%
460-00-4	4-Bromofluorobenzene	93%		60-141%

- (a) Associated CCV outside of control limits high, sample was ND.
- (b) This compound in blank spike is outside in house QC limits bias high.
- (c) Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.2
4

Report of Analysis

Client Sample ID: B-106-B		Date Sampled: 09/20/21
Lab Sample ID: JD32315-2		Date Received: 09/28/21
Matrix: SO - Soil		Percent Solids: 75.0
Method: SW846 8270E SW846 3546		
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2P103272.D	1	10/05/21 13:31	KLS	10/04/21 10:00	OP35710	E2P4638
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.7 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	43	15	ug/kg	
208-96-8	Acenaphthylene	ND	43	22	ug/kg	
120-12-7	Anthracene	ND	43	27	ug/kg	
56-55-3	Benzo(a)anthracene	ND	43	12	ug/kg	
50-32-8	Benzo(a)pyrene	ND	43	20	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	43	19	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	43	22	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	43	20	ug/kg	
218-01-9	Chrysene	ND	43	14	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	43	19	ug/kg	
206-44-0	Fluoranthene	ND	43	19	ug/kg	
86-73-7	Fluorene	ND	43	20	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	43	20	ug/kg	
91-20-3	Naphthalene	ND	43	12	ug/kg	
85-01-8	Phenanthrene	ND	43	15	ug/kg	
129-00-0	Pyrene	ND	43	14	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	26%		15-114%
321-60-8	2-Fluorobiphenyl	27%		22-104%
1718-51-0	Terphenyl-d14	34%		23-121%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.2
4

Report of Analysis

Client Sample ID: B-106-B Lab Sample ID: JD32315-2 Matrix: SO - Soil Method: SW846 8082A SW846 3540C Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/20/21 Date Received: 09/28/21 Percent Solids: 75.0
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5G110669.D	1	10/04/21 04:24	TL	10/01/21 18:00	OP35562	G5G2805
Run #2							

Run #	Initial Weight	Final Volume
Run #1	10.7 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	62	29	ug/kg	
11104-28-2	Aroclor 1221	ND	62	39	ug/kg	
11141-16-5	Aroclor 1232	ND	62	40	ug/kg	
53469-21-9	Aroclor 1242	ND	62	26	ug/kg	
12672-29-6	Aroclor 1248	ND	62	56	ug/kg	
11097-69-1	Aroclor 1254	ND	62	34	ug/kg	
11096-82-5	Aroclor 1260	ND	62	27	ug/kg	
11100-14-4	Aroclor 1268	ND	62	26	ug/kg	
37324-23-5	Aroclor 1262	ND	62	41	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	79%		24-152%
877-09-8	Tetrachloro-m-xylene	77%		24-152%
2051-24-3	Decachlorobiphenyl	70%		10-172%
2051-24-3	Decachlorobiphenyl	105%		10-172%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.2
4

Report of Analysis

Client Sample ID: B-106-B	Date Sampled: 09/20/21
Lab Sample ID: JD32315-2	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 75.0
Project: Northfield Bridge, Route 12, VT	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.3	1.7	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Barium	< 17	17	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Cadmium	< 0.43	0.43	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Chromium	7.9	0.86	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Lead	4.9	1.7	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Mercury	< 0.041	0.041	mg/kg	1	10/04/21	10/04/21	LM	SW846 7471B ² SW846 7471B ⁴
Selenium	< 1.7	1.7	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Silver	< 0.43	0.43	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³

- (1) Instrument QC Batch: MA51210
- (2) Instrument QC Batch: MA51220
- (3) Prep QC Batch: MP28913
- (4) Prep QC Batch: MP28967

RL = Reporting Limit

4.2
4

Report of Analysis

Client Sample ID: B-106-C Lab Sample ID: JD32315-3 Matrix: SO - Soil Method: SW846 8260D SW846 1311 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/20/21 Date Received: 09/28/21 Percent Solids: 92.6
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2V81426.D	5	10/07/21 04:30	JS	10/02/21 16:00	GP36195	V2V3357
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
71-43-2	Benzene	ND	D018	0.50	0.0025	0.0021	mg/l	
78-93-3	2-Butanone (MEK) ^a	ND	D035	200	0.10	0.034	mg/l	
56-23-5	Carbon tetrachloride	ND	D019	0.50	0.0050	0.0028	mg/l	
108-90-7	Chlorobenzene	ND	D021	100	0.0050	0.0028	mg/l	
67-66-3	Chloroform ^b	0.0114	D022	6.0	0.0050	0.0025	mg/l	B
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.0050	0.0025	mg/l	
107-06-2	1,2-Dichloroethane	ND	D028	0.50	0.0050	0.0030	mg/l	
75-35-4	1,1-Dichloroethene	ND	D029	0.70	0.0050	0.0030	mg/l	
127-18-4	Tetrachloroethene	ND	D039	0.70	0.0050	0.0045	mg/l	
79-01-6	Trichloroethene	ND	D040	0.50	0.0050	0.0026	mg/l	
75-01-4	Vinyl chloride	ND	D043	0.20	0.0050	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		76-120%
17060-07-0	1,2-Dichloroethane-D4	110%		64-135%
2037-26-5	Toluene-D8	102%		76-117%
460-00-4	4-Bromofluorobenzene	102%		72-122%

(a) Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.

(b) Indicates analyte found in associated leachate blank.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.3
4

Report of Analysis

Client Sample ID: B-106-C		Date Sampled: 09/20/21
Lab Sample ID: JD32315-3		Date Received: 09/28/21
Matrix: SO - Soil		Percent Solids: 92.6
Method: SW846 8270E SW846 3510C		
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z152225.D	1	10/13/21 05:22	CS	10/12/21 18:20	OP35940	EZ7572
Run #2							

Run #	Initial Volume	Final Volume
Run #1	100 ml	1.0 ml
Run #2		

ABN TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	D023	200	0.020	0.0089	mg/l	
	3&4-Methylphenol	ND	D024	200	0.020	0.0088	mg/l	
87-86-5	Pentachlorophenol	ND	D037	100	0.10	0.014	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	D041	400	0.050	0.013	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	D042	2.0	0.050	0.0092	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.020	0.0017	mg/l	
121-14-2	2,4-Dinitrotoluene	ND	D030	0.13	0.020	0.0055	mg/l	
118-74-1	Hexachlorobenzene	ND	D032	0.13	0.020	0.0033	mg/l	
87-68-3	Hexachlorobutadiene	ND	D033	0.50	0.010	0.0049	mg/l	
67-72-1	Hexachloroethane	ND	D034	3.0	0.050	0.0039	mg/l	
98-95-3	Nitrobenzene	ND	D036	2.0	0.020	0.0064	mg/l	
110-86-1	Pyridine	ND	D038	5.0	0.020	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	32%		10-73%
4165-62-2	Phenol-d5	23%		10-64%
118-79-6	2,4,6-Tribromophenol	90%		31-130%
4165-60-0	Nitrobenzene-d5	77%		28-126%
321-60-8	2-Fluorobiphenyl	74%		26-114%
1718-51-0	Terphenyl-d14	87%		16-122%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.3
4

Report of Analysis

Client Sample ID: B-106-C Lab Sample ID: JD32315-3 Matrix: SO - Soil Method: SW846 8015D Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/20/21 Date Received: 09/28/21 Percent Solids: 92.6
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM112324.D	1	10/01/21 21:39	DFT	n/a	n/a	GLM4714
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	10.5 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	11	5.5	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	74%		70-116%		

ND = Not detected RL = Reporting Limit E = Indicates value exceeds calibration range	MDL = Method Detection Limit J = Indicates an estimated value B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound
--	--

4.3
4

Report of Analysis

Client Sample ID: B-106-C Lab Sample ID: JD32315-3 Matrix: SO - Soil Method: SW846 8151A SW846 3510C Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/20/21 Date Received: 09/28/21 Percent Solids: 92.6
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G133448.D	1	10/17/21 13:43	TL	10/12/21 14:20	OP35941	G3G4866
Run #2							

Run #	Initial Volume	Final Volume
Run #1	30.0 ml	2.0 ml
Run #2		

Herbicide TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
94-75-7	2,4-D ^a	ND	D016	10	0.0033	0.00098	mg/l	
93-72-1	2,4,5-TP (Silvex)	ND	D017	1.0	0.0010	0.00020	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	87%		13-169%
19719-28-9	2,4-DCAA	53%		13-169%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.3
4

Report of Analysis

Client Sample ID: B-106-C		
Lab Sample ID: JD32315-3		Date Sampled: 09/20/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8081B SW846 3510C		Percent Solids: 92.6
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4G9721363.D	1	10/12/21 22:46	RK	10/12/21 14:15	OP35939	G4G3596
Run #2							

Run #	Initial Volume	Final Volume
Run #1	30.0 ml	2.0 ml
Run #2		

Pesticide TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
58-89-9	gamma-BHC (Lindane)	ND	D013	0.40	0.000067	0.000040	mg/l	
12789-03-6	Chlordane	ND	D020	0.030	0.0033	0.0014	mg/l	
72-20-8	Endrin	ND	D012	0.020	0.000067	0.000040	mg/l	
76-44-8	Heptachlor	ND	D031	0.0080	0.000067	0.000030	mg/l	
1024-57-3	Heptachlor epoxide	ND	D031	0.0080	0.000067	0.000040	mg/l	
72-43-5	Methoxychlor	ND	D014	10	0.00013	0.000045	mg/l	
8001-35-2	Toxaphene	ND	D015	0.50	0.0017	0.0011	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	86%		30-137%
877-09-8	Tetrachloro-m-xylene	91%		30-137%
2051-24-3	Decachlorobiphenyl	85%		10-137%
2051-24-3	Decachlorobiphenyl	88%		10-137%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.3
4

Report of Analysis

Client Sample ID: B-106-C Lab Sample ID: JD32315-3 Matrix: SO - Soil Method: SW846 8082A SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/20/21 Date Received: 09/28/21 Percent Solids: 92.6
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX2471765.D	1	10/05/21 13:20	RK	10/04/21 09:00	OP35760	GXX7601
Run #2							

Run #	Initial Weight	Final Volume
Run #1	15.1 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	36	17	ug/kg	
11104-28-2	Aroclor 1221	ND	36	22	ug/kg	
11141-16-5	Aroclor 1232	ND	36	23	ug/kg	
53469-21-9	Aroclor 1242	ND	36	15	ug/kg	
12672-29-6	Aroclor 1248	ND	36	32	ug/kg	
11097-69-1	Aroclor 1254	ND	36	19	ug/kg	
11096-82-5	Aroclor 1260	ND	36	15	ug/kg	
11100-14-4	Aroclor 1268	ND	36	15	ug/kg	
37324-23-5	Aroclor 1262	ND	36	23	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	77%		24-152%
877-09-8	Tetrachloro-m-xylene	77%		24-152%
2051-24-3	Decachlorobiphenyl	71%		10-172%
2051-24-3	Decachlorobiphenyl	67%		10-172%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.3
4

Report of Analysis

Client Sample ID: B-106-C Lab Sample ID: JD32315-3 Matrix: SO - Soil Method: SW846 8015D SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/20/21 Date Received: 09/28/21 Percent Solids: 92.6
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ101078.D	1	10/05/21 06:10	TC	10/04/21 09:30	OP35757	GZZ3729
Run #2							

Run #	Initial Weight	Final Volume
Run #1	15.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	10.4	7.2	2.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	69%		18-132%		
438-22-2	5a-Androstane	67%		22-134%		

ND = Not detected RL = Reporting Limit E = Indicates value exceeds calibration range	MDL = Method Detection Limit J = Indicates an estimated value B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound
--	--

4.3
4

Report of Analysis

Client Sample ID: B-106-C Lab Sample ID: JD32315-3 Matrix: SO - Soil Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/20/21 Date Received: 09/28/21 Percent Solids: 92.6
--	--

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 0.10	D004	5.0	0.10	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Barium	< 0.20	D005	100	0.20	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Cadmium	< 0.0040	D006	1.0	0.0040	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Chromium	< 0.010	D007	5.0	0.010	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Lead	< 0.10	D008	5.0	0.10	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Mercury	< 0.00020	D009	0.20	0.00020	mg/l	1	10/06/21	10/06/21	LM	SW846 7470A ¹ SW846 7470A ⁴
Selenium	< 0.10	D010	1.0	0.10	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Silver	< 0.010	D011	5.0	0.010	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³

- (1) Instrument QC Batch: MA51229
- (2) Instrument QC Batch: MA51233
- (3) Prep QC Batch: MP29010
- (4) Prep QC Batch: MP29030

RL = Reporting Limit
MCL = Maximum Contamination Level (40 CFR 261 7/1/11)

4.3
4

Report of Analysis

Client Sample ID: B-106-C	Date Sampled: 09/20/21
Lab Sample ID: JD32315-3	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 92.6
Project: Northfield Bridge, Route 12, VT	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.95 NC		su	1	10/04/21 15:51	MM	SW846 9045D
Cyanide Reactivity ^a	< 10	10	mg/kg	1	10/07/21 21:31	JJ	SW846 CHAP7/9012 B
Ignitability (Flashpoint)	> 200		Deg. F	1	10/05/21 16:30	MM	SW846 1010A/ASTM D93
Paint Filter Test ^b	< 0.50	0.50	ml/100g	1	10/04/21 14:20	MM	SW846 9095/9095B
Solids, Percent	92.6		%	1	10/04/21 16:54	BG	SM2540 G 18TH ED MOD
Sulfide Reactivity ^a	< 100	100	mg/kg	1	10/10/21 12:35	MP	SW846 CHAP7/9034

(a) Analyzed outside the 14 day holding time applied by laboratory SOP. No regulatory holding time published for this method.

(b) No free liquids.

RL = Reporting Limit

Report of Analysis

Client Sample ID: H-104-A		
Lab Sample ID: JD32315-4		Date Sampled: 09/20/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8270E SW846 3546		Percent Solids: 96.7
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2P103278.D	1	10/05/21 17:14	KLS	10/04/21 10:00	OP35710	E2P4638
Run #2	2P103323.D	5	10/06/21 18:53	BL	10/04/21 10:00	OP35710	E2P4640

Run #	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2	30.0 g	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	149	34	12	ug/kg	
208-96-8	Acenaphthylene	835	34	18	ug/kg	
120-12-7	Anthracene	1280	34	21	ug/kg	
56-55-3	Benzo(a)anthracene	1940	34	9.8	ug/kg	
50-32-8	Benzo(a)pyrene	1330	34	16	ug/kg	
205-99-2	Benzo(b)fluoranthene	1690	34	15	ug/kg	
191-24-2	Benzo(g,h,i)perylene	852	34	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	745	34	16	ug/kg	
218-01-9	Chrysene	1760	34	11	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	250	34	15	ug/kg	
206-44-0	Fluoranthene	5840 ^a	170	77	ug/kg	
86-73-7	Fluorene	760	34	16	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	1080	34	16	ug/kg	
91-20-3	Naphthalene	1930	34	9.7	ug/kg	
85-01-8	Phenanthrene	7810 ^a	170	58	ug/kg	
129-00-0	Pyrene	4680 ^a	170	55	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	49%	52%	15-114%
321-60-8	2-Fluorobiphenyl	59%	68%	22-104%
1718-51-0	Terphenyl-d14	66%	78%	23-121%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.4
 4

Report of Analysis

Client Sample ID: H-104-A	Date Sampled: 09/20/21
Lab Sample ID: JD32315-4	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 96.7
Project: Northfield Bridge, Route 12, VT	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	6.3	2.1	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Barium	21.3	21	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Cadmium	< 0.53	0.53	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Chromium	16.7	1.1	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Lead	88.6	2.1	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Mercury	< 0.034	0.034	mg/kg	1	10/04/21	10/04/21	LM	SW846 7471B ² SW846 7471B ⁴
Selenium	< 2.1	2.1	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Silver	0.98	0.53	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³

- (1) Instrument QC Batch: MA51210
- (2) Instrument QC Batch: MA51220
- (3) Prep QC Batch: MP28913
- (4) Prep QC Batch: MP28967

RL = Reporting Limit

4.4
4

Report of Analysis

Client Sample ID: H-104-B	Date Sampled: 09/20/21
Lab Sample ID: JD32315-5	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 86.6
Method: SW846 8260D	
Project: Northfield Bridge, Route 12, VT	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	1C181468.D	1	10/02/21 20:02	PS	n/a	n/a	V1C7900

Run #1	Initial Weight
Run #2	6.1 g

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	13.5	9.5	3.9	ug/kg	
71-43-2	Benzene	ND	0.47	0.43	ug/kg	
108-86-1	Bromobenzene	ND	4.7	0.52	ug/kg	
74-97-5	Bromochloromethane	ND	4.7	0.53	ug/kg	
75-27-4	Bromodichloromethane	ND	1.9	0.41	ug/kg	
75-25-2	Bromoform	ND	4.7	1.3	ug/kg	
74-83-9	Bromomethane	ND	4.7	0.72	ug/kg	
78-93-3	2-Butanone (MEK)	ND	9.5	2.3	ug/kg	
104-51-8	n-Butylbenzene	ND	1.9	0.39	ug/kg	
135-98-8	sec-Butylbenzene	ND	1.9	0.41	ug/kg	
98-06-6	tert-Butylbenzene	ND	1.9	0.47	ug/kg	
75-15-0	Carbon disulfide	2.3	1.9	0.51	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.9	0.58	ug/kg	
108-90-7	Chlorobenzene	ND	1.9	0.43	ug/kg	
75-00-3	Chloroethane	ND	4.7	0.56	ug/kg	
67-66-3	Chloroform	ND	1.9	0.49	ug/kg	
74-87-3	Chloromethane	ND	4.7	1.9	ug/kg	
95-49-8	o-Chlorotoluene	ND	1.9	0.51	ug/kg	
106-43-4	p-Chlorotoluene	ND	1.9	0.42	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.9	0.66	ug/kg	
124-48-1	Dibromochloromethane ^a	ND	1.9	0.53	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.95	0.40	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.95	0.52	ug/kg	
541-73-1	1,3-Dichlorobenzene ^b	ND	0.95	0.47	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.95	0.47	ug/kg	
75-71-8	Dichlorodifluoromethane ^a	ND	4.7	0.69	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.95	0.47	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.95	0.44	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.95	0.62	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.95	0.80	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.95	0.58	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.9	0.45	ug/kg	

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	H-104-B	Date Sampled:	09/20/21
Lab Sample ID:	JD32315-5	Date Received:	09/28/21
Matrix:	SO - Soil	Percent Solids:	86.6
Method:	SW846 8260D		
Project:	Northfield Bridge, Route 12, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	1.9	0.49	ug/kg	
594-20-7	2,2-Dichloropropane	ND	1.9	0.41	ug/kg	
563-58-6	1,1-Dichloropropene	ND	1.9	0.44	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.9	0.45	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.43	ug/kg	
100-41-4	Ethylbenzene	ND	0.95	0.43	ug/kg	
87-68-3	Hexachlorobutadiene ^a	ND	4.7	0.62	ug/kg	
591-78-6	2-Hexanone	ND	4.7	2.0	ug/kg	
74-88-4	Iodomethane	ND	4.7	2.2	ug/kg	
98-82-8	Isopropylbenzene	ND	1.9	1.3	ug/kg	
99-87-6	p-Isopropyltoluene	ND	1.9	0.37	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.95	0.44	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.7	2.1	ug/kg	
74-95-3	Methylene bromide	ND	4.7	0.50	ug/kg	
75-09-2	Methylene chloride	ND	4.7	2.5	ug/kg	
91-20-3	Naphthalene	ND	4.7	2.4	ug/kg	
103-65-1	n-Propylbenzene	ND	1.9	0.44	ug/kg	
100-42-5	Styrene	ND	1.9	0.38	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.9	0.40	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.57	ug/kg	
127-18-4	Tetrachloroethene	ND	1.9	0.55	ug/kg	
108-88-3	Toluene	ND	0.95	0.50	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.7	2.4	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.7	2.4	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.9	0.46	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.52	ug/kg	
79-01-6	Trichloroethene	ND	0.95	0.72	ug/kg	
75-69-4	Trichlorofluoromethane ^c	ND	4.7	0.65	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	4.7	0.53	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	0.58	1.9	0.47	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	ND	1.9	0.41	ug/kg	
108-05-4	Vinyl Acetate	ND	9.5	1.9	ug/kg	
75-01-4	Vinyl chloride	ND	1.9	0.46	ug/kg	
	m,p-Xylene	ND	0.95	0.85	ug/kg	
95-47-6	o-Xylene	ND	0.95	0.43	ug/kg	
1330-20-7	Xylene (total)	ND	0.95	0.43	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		72-130%

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: H-104-B	
Lab Sample ID: JD32315-5	Date Sampled: 09/20/21
Matrix: SO - Soil	Date Received: 09/28/21
Method: SW846 8260D	Percent Solids: 86.6
Project: Northfield Bridge, Route 12, VT	

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	109%		75-131%
2037-26-5	Toluene-D8	106%		81-121%
460-00-4	4-Bromofluorobenzene	98%		60-141%

- (a) Associated CCV outside of control limits high, sample was ND.
- (b) This compound in blank spike is outside in house QC limits bias high.
- (c) Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: H-104-B		
Lab Sample ID: JD32315-5		Date Sampled: 09/20/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8270E SW846 3546		Percent Solids: 86.6
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2P103273.D	1	10/05/21 13:56	KLS	10/04/21 10:00	OP35710	E2P4638
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	38	13	ug/kg	
208-96-8	Acenaphthylene	ND	38	20	ug/kg	
120-12-7	Anthracene	27.9	38	24	ug/kg	J
56-55-3	Benzo(a)anthracene	52.8	38	11	ug/kg	
50-32-8	Benzo(a)pyrene	35.4	38	18	ug/kg	J
205-99-2	Benzo(b)fluoranthene	47.8	38	17	ug/kg	
191-24-2	Benzo(g,h,i)perylene	19.7	38	19	ug/kg	J
207-08-9	Benzo(k)fluoranthene	19.4	38	18	ug/kg	J
218-01-9	Chrysene	46.8	38	12	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	38	17	ug/kg	
206-44-0	Fluoranthene	135	38	17	ug/kg	
86-73-7	Fluorene	ND	38	18	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	25.3	38	18	ug/kg	J
91-20-3	Naphthalene	50.1	38	11	ug/kg	
85-01-8	Phenanthrene	163	38	13	ug/kg	
129-00-0	Pyrene	113	38	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	52%		15-114%
321-60-8	2-Fluorobiphenyl	56%		22-104%
1718-51-0	Terphenyl-d14	69%		23-121%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.5
4

Report of Analysis

Client Sample ID: H-104-B Lab Sample ID: JD32315-5 Matrix: SO - Soil Method: SW846 8082A SW846 3540C Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/20/21 Date Received: 09/28/21 Percent Solids: 86.6
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5G110674.D	1	10/04/21 07:13	TL	10/01/21 18:00	OP35562	G5G2805
Run #2							

Run #	Initial Weight	Final Volume
Run #1	10.1 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	57	27	ug/kg	
11104-28-2	Aroclor 1221	ND	57	35	ug/kg	
11141-16-5	Aroclor 1232	ND	57	36	ug/kg	
53469-21-9	Aroclor 1242	ND	57	23	ug/kg	
12672-29-6	Aroclor 1248	ND	57	51	ug/kg	
11097-69-1	Aroclor 1254	ND	57	31	ug/kg	
11096-82-5	Aroclor 1260	ND	57	24	ug/kg	
11100-14-4	Aroclor 1268	ND	57	24	ug/kg	
37324-23-5	Aroclor 1262	ND	57	37	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	78%		24-152%
877-09-8	Tetrachloro-m-xylene	78%		24-152%
2051-24-3	Decachlorobiphenyl	89%		10-172%
2051-24-3	Decachlorobiphenyl	106%		10-172%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.5
4

Report of Analysis

Client Sample ID: H-104-B	Date Sampled: 09/20/21
Lab Sample ID: JD32315-5	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 86.6
Project: Northfield Bridge, Route 12, VT	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^a	7.2	3.1	mg/kg	2	09/30/21	10/01/21	ND	SW846 6010D ² SW846 3050B ⁴
Barium	< 16	16	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ⁴
Cadmium ^a	< 0.79	0.79	mg/kg	2	09/30/21	10/01/21	ND	SW846 6010D ² SW846 3050B ⁴
Chromium	10.1	0.79	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ⁴
Lead ^a	7.2	3.1	mg/kg	2	09/30/21	10/01/21	ND	SW846 6010D ² SW846 3050B ⁴
Mercury	< 0.015	0.015	mg/kg	1	10/04/21	10/04/21	LM	SW846 7471B ³ SW846 7471B ⁵
Selenium ^a	< 3.1	3.1	mg/kg	2	09/30/21	10/01/21	ND	SW846 6010D ² SW846 3050B ⁴
Silver ^a	< 0.79	0.79	mg/kg	2	09/30/21	10/01/21	ND	SW846 6010D ² SW846 3050B ⁴

(1) Instrument QC Batch: MA51210

(2) Instrument QC Batch: MA51216

(3) Instrument QC Batch: MA51220

(4) Prep QC Batch: MP28913

(5) Prep QC Batch: MP28967

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

4.5
4

Report of Analysis

Client Sample ID: H-104-C1		
Lab Sample ID: JD32315-6		Date Sampled: 09/20/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8260D SW846 1311		Percent Solids: 89.5
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2V81427.D	5	10/07/21 04:56	JS	10/02/21 16:00	GP36195	V2V3357
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
71-43-2	Benzene	ND	D018	0.50	0.0025	0.0021	mg/l	
78-93-3	2-Butanone (MEK) ^a	ND	D035	200	0.10	0.034	mg/l	
56-23-5	Carbon tetrachloride	ND	D019	0.50	0.0050	0.0028	mg/l	
108-90-7	Chlorobenzene	ND	D021	100	0.0050	0.0028	mg/l	
67-66-3	Chloroform ^b	0.0113	D022	6.0	0.0050	0.0025	mg/l	B
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.0050	0.0025	mg/l	
107-06-2	1,2-Dichloroethane	ND	D028	0.50	0.0050	0.0030	mg/l	
75-35-4	1,1-Dichloroethene	ND	D029	0.70	0.0050	0.0030	mg/l	
127-18-4	Tetrachloroethene	ND	D039	0.70	0.0050	0.0045	mg/l	
79-01-6	Trichloroethene	ND	D040	0.50	0.0050	0.0026	mg/l	
75-01-4	Vinyl chloride	ND	D043	0.20	0.0050	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		76-120%
17060-07-0	1,2-Dichloroethane-D4	109%		64-135%
2037-26-5	Toluene-D8	103%		76-117%
460-00-4	4-Bromofluorobenzene	102%		72-122%

(a) Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.

(b) Indicates analyte found in associated leachate blank.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.6
4

Report of Analysis

Client Sample ID: H-104-C1		
Lab Sample ID: JD32315-6		Date Sampled: 09/20/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8270E SW846 3510C		Percent Solids: 89.5
Project: Northfield Bridge, Route 12, VT		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	Z152226.D	1	10/13/21 05:47	CS	10/12/21 18:20	OP35940	EZ7572

Run #1	Initial Volume	Final Volume
Run #2	100 ml	1.0 ml

ABN TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	D023	200	0.020	0.0089	mg/l	
	3&4-Methylphenol	ND	D024	200	0.020	0.0088	mg/l	
87-86-5	Pentachlorophenol	ND	D037	100	0.10	0.014	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	D041	400	0.050	0.013	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	D042	2.0	0.050	0.0092	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.020	0.0017	mg/l	
121-14-2	2,4-Dinitrotoluene	ND	D030	0.13	0.020	0.0055	mg/l	
118-74-1	Hexachlorobenzene	ND	D032	0.13	0.020	0.0033	mg/l	
87-68-3	Hexachlorobutadiene	ND	D033	0.50	0.010	0.0049	mg/l	
67-72-1	Hexachloroethane	ND	D034	3.0	0.050	0.0039	mg/l	
98-95-3	Nitrobenzene	ND	D036	2.0	0.020	0.0064	mg/l	
110-86-1	Pyridine	ND	D038	5.0	0.020	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	34%		10-73%
4165-62-2	Phenol-d5	24%		10-64%
118-79-6	2,4,6-Tribromophenol	86%		31-130%
4165-60-0	Nitrobenzene-d5	76%		28-126%
321-60-8	2-Fluorobiphenyl	71%		26-114%
1718-51-0	Terphenyl-d14	95%		16-122%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.6
4

Report of Analysis

Client Sample ID: H-104-C1 Lab Sample ID: JD32315-6 Matrix: SO - Soil Method: SW846 8015D Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/20/21 Date Received: 09/28/21 Percent Solids: 89.5
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM112325.D	1	10/01/21 22:03	DFT	n/a	n/a	GLM4714
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	11.2 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	11	5.6	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	74%		70-116%		

ND = Not detected RL = Reporting Limit E = Indicates value exceeds calibration range	MDL = Method Detection Limit J = Indicates an estimated value B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound
--	--

4.6
4

Report of Analysis

Client Sample ID: H-104-C1 Lab Sample ID: JD32315-6 Matrix: SO - Soil Method: SW846 8151A SW846 3510C Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/20/21 Date Received: 09/28/21 Percent Solids: 89.5
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G133451.D	1	10/17/21 15:05	TL	10/12/21 14:20	OP35941	G3G4866
Run #2							

Run #	Initial Volume	Final Volume
Run #1	30.0 ml	2.0 ml
Run #2		

Herbicide TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
94-75-7	2,4-D ^a	ND	D016	10	0.0033	0.00098	mg/l	
93-72-1	2,4,5-TP (Silvex)	ND	D017	1.0	0.0010	0.00020	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	47%		13-169%
19719-28-9	2,4-DCAA	32%		13-169%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.6
4

Report of Analysis

Client Sample ID: H-104-C1		
Lab Sample ID: JD32315-6		Date Sampled: 09/20/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8081B SW846 3510C		Percent Solids: 89.5
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4G9721366.D	1	10/12/21 23:31	RK	10/12/21 14:15	OP35939	G4G3596
Run #2							

Run #	Initial Volume	Final Volume
Run #1	30.0 ml	2.0 ml
Run #2		

Pesticide TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
58-89-9	gamma-BHC (Lindane)	ND	D013	0.40	0.000067	0.000040	mg/l	
12789-03-6	Chlordane	ND	D020	0.030	0.0033	0.0014	mg/l	
72-20-8	Endrin	ND	D012	0.020	0.000067	0.000040	mg/l	
76-44-8	Heptachlor	ND	D031	0.0080	0.000067	0.000030	mg/l	
1024-57-3	Heptachlor epoxide	ND	D031	0.0080	0.000067	0.000040	mg/l	
72-43-5	Methoxychlor	ND	D014	10	0.00013	0.000045	mg/l	
8001-35-2	Toxaphene	ND	D015	0.50	0.0017	0.0011	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	91%		30-137%
877-09-8	Tetrachloro-m-xylene	95%		30-137%
2051-24-3	Decachlorobiphenyl	98%		10-137%
2051-24-3	Decachlorobiphenyl	93%		10-137%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.6
4

Report of Analysis

Client Sample ID: H-104-C1 Lab Sample ID: JD32315-6 Matrix: SO - Soil Method: SW846 8082A SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/20/21 Date Received: 09/28/21 Percent Solids: 89.5
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX2471766.D	1	10/05/21 13:37	RK	10/04/21 09:00	OP35760	GXX7601
Run #2							

Run #	Initial Weight	Final Volume
Run #1	16.3 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	34	16	ug/kg	
11104-28-2	Aroclor 1221	ND	34	21	ug/kg	
11141-16-5	Aroclor 1232	ND	34	22	ug/kg	
53469-21-9	Aroclor 1242	ND	34	14	ug/kg	
12672-29-6	Aroclor 1248	ND	34	31	ug/kg	
11097-69-1	Aroclor 1254	ND	34	18	ug/kg	
11096-82-5	Aroclor 1260	ND	34	15	ug/kg	
11100-14-4	Aroclor 1268	ND	34	14	ug/kg	
37324-23-5	Aroclor 1262	ND	34	22	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	62%		24-152%
877-09-8	Tetrachloro-m-xylene	65%		24-152%
2051-24-3	Decachlorobiphenyl	51%		10-172%
2051-24-3	Decachlorobiphenyl	61%		10-172%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.6
4

Report of Analysis

Client Sample ID: H-104-C1	Date Sampled: 09/20/21
Lab Sample ID: JD32315-6	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 89.5
Method: SW846 8015D SW846 3546	
Project: Northfield Bridge, Route 12, VT	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ101081.D	1	10/05/21 07:52	TC	10/04/21 09:30	OP35757	GZZ3729
Run #2							

Run #	Initial Weight	Final Volume
Run #1	15.7 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	13.1	7.1	2.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	69%		18-132%		
438-22-2	5a-Androstane	68%		22-134%		

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.6
4

Report of Analysis

Client Sample ID: H-104-C1	Date Sampled: 09/20/21
Lab Sample ID: JD32315-6	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 89.5
Project: Northfield Bridge, Route 12, VT	

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 0.10	D004	5.0	0.10	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Barium	< 0.20	D005	100	0.20	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Cadmium	< 0.0040	D006	1.0	0.0040	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Chromium	0.033	D007	5.0	0.010	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Lead	< 0.10	D008	5.0	0.10	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Mercury	< 0.00020	D009	0.20	0.00020	mg/l	1	10/06/21	10/06/21	LM	SW846 7470A ¹ SW846 7470A ⁴
Selenium	< 0.10	D010	1.0	0.10	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Silver	< 0.010	D011	5.0	0.010	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³

- (1) Instrument QC Batch: MA51229
- (2) Instrument QC Batch: MA51233
- (3) Prep QC Batch: MP29010
- (4) Prep QC Batch: MP29030

RL = Reporting Limit
MCL = Maximum Contamination Level (40 CFR 261 7/1/11)

4.6
4

Report of Analysis

Client Sample ID: H-104-C1	Date Sampled: 09/20/21
Lab Sample ID: JD32315-6	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 89.5
Project: Northfield Bridge, Route 12, VT	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.64 NC		su	1	10/04/21 15:52	MM	SW846 9045D
Cyanide Reactivity ^a	< 10	10	mg/kg	1	10/07/21 21:33	JJ	SW846 CHAP7/9012 B
Ignitability (Flashpoint)	> 200		Deg. F	1	10/05/21 16:30	MM	SW846 1010A/ASTM D93
Paint Filter Test ^b	< 0.50	0.50	ml/100g	1	10/04/21 14:20	MM	SW846 9095/9095B
Solids, Percent	89.5		%	1	10/04/21 16:54	BG	SM2540 G 18TH ED MOD
Sulfide Reactivity ^a	< 100	100	mg/kg	1	10/10/21 12:35	MP	SW846 CHAP7/9034

(a) Analyzed outside the 14 day holding time applied by laboratory SOP. No regulatory holding time published for this method.

(b) No free liquids.

RL = Reporting Limit

Report of Analysis

Client Sample ID: H-104-C2		Date Sampled: 09/20/21
Lab Sample ID: JD32315-7		Date Received: 09/28/21
Matrix: SO - Soil		Percent Solids: 87.4
Method: SW846 8260D SW846 1311		
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2V81428.D	5	10/07/21 05:23	JS	10/02/21 16:00	GP36195	V2V3357
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
71-43-2	Benzene	ND	D018	0.50	0.0025	0.0021	mg/l	
78-93-3	2-Butanone (MEK) ^a	ND	D035	200	0.10	0.034	mg/l	
56-23-5	Carbon tetrachloride	ND	D019	0.50	0.0050	0.0028	mg/l	
108-90-7	Chlorobenzene	ND	D021	100	0.0050	0.0028	mg/l	
67-66-3	Chloroform ^b	0.0116	D022	6.0	0.0050	0.0025	mg/l	B
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.0050	0.0025	mg/l	
107-06-2	1,2-Dichloroethane	ND	D028	0.50	0.0050	0.0030	mg/l	
75-35-4	1,1-Dichloroethene	ND	D029	0.70	0.0050	0.0030	mg/l	
127-18-4	Tetrachloroethene	ND	D039	0.70	0.0050	0.0045	mg/l	
79-01-6	Trichloroethene	ND	D040	0.50	0.0050	0.0026	mg/l	
75-01-4	Vinyl chloride	ND	D043	0.20	0.0050	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		76-120%
17060-07-0	1,2-Dichloroethane-D4	110%		64-135%
2037-26-5	Toluene-D8	103%		76-117%
460-00-4	4-Bromofluorobenzene	102%		72-122%

(a) Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.

(b) Indicates analyte found in associated leachate blank.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.7
4

Report of Analysis

Client Sample ID: H-104-C2		Date Sampled: 09/20/21
Lab Sample ID: JD32315-7		Date Received: 09/28/21
Matrix: SO - Soil		Percent Solids: 87.4
Method: SW846 8270E SW846 3510C		
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z152227.D	1	10/13/21 06:13	CS	10/12/21 18:20	OP35940	EZ7572
Run #2							

Run #	Initial Volume	Final Volume
Run #1	100 ml	1.0 ml
Run #2		

ABN TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	D023	200	0.020	0.0089	mg/l	
	3&4-Methylphenol	ND	D024	200	0.020	0.0088	mg/l	
87-86-5	Pentachlorophenol	ND	D037	100	0.10	0.014	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	D041	400	0.050	0.013	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	D042	2.0	0.050	0.0092	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.020	0.0017	mg/l	
121-14-2	2,4-Dinitrotoluene	ND	D030	0.13	0.020	0.0055	mg/l	
118-74-1	Hexachlorobenzene	ND	D032	0.13	0.020	0.0033	mg/l	
87-68-3	Hexachlorobutadiene	ND	D033	0.50	0.010	0.0049	mg/l	
67-72-1	Hexachloroethane	ND	D034	3.0	0.050	0.0039	mg/l	
98-95-3	Nitrobenzene	ND	D036	2.0	0.020	0.0064	mg/l	
110-86-1	Pyridine	ND	D038	5.0	0.020	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	42%		10-73%
4165-62-2	Phenol-d5	29%		10-64%
118-79-6	2,4,6-Tribromophenol	90%		31-130%
4165-60-0	Nitrobenzene-d5	75%		28-126%
321-60-8	2-Fluorobiphenyl	71%		26-114%
1718-51-0	Terphenyl-d14	98%		16-122%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.7
4

Report of Analysis

Client Sample ID: H-104-C2 Lab Sample ID: JD32315-7 Matrix: SO - Soil Method: SW846 8015D Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/20/21 Date Received: 09/28/21 Percent Solids: 87.4
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM112326.D	1	10/01/21 22:28	DFT	n/a	n/a	GLM4714
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	11.6 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	11	5.6	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	76%		70-116%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.7
4

Report of Analysis

Client Sample ID: H-104-C2 Lab Sample ID: JD32315-7 Matrix: SO - Soil Method: SW846 8151A SW846 3510C Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/20/21 Date Received: 09/28/21 Percent Solids: 87.4
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G133454.D	1	10/17/21 16:27	TL	10/12/21 14:20	OP35941	G3G4866
Run #2							

Run #	Initial Volume	Final Volume
Run #1	30.0 ml	2.0 ml
Run #2		

Herbicide TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
94-75-7	2,4-D ^a	ND	D016	10	0.0033	0.00098	mg/l	
93-72-1	2,4,5-TP (Silvex)	ND	D017	1.0	0.0010	0.00020	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	84%		13-169%
19719-28-9	2,4-DCAA	48%		13-169%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.7
4

Report of Analysis

Client Sample ID: H-104-C2 Lab Sample ID: JD32315-7 Matrix: SO - Soil Method: SW846 8081B SW846 3510C Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/20/21 Date Received: 09/28/21 Percent Solids: 87.4
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4G9721367.D	1	10/12/21 23:46	RK	10/12/21 14:15	OP35939	G4G3596
Run #2							

Run #	Initial Volume	Final Volume
Run #1	30.0 ml	2.0 ml
Run #2		

Pesticide TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
58-89-9	gamma-BHC (Lindane)	ND	D013	0.40	0.000067	0.000040	mg/l	
12789-03-6	Chlordane	ND	D020	0.030	0.0033	0.0014	mg/l	
72-20-8	Endrin	ND	D012	0.020	0.000067	0.000040	mg/l	
76-44-8	Heptachlor	ND	D031	0.0080	0.000067	0.000030	mg/l	
1024-57-3	Heptachlor epoxide	ND	D031	0.0080	0.000067	0.000040	mg/l	
72-43-5	Methoxychlor	ND	D014	10	0.00013	0.000045	mg/l	
8001-35-2	Toxaphene	ND	D015	0.50	0.0017	0.0011	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	87%		30-137%
877-09-8	Tetrachloro-m-xylene	92%		30-137%
2051-24-3	Decachlorobiphenyl	99%		10-137%
2051-24-3	Decachlorobiphenyl	95%		10-137%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.7
4

Report of Analysis

Client Sample ID: H-104-C2 Lab Sample ID: JD32315-7 Matrix: SO - Soil Method: SW846 8082A SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/20/21 Date Received: 09/28/21 Percent Solids: 87.4
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX2471767.D	1	10/05/21 13:54	RK	10/04/21 09:00	OP35760	GXX7601
Run #2							

Run #	Initial Weight	Final Volume
Run #1	15.1 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	38	18	ug/kg	
11104-28-2	Aroclor 1221	ND	38	23	ug/kg	
11141-16-5	Aroclor 1232	ND	38	24	ug/kg	
53469-21-9	Aroclor 1242	ND	38	16	ug/kg	
12672-29-6	Aroclor 1248	ND	38	34	ug/kg	
11097-69-1	Aroclor 1254	ND	38	20	ug/kg	
11096-82-5	Aroclor 1260	ND	38	16	ug/kg	
11100-14-4	Aroclor 1268	ND	38	16	ug/kg	
37324-23-5	Aroclor 1262	ND	38	25	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	90%		24-152%
877-09-8	Tetrachloro-m-xylene	90%		24-152%
2051-24-3	Decachlorobiphenyl	74%		10-172%
2051-24-3	Decachlorobiphenyl	83%		10-172%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.7
4

Report of Analysis

Client Sample ID: H-104-C2 Lab Sample ID: JD32315-7 Matrix: SO - Soil Method: SW846 8015D SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/20/21 Date Received: 09/28/21 Percent Solids: 87.4
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ101082.D	1	10/05/21 08:26	TC	10/04/21 09:30	OP35757	GZZ3729
Run #2							

Run #	Initial Weight	Final Volume
Run #1	16.8 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	7.08	6.8	2.3	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	34%		18-132%		
438-22-2	5a-Androstane	33%		22-134%		

ND = Not detected RL = Reporting Limit E = Indicates value exceeds calibration range	MDL = Method Detection Limit J = Indicates an estimated value B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound
--	--

4.7
4

Report of Analysis

Client Sample ID: H-104-C2	Date Sampled: 09/20/21
Lab Sample ID: JD32315-7	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 87.4
Project: Northfield Bridge, Route 12, VT	

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 0.10	D004	5.0	0.10	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Barium	< 0.20	D005	100	0.20	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Cadmium	< 0.0040	D006	1.0	0.0040	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Chromium	0.034	D007	5.0	0.010	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Lead	< 0.10	D008	5.0	0.10	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Mercury	< 0.00020	D009	0.20	0.00020	mg/l	1	10/06/21	10/06/21	LM	SW846 7470A ¹ SW846 7470A ⁴
Selenium	< 0.10	D010	1.0	0.10	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Silver	< 0.010	D011	5.0	0.010	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³

- (1) Instrument QC Batch: MA51229
- (2) Instrument QC Batch: MA51233
- (3) Prep QC Batch: MP29010
- (4) Prep QC Batch: MP29030

RL = Reporting Limit
MCL = Maximum Contamination Level (40 CFR 261 7/1/11)

4.7
4

Report of Analysis

Client Sample ID: H-104-C2	Date Sampled: 09/20/21
Lab Sample ID: JD32315-7	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 87.4
Project: Northfield Bridge, Route 12, VT	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.62 NC		su	1	10/04/21 15:54	MM	SW846 9045D
Cyanide Reactivity ^a	< 11	11	mg/kg	1	10/07/21 21:34	JJ	SW846 CHAP7/9012 B
Ignitability (Flashpoint)	> 200		Deg. F	1	10/05/21 16:30	MM	SW846 1010A/ASTM D93
Paint Filter Test ^b	< 0.50	0.50	ml/100g	1	10/04/21 14:20	MM	SW846 9095/9095B
Solids, Percent	87.4		%	1	10/04/21 16:54	BG	SM2540 G 18TH ED MOD
Sulfide Reactivity ^a	< 110	110	mg/kg	1	10/10/21 12:35	MP	SW846 CHAP7/9034

(a) Analyzed outside the 14 day holding time applied by laboratory SOP. No regulatory holding time published for this method.

(b) No free liquids.

RL = Reporting Limit

4.7
4

Report of Analysis

Client Sample ID: DUP-A		
Lab Sample ID: JD32315-8		Date Sampled: 09/20/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8270E SW846 3546		Percent Solids: 96.1
Project: Northfield Bridge, Route 12, VT		

Run	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	6P502024.D	2	10/11/21 01:07	CS	10/08/21 09:25	OP35857	E6P3522
Run #2 ^b	Z152181.D	20	10/11/21 15:22	BL	10/08/21 09:25	OP35857	EZ7569
Run #3 ^c	2P103276.D	1	10/05/21 15:35	KLS	10/04/21 10:00	OP35710	E2P4638

Run	Initial Weight	Final Volume
Run #1	30.7 g	1.0 ml
Run #2	30.7 g	1.0 ml
Run #3	30.3 g	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	275	68	23	ug/kg	
208-96-8	Acenaphthylene	1490	68	34	ug/kg	
120-12-7	Anthracene	2190	68	42	ug/kg	
56-55-3	Benzo(a)anthracene	2980	68	19	ug/kg	
50-32-8	Benzo(a)pyrene	2030	68	31	ug/kg	
205-99-2	Benzo(b)fluoranthene	2620	68	30	ug/kg	
191-24-2	Benzo(g,h,i)perylene	1290	68	34	ug/kg	
207-08-9	Benzo(k)fluoranthene	975	68	32	ug/kg	
218-01-9	Chrysene	2580	68	21	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	401	68	30	ug/kg	
206-44-0	Fluoranthene	9860 ^d	680	300	ug/kg	
86-73-7	Fluorene	1280	68	31	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	1680	68	32	ug/kg	
91-20-3	Naphthalene	3100	68	19	ug/kg	
85-01-8	Phenanthrene	13400 ^d	680	230	ug/kg	
129-00-0	Pyrene	6040	68	22	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
4165-60-0	Nitrobenzene-d5	59%	88%	11% ^e	15-114%
321-60-8	2-Fluorobiphenyl	67%	79%	12% ^e	22-104%
1718-51-0	Terphenyl-d14	69%	85%	15% ^e	23-121%

- (a) Sample extracted outside the holding time. Reextract due to surrogate outside QC limits. Original prep date within holding time.
- (b) Sample extracted outside the holding time.
- (c) Confirmation run.
- (d) Result is from Run# 2
- (e) Outside of in house control limits. Refer to re-extract.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.8
4

Report of Analysis

Client Sample ID: DUP-A Lab Sample ID: JD32315-8 Matrix: SO - Soil Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/20/21 Date Received: 09/28/21 Percent Solids: 96.1
--	--

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^a	8.3	4.2	mg/kg	2	09/30/21	10/01/21	ND SW846 6010D ²	SW846 3050B ⁴
Barium	23.5	21	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ⁴
Cadmium ^a	< 1.1	1.1	mg/kg	2	09/30/21	10/01/21	ND SW846 6010D ²	SW846 3050B ⁴
Chromium	19.1	1.1	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ⁴
Lead ^a	16.3	4.2	mg/kg	2	09/30/21	10/01/21	ND SW846 6010D ²	SW846 3050B ⁴
Mercury	< 0.031	0.031	mg/kg	1	10/04/21	10/04/21	LM SW846 7471B ³	SW846 7471B ⁵
Selenium ^a	< 4.2	4.2	mg/kg	2	09/30/21	10/01/21	ND SW846 6010D ²	SW846 3050B ⁴
Silver ^a	< 1.1	1.1	mg/kg	2	09/30/21	10/01/21	ND SW846 6010D ²	SW846 3050B ⁴

- (1) Instrument QC Batch: MA51210
- (2) Instrument QC Batch: MA51216
- (3) Instrument QC Batch: MA51220
- (4) Prep QC Batch: MP28913
- (5) Prep QC Batch: MP28967

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

4.8
4

Report of Analysis

Client Sample ID: DUP-B		Date Sampled: 09/20/21
Lab Sample ID: JD32315-9		Date Received: 09/28/21
Matrix: SO - Soil		Percent Solids: 73.3
Method: SW846 8260D		
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1C181469.D	1	10/02/21 20:29	PS	n/a	n/a	V1C7900
Run #2							

Run #	Initial Weight
Run #1	6.5 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	18.7	10	4.3	ug/kg	
71-43-2	Benzene	ND	0.52	0.48	ug/kg	
108-86-1	Bromobenzene	ND	5.2	0.58	ug/kg	
74-97-5	Bromochloromethane	ND	5.2	0.59	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	0.45	ug/kg	
75-25-2	Bromoform	ND	5.2	1.4	ug/kg	
74-83-9	Bromomethane	ND	5.2	0.80	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	2.6	ug/kg	
104-51-8	n-Butylbenzene	ND	2.1	0.43	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.1	0.45	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.1	0.52	ug/kg	
75-15-0	Carbon disulfide	1.8	2.1	0.56	ug/kg	J
56-23-5	Carbon tetrachloride	ND	2.1	0.65	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	0.48	ug/kg	
75-00-3	Chloroethane	ND	5.2	0.62	ug/kg	
67-66-3	Chloroform	ND	2.1	0.54	ug/kg	
74-87-3	Chloromethane	ND	5.2	2.1	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.1	0.57	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.1	0.46	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.1	0.73	ug/kg	
124-48-1	Dibromochloromethane ^a	ND	2.1	0.59	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.44	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.57	ug/kg	
541-73-1	1,3-Dichlorobenzene ^b	ND	1.0	0.52	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.52	ug/kg	
75-71-8	Dichlorodifluoromethane ^a	ND	5.2	0.76	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.0	0.52	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.49	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.0	0.69	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.88	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.64	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	0.50	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.9
4

Report of Analysis

Client Sample ID:	DUP-B	Date Sampled:	09/20/21
Lab Sample ID:	JD32315-9	Date Received:	09/28/21
Matrix:	SO - Soil	Percent Solids:	73.3
Method:	SW846 8260D		
Project:	Northfield Bridge, Route 12, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.1	0.55	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.1	0.45	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.1	0.49	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.50	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.48	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.48	ug/kg	
87-68-3	Hexachlorobutadiene ^a	ND	5.2	0.69	ug/kg	
591-78-6	2-Hexanone	ND	5.2	2.2	ug/kg	
74-88-4	Iodomethane	ND	5.2	2.4	ug/kg	
98-82-8	Isopropylbenzene	ND	2.1	1.5	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.1	0.41	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.49	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.2	2.4	ug/kg	
74-95-3	Methylene bromide	ND	5.2	0.55	ug/kg	
75-09-2	Methylene chloride	ND	5.2	2.7	ug/kg	
91-20-3	Naphthalene	10.1	5.2	2.6	ug/kg	
103-65-1	n-Propylbenzene	ND	2.1	0.49	ug/kg	
100-42-5	Styrene	ND	2.1	0.42	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.1	0.44	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.63	ug/kg	
127-18-4	Tetrachloroethene	ND	2.1	0.61	ug/kg	
108-88-3	Toluene	ND	1.0	0.55	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.2	2.6	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.2	2.6	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.51	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.58	ug/kg	
79-01-6	Trichloroethene	ND	1.0	0.80	ug/kg	
75-69-4	Trichlorofluoromethane ^c	ND	5.2	0.72	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.2	0.58	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	0.80	2.1	0.52	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.45	ug/kg	
108-05-4	Vinyl Acetate	ND	10	2.1	ug/kg	
75-01-4	Vinyl chloride	ND	2.1	0.50	ug/kg	
	m,p-Xylene	ND	1.0	0.94	ug/kg	
95-47-6	o-Xylene	ND	1.0	0.48	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.48	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		72-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.9
 4

Report of Analysis

Client Sample ID: DUP-B Lab Sample ID: JD32315-9 Matrix: SO - Soil Method: SW846 8260D Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/20/21 Date Received: 09/28/21 Percent Solids: 73.3
--	--

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	110%		75-131%
2037-26-5	Toluene-D8	103%		81-121%
460-00-4	4-Bromofluorobenzene	99%		60-141%

- (a) Associated CCV outside of control limits high, sample was ND.
- (b) This compound in blank spike is outside in house QC limits bias high.
- (c) Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.9
4

Report of Analysis

Client Sample ID: DUP-B		Date Sampled: 09/20/21
Lab Sample ID: JD32315-9		Date Received: 09/28/21
Matrix: SO - Soil		Percent Solids: 73.3
Method: SW846 8270E SW846 3546		
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2P103274.D	1	10/05/21 14:21	KLS	10/04/21 10:00	OP35710	E2P4638
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	45	16	ug/kg	
208-96-8	Acenaphthylene	59.7	45	23	ug/kg	
120-12-7	Anthracene	113	45	28	ug/kg	
56-55-3	Benzo(a)anthracene	215	45	13	ug/kg	
50-32-8	Benzo(a)pyrene	143	45	21	ug/kg	
205-99-2	Benzo(b)fluoranthene	199	45	20	ug/kg	
191-24-2	Benzo(g,h,i)perylene	81.1	45	23	ug/kg	
207-08-9	Benzo(k)fluoranthene	76.3	45	21	ug/kg	
218-01-9	Chrysene	194	45	14	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	21.7	45	20	ug/kg	J
206-44-0	Fluoranthene	554	45	20	ug/kg	
86-73-7	Fluorene	63.9	45	21	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	104	45	21	ug/kg	
91-20-3	Naphthalene	88.2	45	13	ug/kg	
85-01-8	Phenanthrene	590	45	15	ug/kg	
129-00-0	Pyrene	487	45	14	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	52%		15-114%
321-60-8	2-Fluorobiphenyl	59%		22-104%
1718-51-0	Terphenyl-d14	81%		23-121%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.9
4

Report of Analysis

Client Sample ID: DUP-B		Date Sampled: 09/20/21
Lab Sample ID: JD32315-9		Date Received: 09/28/21
Matrix: SO - Soil		Percent Solids: 73.3
Method: SW846 8082A SW846 3540C		
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5G110675.D	1	10/04/21 07:46	TL	10/01/21 18:00	OP35562	G5G2805
Run #2							

Run #	Initial Weight	Final Volume
Run #1	10.3 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	66	31	ug/kg	
11104-28-2	Aroclor 1221	ND	66	41	ug/kg	
11141-16-5	Aroclor 1232	ND	66	42	ug/kg	
53469-21-9	Aroclor 1242	ND	66	27	ug/kg	
12672-29-6	Aroclor 1248	ND	66	59	ug/kg	
11097-69-1	Aroclor 1254	ND	66	36	ug/kg	
11096-82-5	Aroclor 1260	ND	66	28	ug/kg	
11100-14-4	Aroclor 1268	ND	66	28	ug/kg	
37324-23-5	Aroclor 1262	ND	66	43	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	84%		24-152%
877-09-8	Tetrachloro-m-xylene	87%		24-152%
2051-24-3	Decachlorobiphenyl	98%		10-172%
2051-24-3	Decachlorobiphenyl	123%		10-172%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.9
4

Report of Analysis

Client Sample ID: DUP-B Lab Sample ID: JD32315-9 Matrix: SO - Soil Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/20/21 Date Received: 09/28/21 Percent Solids: 73.3
--	--

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.9	1.8	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Barium	< 18	18	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Cadmium	< 0.44	0.44	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Chromium	26.5	0.88	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Lead	8.5	1.8	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Mercury	< 0.039	0.039	mg/kg	1	10/04/21	10/04/21	LM SW846 7471B ²	SW846 7471B ⁴
Selenium	< 1.8	1.8	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Silver	< 0.44	0.44	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA51210
- (2) Instrument QC Batch: MA51220
- (3) Prep QC Batch: MP28913
- (4) Prep QC Batch: MP28967

RL = Reporting Limit

4.9
4

Report of Analysis

Client Sample ID:	H-101-A	Date Sampled:	09/21/21
Lab Sample ID:	JD32315-10	Date Received:	09/28/21
Matrix:	SO - Soil	Percent Solids:	96.6
Method:	SW846 8270E SW846 3546		
Project:	Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	2P103322.D	2	10/06/21 18:26	BL	10/04/21 10:00	OP35710	E2P4640
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	62.2	68	24	ug/kg	J
208-96-8	Acenaphthylene	577	68	35	ug/kg	
120-12-7	Anthracene	671	68	42	ug/kg	
56-55-3	Benzo(a)anthracene	1520	68	19	ug/kg	
50-32-8	Benzo(a)pyrene	1110	68	31	ug/kg	
205-99-2	Benzo(b)fluoranthene	1430	68	30	ug/kg	
191-24-2	Benzo(g,h,i)perylene ^b	722	68	34	ug/kg	
207-08-9	Benzo(k)fluoranthene	660	68	32	ug/kg	
218-01-9	Chrysene	1410	68	22	ug/kg	
53-70-3	Dibenzo(a,h)anthracene ^b	196	68	30	ug/kg	
206-44-0	Fluoranthene	3770	68	30	ug/kg	
86-73-7	Fluorene	362	68	31	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene ^b	910	68	32	ug/kg	
91-20-3	Naphthalene	47.3	68	19	ug/kg	J
85-01-8	Phenanthrene	3450	68	23	ug/kg	
129-00-0	Pyrene	3290	68	22	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	22%		15-114%
321-60-8	2-Fluorobiphenyl	25%		22-104%
1718-51-0	Terphenyl-d14	29%		23-121%

(a) Dilution required due to matrix interference.

(b) Associated CCV outside of control limits high. Estimated value, due to corresponding failure in the batch associated CCV.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: H-101-A	Date Sampled: 09/21/21
Lab Sample ID: JD32315-10	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 96.6
Project: Northfield Bridge, Route 12, VT	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	7.8	2.1	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Barium	29.9	21	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Cadmium	< 0.53	0.53	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Chromium	37.9	1.1	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Lead	12.7	2.1	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Mercury	< 0.034	0.034	mg/kg	1	10/04/21	10/04/21	LM SW846 7471B ²	SW846 7471B ⁴
Selenium	< 2.1	2.1	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Silver	0.65	0.53	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA51210
- (2) Instrument QC Batch: MA51220
- (3) Prep QC Batch: MP28913
- (4) Prep QC Batch: MP28967

RL = Reporting Limit

Report of Analysis

Client Sample ID: H-101-B	Date Sampled: 09/21/21
Lab Sample ID: JD32315-11	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 79.9
Method: SW846 8260D	
Project: Northfield Bridge, Route 12, VT	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	1C181470.D	1	10/02/21 20:56	PS	n/a	n/a	V1C7900

Run #1	Initial Weight
Run #2	6.1 g

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	44.2	10	4.2	ug/kg	
71-43-2	Benzene	ND	0.51	0.47	ug/kg	
108-86-1	Bromobenzene	ND	5.1	0.57	ug/kg	
74-97-5	Bromochloromethane	ND	5.1	0.57	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	0.44	ug/kg	
75-25-2	Bromoform	ND	5.1	1.4	ug/kg	
74-83-9	Bromomethane	ND	5.1	0.78	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	2.5	ug/kg	
104-51-8	n-Butylbenzene	ND	2.1	0.42	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.1	0.44	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.1	0.51	ug/kg	
75-15-0	Carbon disulfide	0.93	2.1	0.55	ug/kg	J
56-23-5	Carbon tetrachloride	ND	2.1	0.63	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	0.47	ug/kg	
75-00-3	Chloroethane	ND	5.1	0.61	ug/kg	
67-66-3	Chloroform	ND	2.1	0.53	ug/kg	
74-87-3	Chloromethane	ND	5.1	2.0	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.1	0.55	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.1	0.45	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.1	0.71	ug/kg	
124-48-1	Dibromochloromethane ^a	ND	2.1	0.57	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.43	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.56	ug/kg	
541-73-1	1,3-Dichlorobenzene ^b	ND	1.0	0.51	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.51	ug/kg	
75-71-8	Dichlorodifluoromethane ^a	ND	5.1	0.75	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.0	0.51	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.48	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.86	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.63	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	0.49	ug/kg	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	H-101-B	Date Sampled:	09/21/21
Lab Sample ID:	JD32315-11	Date Received:	09/28/21
Matrix:	SO - Soil	Percent Solids:	79.9
Method:	SW846 8260D		
Project:	Northfield Bridge, Route 12, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.1	0.53	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.1	0.44	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.1	0.48	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.49	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.47	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.46	ug/kg	
87-68-3	Hexachlorobutadiene ^a	ND	5.1	0.67	ug/kg	
591-78-6	2-Hexanone	ND	5.1	2.2	ug/kg	
74-88-4	Iodomethane	ND	5.1	2.4	ug/kg	
98-82-8	Isopropylbenzene	ND	2.1	1.5	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.1	0.41	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.48	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.1	2.3	ug/kg	
74-95-3	Methylene bromide	ND	5.1	0.54	ug/kg	
75-09-2	Methylene chloride	ND	5.1	2.7	ug/kg	
91-20-3	Naphthalene	ND	5.1	2.6	ug/kg	
103-65-1	n-Propylbenzene	ND	2.1	0.48	ug/kg	
100-42-5	Styrene	ND	2.1	0.41	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.1	0.43	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.61	ug/kg	
127-18-4	Tetrachloroethene	ND	2.1	0.60	ug/kg	
108-88-3	Toluene	ND	1.0	0.54	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.1	2.6	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.1	2.6	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.50	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.57	ug/kg	
79-01-6	Trichloroethene	ND	1.0	0.78	ug/kg	
75-69-4	Trichlorofluoromethane ^c	ND	5.1	0.70	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.1	0.57	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.51	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.44	ug/kg	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/kg	
75-01-4	Vinyl chloride	ND	2.1	0.49	ug/kg	
	m,p-Xylene	ND	1.0	0.92	ug/kg	
95-47-6	o-Xylene	ND	1.0	0.47	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.47	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		72-130%

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: H-101-B	
Lab Sample ID: JD32315-11	Date Sampled: 09/21/21
Matrix: SO - Soil	Date Received: 09/28/21
Method: SW846 8260D	Percent Solids: 79.9
Project: Northfield Bridge, Route 12, VT	

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	111%		75-131%
2037-26-5	Toluene-D8	101%		81-121%
460-00-4	4-Bromofluorobenzene	96%		60-141%

- (a) Associated CCV outside of control limits high, sample was ND.
- (b) This compound in blank spike is outside in house QC limits bias high.
- (c) Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.11
4

Report of Analysis

Client Sample ID: H-101-B		Date Sampled: 09/21/21
Lab Sample ID: JD32315-11		Date Received: 09/28/21
Matrix: SO - Soil		Percent Solids: 79.9
Method: SW846 8270E SW846 3546		
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2P103275.D	1	10/05/21 14:46	KLS	10/04/21 10:00	OP35710	E2P4638
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	42	14	ug/kg	
208-96-8	Acenaphthylene	35.9	42	21	ug/kg	J
120-12-7	Anthracene	35.9	42	25	ug/kg	J
56-55-3	Benzo(a)anthracene	119	42	12	ug/kg	
50-32-8	Benzo(a)pyrene	112	42	19	ug/kg	
205-99-2	Benzo(b)fluoranthene	148	42	18	ug/kg	
191-24-2	Benzo(g,h,i)perylene	70.6	42	21	ug/kg	
207-08-9	Benzo(k)fluoranthene	56.0	42	19	ug/kg	
218-01-9	Chrysene	140	42	13	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	42	18	ug/kg	
206-44-0	Fluoranthene	232	42	19	ug/kg	
86-73-7	Fluorene	ND	42	19	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	82.0	42	20	ug/kg	
91-20-3	Naphthalene	17.4	42	12	ug/kg	J
85-01-8	Phenanthrene	125	42	14	ug/kg	
129-00-0	Pyrene	259	42	13	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	56%		15-114%
321-60-8	2-Fluorobiphenyl	60%		22-104%
1718-51-0	Terphenyl-d14	79%		23-121%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.11
4

Report of Analysis

Client Sample ID: H-101-B Lab Sample ID: JD32315-11 Matrix: SO - Soil Method: SW846 8082A SW846 3540C Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/21/21 Date Received: 09/28/21 Percent Solids: 79.9
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5G110676.D	1	10/04/21 08:20	TL	10/01/21 18:00	OP35562	G5G2805
Run #2							

Run #	Initial Weight	Final Volume
Run #1	10.3 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	61	28	ug/kg	
11104-28-2	Aroclor 1221	ND	61	38	ug/kg	
11141-16-5	Aroclor 1232	ND	61	39	ug/kg	
53469-21-9	Aroclor 1242	ND	61	25	ug/kg	
12672-29-6	Aroclor 1248	ND	61	54	ug/kg	
11097-69-1	Aroclor 1254	ND	61	33	ug/kg	
11096-82-5	Aroclor 1260	ND	61	26	ug/kg	
11100-14-4	Aroclor 1268	ND	61	26	ug/kg	
37324-23-5	Aroclor 1262	ND	61	40	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	76%		24-152%
877-09-8	Tetrachloro-m-xylene	77%		24-152%
2051-24-3	Decachlorobiphenyl	85%		10-172%
2051-24-3	Decachlorobiphenyl	101%		10-172%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.11
4

Report of Analysis

Client Sample ID: H-101-B	Date Sampled: 09/21/21
Lab Sample ID: JD32315-11	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 79.9
Project: Northfield Bridge, Route 12, VT	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^a	8.0	3.3	mg/kg	2	09/30/21	10/01/21	ND	SW846 6010D ² SW846 3050B ⁴
Barium	< 16	16	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ⁴
Cadmium ^a	< 0.82	0.82	mg/kg	2	09/30/21	10/01/21	ND	SW846 6010D ² SW846 3050B ⁴
Chromium	16.7	0.82	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ⁴
Lead ^a	10.9	3.3	mg/kg	2	09/30/21	10/01/21	ND	SW846 6010D ² SW846 3050B ⁴
Mercury	0.072	0.039	mg/kg	1	10/04/21	10/04/21	LM	SW846 7471B ³ SW846 7471B ⁵
Selenium ^a	< 3.3	3.3	mg/kg	2	09/30/21	10/01/21	ND	SW846 6010D ² SW846 3050B ⁴
Silver ^a	0.82	0.82	mg/kg	2	09/30/21	10/01/21	ND	SW846 6010D ² SW846 3050B ⁴

(1) Instrument QC Batch: MA51210

(2) Instrument QC Batch: MA51216

(3) Instrument QC Batch: MA51220

(4) Prep QC Batch: MP28913

(5) Prep QC Batch: MP28967

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: H-101-C		
Lab Sample ID: JD32315-12		Date Sampled: 09/21/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8260D SW846 1311		Percent Solids: 93.7
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2V81429.D	5	10/07/21 05:49	JS	10/02/21 16:00	GP36195	V2V3357
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
71-43-2	Benzene	ND	D018	0.50	0.0025	0.0021	mg/l	
78-93-3	2-Butanone (MEK) ^a	ND	D035	200	0.10	0.034	mg/l	
56-23-5	Carbon tetrachloride	ND	D019	0.50	0.0050	0.0028	mg/l	
108-90-7	Chlorobenzene	ND	D021	100	0.0050	0.0028	mg/l	
67-66-3	Chloroform ^b	0.0118	D022	6.0	0.0050	0.0025	mg/l	B
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.0050	0.0025	mg/l	
107-06-2	1,2-Dichloroethane	ND	D028	0.50	0.0050	0.0030	mg/l	
75-35-4	1,1-Dichloroethene	ND	D029	0.70	0.0050	0.0030	mg/l	
127-18-4	Tetrachloroethene	ND	D039	0.70	0.0050	0.0045	mg/l	
79-01-6	Trichloroethene	ND	D040	0.50	0.0050	0.0026	mg/l	
75-01-4	Vinyl chloride	ND	D043	0.20	0.0050	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		76-120%
17060-07-0	1,2-Dichloroethane-D4	112%		64-135%
2037-26-5	Toluene-D8	103%		76-117%
460-00-4	4-Bromofluorobenzene	104%		72-122%

(a) Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.

(b) Indicates analyte found in associated leachate blank.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.12
4

Report of Analysis

Client Sample ID: H-101-C Lab Sample ID: JD32315-12 Matrix: SO - Soil Method: SW846 8270E SW846 3510C Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/21/21 Date Received: 09/28/21 Percent Solids: 93.7
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z152228.D	1	10/13/21 06:39	CS	10/12/21 18:20	OP35940	EZ7572
Run #2							

Run #	Initial Volume	Final Volume
Run #1	100 ml	1.0 ml
Run #2		

ABN TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	D023	200	0.020	0.0089	mg/l	
	3&4-Methylphenol	ND	D024	200	0.020	0.0088	mg/l	
87-86-5	Pentachlorophenol	ND	D037	100	0.10	0.014	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	D041	400	0.050	0.013	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	D042	2.0	0.050	0.0092	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.020	0.0017	mg/l	
121-14-2	2,4-Dinitrotoluene	ND	D030	0.13	0.020	0.0055	mg/l	
118-74-1	Hexachlorobenzene	ND	D032	0.13	0.020	0.0033	mg/l	
87-68-3	Hexachlorobutadiene	ND	D033	0.50	0.010	0.0049	mg/l	
67-72-1	Hexachloroethane	ND	D034	3.0	0.050	0.0039	mg/l	
98-95-3	Nitrobenzene	ND	D036	2.0	0.020	0.0064	mg/l	
110-86-1	Pyridine	ND	D038	5.0	0.020	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	37%		10-73%
4165-62-2	Phenol-d5	26%		10-64%
118-79-6	2,4,6-Tribromophenol	86%		31-130%
4165-60-0	Nitrobenzene-d5	72%		28-126%
321-60-8	2-Fluorobiphenyl	67%		26-114%
1718-51-0	Terphenyl-d14	89%		16-122%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.12
4

Report of Analysis

Client Sample ID: H-101-C Lab Sample ID: JD32315-12 Matrix: SO - Soil Method: SW846 8015D Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/21/21 Date Received: 09/28/21 Percent Solids: 93.7
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM112327.D	1	10/01/21 22:53	DFT	n/a	n/a	GLM4714
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	10.6 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	11	5.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	75%		70-116%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.12
4

Report of Analysis

Client Sample ID: H-101-C Lab Sample ID: JD32315-12 Matrix: SO - Soil Method: SW846 8151A SW846 3510C Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/21/21 Date Received: 09/28/21 Percent Solids: 93.7
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G133455.D	1	10/17/21 16:54	TL	10/12/21 14:20	OP35941	G3G4866
Run #2							

Run #	Initial Volume	Final Volume
Run #1	30.0 ml	2.0 ml
Run #2		

Herbicide TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
94-75-7	2,4-D ^a	ND	D016	10	0.0033	0.00098	mg/l	
93-72-1	2,4,5-TP (Silvex)	ND	D017	1.0	0.0010	0.00020	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	99%		13-169%
19719-28-9	2,4-DCAA	60%		13-169%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.12
4

Report of Analysis

Client Sample ID: H-101-C		
Lab Sample ID: JD32315-12		Date Sampled: 09/21/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8081B SW846 3510C		Percent Solids: 93.7
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4G9721368.D	1	10/13/21 00:01	RK	10/12/21 14:15	OP35939	G4G3596
Run #2							

Run #	Initial Volume	Final Volume
Run #1	30.0 ml	2.0 ml
Run #2		

Pesticide TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
58-89-9	gamma-BHC (Lindane)	ND	D013	0.40	0.000067	0.000040	mg/l	
12789-03-6	Chlordane	ND	D020	0.030	0.0033	0.0014	mg/l	
72-20-8	Endrin	ND	D012	0.020	0.000067	0.000040	mg/l	
76-44-8	Heptachlor	ND	D031	0.0080	0.000067	0.000030	mg/l	
1024-57-3	Heptachlor epoxide	ND	D031	0.0080	0.000067	0.000040	mg/l	
72-43-5	Methoxychlor	ND	D014	10	0.00013	0.000045	mg/l	
8001-35-2	Toxaphene	ND	D015	0.50	0.0017	0.0011	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	101%		30-137%
877-09-8	Tetrachloro-m-xylene	102%		30-137%
2051-24-3	Decachlorobiphenyl	121%		10-137%
2051-24-3	Decachlorobiphenyl	115%		10-137%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.12
4

Report of Analysis

Client Sample ID: H-101-C	Date Sampled: 09/21/21
Lab Sample ID: JD32315-12	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 93.7
Method: SW846 8082A SW846 3546	
Project: Northfield Bridge, Route 12, VT	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX2471768.D	1	10/05/21 14:12	RK	10/04/21 09:00	OP35760	GXX7601
Run #2							

Run #	Initial Weight	Final Volume
Run #1	16.9 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	32	15	ug/kg	
11104-28-2	Aroclor 1221	ND	32	20	ug/kg	
11141-16-5	Aroclor 1232	ND	32	20	ug/kg	
53469-21-9	Aroclor 1242	ND	32	13	ug/kg	
12672-29-6	Aroclor 1248	ND	32	28	ug/kg	
11097-69-1	Aroclor 1254	ND	32	17	ug/kg	
11096-82-5	Aroclor 1260	ND	32	13	ug/kg	
11100-14-4	Aroclor 1268	ND	32	13	ug/kg	
37324-23-5	Aroclor 1262	ND	32	21	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	71%		24-152%
877-09-8	Tetrachloro-m-xylene	79%		24-152%
2051-24-3	Decachlorobiphenyl	60%		10-172%
2051-24-3	Decachlorobiphenyl	75%		10-172%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.12
4

Report of Analysis

Client Sample ID: H-101-C	Date Sampled: 09/21/21
Lab Sample ID: JD32315-12	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 93.7
Method: SW846 8015D SW846 3546	
Project: Northfield Bridge, Route 12, VT	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ101083.D	1	10/05/21 09:00	TC	10/04/21 09:30	OP35757	GZZ3729
Run #2							

Run #	Initial Weight	Final Volume
Run #1	17.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	120	6.3	2.1	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	51%		18-132%		
438-22-2	5a-Androstane	51%		22-134%		

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.12
4

Report of Analysis

Client Sample ID: H-101-C Lab Sample ID: JD32315-12 Matrix: SO - Soil Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/21/21 Date Received: 09/28/21 Percent Solids: 93.7
---	--

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 0.10	D004	5.0	0.10	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Barium	< 0.20	D005	100	0.20	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Cadmium	< 0.0040	D006	1.0	0.0040	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Chromium	0.024	D007	5.0	0.010	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Lead	< 0.10	D008	5.0	0.10	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Mercury	< 0.00020	D009	0.20	0.00020	mg/l	1	10/06/21	10/06/21	LM	SW846 7470A ¹ SW846 7470A ⁴
Selenium	< 0.10	D010	1.0	0.10	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Silver	< 0.010	D011	5.0	0.010	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³

- (1) Instrument QC Batch: MA51229
- (2) Instrument QC Batch: MA51233
- (3) Prep QC Batch: MP29010
- (4) Prep QC Batch: MP29030

RL = Reporting Limit
MCL = Maximum Contamination Level (40 CFR 261 7/1/11)

4.12
4

Report of Analysis

Client Sample ID: H-101-C	Date Sampled: 09/21/21
Lab Sample ID: JD32315-12	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 93.7
Project: Northfield Bridge, Route 12, VT	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	8.83 NC		su	1	10/04/21 15:58	MM	SW846 9045D
Cyanide Reactivity ^a	< 9.9	9.9	mg/kg	1	10/07/21 21:35	JJ	SW846 CHAP7/9012 B
Ignitability (Flashpoint)	> 200		Deg. F	1	10/05/21 16:30	MM	SW846 1010A/ASTM D93
Paint Filter Test ^b	< 0.50	0.50	ml/100g	1	10/04/21 14:20	MM	SW846 9095/9095B
Solids, Percent	93.7		%	1	10/04/21 16:54	BG	SM2540 G 18TH ED MOD
Sulfide Reactivity ^a	< 99	99	mg/kg	1	10/10/21 12:35	MP	SW846 CHAP7/9034

(a) Analyzed outside the 14 day holding time applied by laboratory SOP. No regulatory holding time published for this method.

(b) No free liquids.

RL = Reporting Limit

Report of Analysis

Client Sample ID: B-103-A Lab Sample ID: JD32315-13 Matrix: SO - Soil Method: SW846 8270E SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/21/21 Date Received: 09/28/21 Percent Solids: 89.6
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M175468.D	1	10/05/21 18:41	KLS	10/04/21 10:00	OP35710	EM7542
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	38.5	37	13	ug/kg	
208-96-8	Acenaphthylene	226	37	19	ug/kg	
120-12-7	Anthracene	210	37	23	ug/kg	
56-55-3	Benzo(a)anthracene	459	37	10	ug/kg	
50-32-8	Benzo(a)pyrene	520	37	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	641	37	16	ug/kg	
191-24-2	Benzo(g,h,i)perylene	356	37	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	277	37	17	ug/kg	
218-01-9	Chrysene	511	37	12	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	86.1	37	16	ug/kg	
206-44-0	Fluoranthene	643	37	16	ug/kg	
86-73-7	Fluorene	57.9	37	17	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	414	37	17	ug/kg	
91-20-3	Naphthalene	275	37	10	ug/kg	
85-01-8	Phenanthrene	681	37	12	ug/kg	
129-00-0	Pyrene	745	37	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	49%		15-114%
321-60-8	2-Fluorobiphenyl	57%		22-104%
1718-51-0	Terphenyl-d14	61%		23-121%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.13
4

Report of Analysis

Client Sample ID: B-103-A	Date Sampled: 09/21/21
Lab Sample ID: JD32315-13	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 89.6
Project: Northfield Bridge, Route 12, VT	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	10.1	2.3	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Barium	47.2	23	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Cadmium	1.7	0.58	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Chromium	18.4	1.2	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Lead	44.4	2.3	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Mercury	0.056	0.036	mg/kg	1	10/04/21	10/04/21	LM SW846 7471B ²	SW846 7471B ⁴
Selenium	< 2.3	2.3	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Silver	< 0.58	0.58	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA51210
- (2) Instrument QC Batch: MA51220
- (3) Prep QC Batch: MP28913
- (4) Prep QC Batch: MP28967

RL = Reporting Limit

4.13
4

Report of Analysis

Client Sample ID: B-103-B		
Lab Sample ID: JD32315-14		Date Sampled: 09/21/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8260D		Percent Solids: 71.6
Project: Northfield Bridge, Route 12, VT		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	1C181471.D	1	10/02/21 21:24	PS	n/a	n/a	V1C7900

Run #1	Initial Weight
Run #2	5.8 g

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	69.4	12	5.0	ug/kg	
71-43-2	Benzene	ND	0.60	0.55	ug/kg	
108-86-1	Bromobenzene	ND	6.0	0.67	ug/kg	
74-97-5	Bromochloromethane	ND	6.0	0.67	ug/kg	
75-27-4	Bromodichloromethane	ND	2.4	0.52	ug/kg	
75-25-2	Bromoform	ND	6.0	1.6	ug/kg	
74-83-9	Bromomethane	ND	6.0	0.92	ug/kg	
78-93-3	2-Butanone (MEK)	17.5	12	2.9	ug/kg	
104-51-8	n-Butylbenzene	ND	2.4	0.49	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.4	0.52	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.4	0.60	ug/kg	
75-15-0	Carbon disulfide	0.80	2.4	0.64	ug/kg	J
56-23-5	Carbon tetrachloride	ND	2.4	0.74	ug/kg	
108-90-7	Chlorobenzene	ND	2.4	0.55	ug/kg	
75-00-3	Chloroethane	ND	6.0	0.71	ug/kg	
67-66-3	Chloroform	ND	2.4	0.62	ug/kg	
74-87-3	Chloromethane	ND	6.0	2.4	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.4	0.65	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.4	0.53	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.4	0.84	ug/kg	
124-48-1	Dibromochloromethane ^a	ND	2.4	0.67	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.2	0.51	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.2	0.66	ug/kg	
541-73-1	1,3-Dichlorobenzene ^b	ND	1.2	0.60	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.2	0.59	ug/kg	
75-71-8	Dichlorodifluoromethane ^a	ND	6.0	0.88	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.2	0.60	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.2	0.57	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.2	0.79	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.2	1.0	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.2	0.74	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.4	0.57	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.14
4

Report of Analysis

Client Sample ID:	B-103-B	Date Sampled:	09/21/21
Lab Sample ID:	JD32315-14	Date Received:	09/28/21
Matrix:	SO - Soil	Percent Solids:	71.6
Method:	SW846 8260D		
Project:	Northfield Bridge, Route 12, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.4	0.63	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.4	0.52	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.4	0.56	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.4	0.57	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.4	0.55	ug/kg	
100-41-4	Ethylbenzene	ND	1.2	0.55	ug/kg	
87-68-3	Hexachlorobutadiene ^a	ND	6.0	0.79	ug/kg	
591-78-6	2-Hexanone	ND	6.0	2.6	ug/kg	
74-88-4	Iodomethane	ND	6.0	2.8	ug/kg	
98-82-8	Isopropylbenzene	ND	2.4	1.7	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.4	0.48	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.2	0.56	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	6.0	2.7	ug/kg	
74-95-3	Methylene bromide	ND	6.0	0.63	ug/kg	
75-09-2	Methylene chloride	ND	6.0	3.1	ug/kg	
91-20-3	Naphthalene	ND	6.0	3.0	ug/kg	
103-65-1	n-Propylbenzene	ND	2.4	0.57	ug/kg	
100-42-5	Styrene	ND	2.4	0.48	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.4	0.51	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.4	0.72	ug/kg	
127-18-4	Tetrachloroethene	ND	2.4	0.70	ug/kg	
108-88-3	Toluene	ND	1.2	0.63	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.0	3.0	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.0	3.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.4	0.58	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.4	0.67	ug/kg	
79-01-6	Trichloroethene	ND	1.2	0.92	ug/kg	
75-69-4	Trichlorofluoromethane ^c	ND	6.0	0.82	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	6.0	0.67	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.4	0.60	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.4	0.52	ug/kg	
108-05-4	Vinyl Acetate	ND	12	2.4	ug/kg	
75-01-4	Vinyl chloride	ND	2.4	0.58	ug/kg	
	m,p-Xylene	ND	1.2	1.1	ug/kg	
95-47-6	o-Xylene	ND	1.2	0.55	ug/kg	
1330-20-7	Xylene (total)	ND	1.2	0.55	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		72-130%

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: B-103-B	
Lab Sample ID: JD32315-14	Date Sampled: 09/21/21
Matrix: SO - Soil	Date Received: 09/28/21
Method: SW846 8260D	Percent Solids: 71.6
Project: Northfield Bridge, Route 12, VT	

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	118%		75-131%
2037-26-5	Toluene-D8	101%		81-121%
460-00-4	4-Bromofluorobenzene	91%		60-141%

- (a) Associated CCV outside of control limits high, sample was ND.
- (b) This compound in blank spike is outside in house QC limits bias high.
- (c) Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.14
 4

Report of Analysis

Client Sample ID: B-103-B		
Lab Sample ID: JD32315-14		Date Sampled: 09/21/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8270E SW846 3546		Percent Solids: 71.6
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M175458.D	1	10/05/21 13:52	KLS	10/04/21 10:00	OP35710	EM7542
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	46	16	ug/kg	
208-96-8	Acenaphthylene	ND	46	23	ug/kg	
120-12-7	Anthracene	ND	46	28	ug/kg	
56-55-3	Benzo(a)anthracene	ND	46	13	ug/kg	
50-32-8	Benzo(a)pyrene	ND	46	21	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	46	20	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	46	23	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	46	22	ug/kg	
218-01-9	Chrysene	ND	46	15	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	46	20	ug/kg	
206-44-0	Fluoranthene	ND	46	21	ug/kg	
86-73-7	Fluorene	ND	46	21	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	46	22	ug/kg	
91-20-3	Naphthalene	ND	46	13	ug/kg	
85-01-8	Phenanthrene	ND	46	15	ug/kg	
129-00-0	Pyrene	ND	46	15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	34%		15-114%
321-60-8	2-Fluorobiphenyl	37%		22-104%
1718-51-0	Terphenyl-d14	41%		23-121%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.14
4

Report of Analysis

Client Sample ID: B-103-B	Date Sampled: 09/21/21
Lab Sample ID: JD32315-14	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 71.6
Method: SW846 8082A SW846 3540C	
Project: Northfield Bridge, Route 12, VT	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5G110654.D	1	10/03/21 19:59	TL	10/01/21 18:00	OP35562	G5G2805
Run #2							

Run #	Initial Weight	Final Volume
Run #1	11.5 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	61	28	ug/kg	
11104-28-2	Aroclor 1221	ND	61	38	ug/kg	
11141-16-5	Aroclor 1232	ND	61	39	ug/kg	
53469-21-9	Aroclor 1242	ND	61	25	ug/kg	
12672-29-6	Aroclor 1248	ND	61	54	ug/kg	
11097-69-1	Aroclor 1254	ND	61	33	ug/kg	
11096-82-5	Aroclor 1260	ND	61	26	ug/kg	
11100-14-4	Aroclor 1268	ND	61	26	ug/kg	
37324-23-5	Aroclor 1262	ND	61	40	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	86%		24-152%
877-09-8	Tetrachloro-m-xylene	87%		24-152%
2051-24-3	Decachlorobiphenyl	83%		10-172%
2051-24-3	Decachlorobiphenyl	85%		10-172%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.14
4

Report of Analysis

Client Sample ID: B-103-B	Date Sampled: 09/21/21
Lab Sample ID: JD32315-14	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 71.6
Project: Northfield Bridge, Route 12, VT	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	4.9	2.7	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Barium	< 27	27	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Cadmium	< 0.67	0.67	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Chromium	15.3	1.3	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Lead	8.5	2.7	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Mercury	< 0.041	0.041	mg/kg	1	10/04/21	10/04/21	LM SW846 7471B ²	SW846 7471B ⁴
Selenium	< 2.7	2.7	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Silver	< 0.67	0.67	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA51210
- (2) Instrument QC Batch: MA51220
- (3) Prep QC Batch: MP28913
- (4) Prep QC Batch: MP28967

RL = Reporting Limit

4.14
4

Report of Analysis

Client Sample ID: B-103-C		
Lab Sample ID: JD32315-15		Date Sampled: 09/21/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8260D SW846 1311		Percent Solids: 90.8
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2V81430.D	5	10/07/21 06:15	JS	10/02/21 16:00	GP36195	V2V3357
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
71-43-2	Benzene	ND	D018	0.50	0.0025	0.0021	mg/l	
78-93-3	2-Butanone (MEK) ^a	ND	D035	200	0.10	0.034	mg/l	
56-23-5	Carbon tetrachloride	ND	D019	0.50	0.0050	0.0028	mg/l	
108-90-7	Chlorobenzene	ND	D021	100	0.0050	0.0028	mg/l	
67-66-3	Chloroform ^b	0.0114	D022	6.0	0.0050	0.0025	mg/l	B
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.0050	0.0025	mg/l	
107-06-2	1,2-Dichloroethane	ND	D028	0.50	0.0050	0.0030	mg/l	
75-35-4	1,1-Dichloroethene	ND	D029	0.70	0.0050	0.0030	mg/l	
127-18-4	Tetrachloroethene	ND	D039	0.70	0.0050	0.0045	mg/l	
79-01-6	Trichloroethene	ND	D040	0.50	0.0050	0.0026	mg/l	
75-01-4	Vinyl chloride	ND	D043	0.20	0.0050	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		76-120%
17060-07-0	1,2-Dichloroethane-D4	111%		64-135%
2037-26-5	Toluene-D8	104%		76-117%
460-00-4	4-Bromofluorobenzene	105%		72-122%

(a) Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.

(b) Indicates analyte found in associated leachate blank.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.15
4

Report of Analysis

Client Sample ID: B-103-C		
Lab Sample ID: JD32315-15		Date Sampled: 09/21/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8270E SW846 3510C		Percent Solids: 90.8
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z152229.D	1	10/13/21 07:05	CS	10/12/21 18:20	OP35940	EZ7572
Run #2							

Run #	Initial Volume	Final Volume
Run #1	100 ml	1.0 ml
Run #2		

ABN TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	D023	200	0.020	0.0089	mg/l	
	3&4-Methylphenol	ND	D024	200	0.020	0.0088	mg/l	
87-86-5	Pentachlorophenol	ND	D037	100	0.10	0.014	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	D041	400	0.050	0.013	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	D042	2.0	0.050	0.0092	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.020	0.0017	mg/l	
121-14-2	2,4-Dinitrotoluene	ND	D030	0.13	0.020	0.0055	mg/l	
118-74-1	Hexachlorobenzene	ND	D032	0.13	0.020	0.0033	mg/l	
87-68-3	Hexachlorobutadiene	ND	D033	0.50	0.010	0.0049	mg/l	
67-72-1	Hexachloroethane	ND	D034	3.0	0.050	0.0039	mg/l	
98-95-3	Nitrobenzene	ND	D036	2.0	0.020	0.0064	mg/l	
110-86-1	Pyridine	ND	D038	5.0	0.020	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	27%		10-73%
4165-62-2	Phenol-d5	18%		10-64%
118-79-6	2,4,6-Tribromophenol	55%		31-130%
4165-60-0	Nitrobenzene-d5	49%		28-126%
321-60-8	2-Fluorobiphenyl	46%		26-114%
1718-51-0	Terphenyl-d14	54%		16-122%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.15
4

Report of Analysis

Client Sample ID: B-103-C		Date Sampled: 09/21/21
Lab Sample ID: JD32315-15		Date Received: 09/28/21
Matrix: SO - Soil		Percent Solids: 90.8
Method: SW846 8015D		
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM112328.D	1	10/01/21 23:18	DFT	n/a	n/a	GLM4714
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	9.4 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	6.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	75%		70-116%		

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: B-103-C		
Lab Sample ID: JD32315-15		Date Sampled: 09/21/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8151A SW846 3510C		Percent Solids: 90.8
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G133456.D	1	10/17/21 17:22	TL	10/12/21 14:20	OP35941	G3G4866
Run #2							

Run #	Initial Volume	Final Volume
Run #1	30.0 ml	2.0 ml
Run #2		

Herbicide TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
94-75-7	2,4-D ^a	ND	D016	10	0.0033	0.00098	mg/l	
93-72-1	2,4,5-TP (Silvex)	ND	D017	1.0	0.0010	0.00020	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	91%		13-169%
19719-28-9	2,4-DCAA	53%		13-169%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.15
4

Report of Analysis

Client Sample ID: B-103-C		
Lab Sample ID: JD32315-15		Date Sampled: 09/21/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8081B SW846 3510C		Percent Solids: 90.8
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4G9721369.D	1	10/13/21 00:16	RK	10/12/21 14:15	OP35939	G4G3596
Run #2							

Run #	Initial Volume	Final Volume
Run #1	30.0 ml	2.0 ml
Run #2		

Pesticide TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
58-89-9	gamma-BHC (Lindane)	ND	D013	0.40	0.000067	0.000040	mg/l	
12789-03-6	Chlordane	ND	D020	0.030	0.0033	0.0014	mg/l	
72-20-8	Endrin	ND	D012	0.020	0.000067	0.000040	mg/l	
76-44-8	Heptachlor	ND	D031	0.0080	0.000067	0.000030	mg/l	
1024-57-3	Heptachlor epoxide	ND	D031	0.0080	0.000067	0.000040	mg/l	
72-43-5	Methoxychlor	ND	D014	10	0.00013	0.000045	mg/l	
8001-35-2	Toxaphene	ND	D015	0.50	0.0017	0.0011	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	104%		30-137%
877-09-8	Tetrachloro-m-xylene	111%		30-137%
2051-24-3	Decachlorobiphenyl	112%		10-137%
2051-24-3	Decachlorobiphenyl	110%		10-137%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.15
4

Report of Analysis

Client Sample ID: B-103-C Lab Sample ID: JD32315-15 Matrix: SO - Soil Method: SW846 8082A SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/21/21 Date Received: 09/28/21 Percent Solids: 90.8
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	XX2471802.D	1	10/06/21 01:13	CP	10/04/21 09:00	OP35760	GXX7602
Run #2							

Run #	Initial Weight	Final Volume
Run #1	15.6 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	35	16	ug/kg	
11104-28-2	Aroclor 1221	ND	35	22	ug/kg	
11141-16-5	Aroclor 1232	ND	35	23	ug/kg	
53469-21-9	Aroclor 1242	ND	35	14	ug/kg	
12672-29-6	Aroclor 1248	ND	35	31	ug/kg	
11097-69-1	Aroclor 1254	ND	35	19	ug/kg	
11096-82-5	Aroclor 1260	ND	35	15	ug/kg	
11100-14-4	Aroclor 1268	ND	35	15	ug/kg	
37324-23-5	Aroclor 1262	ND	35	23	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	47%		24-152%
877-09-8	Tetrachloro-m-xylene	49%		24-152%
2051-24-3	Decachlorobiphenyl	38%		10-172%
2051-24-3	Decachlorobiphenyl	21%		10-172%

(a) Had TBA cleanup.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.15
4

Report of Analysis

Client Sample ID: B-103-C Lab Sample ID: JD32315-15 Matrix: SO - Soil Method: SW846 8015D SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/21/21 Date Received: 09/28/21 Percent Solids: 90.8
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ101084.D	1	10/05/21 09:34	TC	10/04/21 09:30	OP35757	GZZ3729
Run #2							

Run #	Initial Weight	Final Volume
Run #1	15.5 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	68.7	7.1	2.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	76%		18-132%		
438-22-2	5a-Androstane	75%		22-134%		

ND = Not detected RL = Reporting Limit E = Indicates value exceeds calibration range	MDL = Method Detection Limit J = Indicates an estimated value B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound
--	--

4.15
4

Report of Analysis

Client Sample ID: B-103-C	Date Sampled: 09/21/21
Lab Sample ID: JD32315-15	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 90.8
Project: Northfield Bridge, Route 12, VT	

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 0.10	D004	5.0	0.10	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Barium	< 0.20	D005	100	0.20	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Cadmium	0.0067	D006	1.0	0.0040	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Chromium	< 0.010	D007	5.0	0.010	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Lead	< 0.10	D008	5.0	0.10	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Mercury	< 0.00020	D009	0.20	0.00020	mg/l	1	10/06/21	10/06/21	LM	SW846 7470A ¹ SW846 7470A ⁴
Selenium	< 0.10	D010	1.0	0.10	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Silver	< 0.010	D011	5.0	0.010	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³

- (1) Instrument QC Batch: MA51229
- (2) Instrument QC Batch: MA51233
- (3) Prep QC Batch: MP29010
- (4) Prep QC Batch: MP29030

RL = Reporting Limit
MCL = Maximum Contamination Level (40 CFR 261 7/1/11)

4.15
4

Report of Analysis

Client Sample ID: B-103-C	Date Sampled: 09/21/21
Lab Sample ID: JD32315-15	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 90.8
Project: Northfield Bridge, Route 12, VT	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	10.32 NC		su	1	10/04/21 16:01	MM	SW846 9045D
Cyanide Reactivity ^a	< 11	11	mg/kg	1	10/07/21 21:37	JJ	SW846 CHAP7/9012 B
Ignitability (Flashpoint)	> 200		Deg. F	1	10/05/21 16:30	MM	SW846 1010A/ASTM D93
Paint Filter Test ^b	< 0.50	0.50	ml/100g	1	10/04/21 14:20	MM	SW846 9095/9095B
Solids, Percent	90.8		%	1	10/04/21 16:54	BG	SM2540 G 18TH ED MOD
Sulfide Reactivity ^a	< 110	110	mg/kg	1	10/10/21 12:35	MP	SW846 CHAP7/9034

(a) Analyzed outside the 14 day holding time applied by laboratory SOP. No regulatory holding time published for this method.

(b) No free liquids.

RL = Reporting Limit

Report of Analysis

Client Sample ID: H-102-A Lab Sample ID: JD32315-16 Matrix: SO - Soil Method: SW846 8270E SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/22/21 Date Received: 09/28/21 Percent Solids: 90.1
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M175462.D	1	10/05/21 15:48	KLS	10/04/21 10:00	OP35710	EM7542
Run #2							

Run #	Initial Weight	Final Volume
Run #1	31.1 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	36	12	ug/kg	
208-96-8	Acenaphthylene	ND	36	18	ug/kg	
120-12-7	Anthracene	ND	36	22	ug/kg	
56-55-3	Benzo(a)anthracene	49.4	36	10	ug/kg	
50-32-8	Benzo(a)pyrene	40.3	36	16	ug/kg	
205-99-2	Benzo(b)fluoranthene	49.0	36	16	ug/kg	
191-24-2	Benzo(g,h,i)perylene	22.2	36	18	ug/kg	J
207-08-9	Benzo(k)fluoranthene	22.1	36	17	ug/kg	J
218-01-9	Chrysene	45.8	36	11	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	36	16	ug/kg	
206-44-0	Fluoranthene	92.8	36	16	ug/kg	
86-73-7	Fluorene	ND	36	16	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	23.2	36	17	ug/kg	J
91-20-3	Naphthalene	ND	36	10	ug/kg	
85-01-8	Phenanthrene	76.3	36	12	ug/kg	
129-00-0	Pyrene	95.7	36	11	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	26%		15-114%
321-60-8	2-Fluorobiphenyl	27%		22-104%
1718-51-0	Terphenyl-d14	29%		23-121%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.16
4

Report of Analysis

Client Sample ID: H-102-A	Date Sampled: 09/22/21
Lab Sample ID: JD32315-16	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 90.1
Project: Northfield Bridge, Route 12, VT	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^a	11.6	4.5	mg/kg	2	09/30/21	10/01/21	ND SW846 6010D ²	SW846 3050B ⁴
Barium	23.5	22	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ⁴
Cadmium ^a	< 1.1	1.1	mg/kg	2	09/30/21	10/01/21	ND SW846 6010D ²	SW846 3050B ⁴
Chromium	13.9	1.1	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ⁴
Lead ^a	36.5	4.5	mg/kg	2	09/30/21	10/01/21	ND SW846 6010D ²	SW846 3050B ⁴
Mercury	0.14	0.034	mg/kg	1	10/04/21	10/04/21	LM SW846 7471B ³	SW846 7471B ⁵
Selenium ^a	< 4.5	4.5	mg/kg	2	09/30/21	10/01/21	ND SW846 6010D ²	SW846 3050B ⁴
Silver ^a	< 1.1	1.1	mg/kg	2	09/30/21	10/01/21	ND SW846 6010D ²	SW846 3050B ⁴

(1) Instrument QC Batch: MA51210

(2) Instrument QC Batch: MA51216

(3) Instrument QC Batch: MA51220

(4) Prep QC Batch: MP28913

(5) Prep QC Batch: MP28967

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: H-102-B		
Lab Sample ID: JD32315-17		Date Sampled: 09/22/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8260D		Percent Solids: 85.7
Project: Northfield Bridge, Route 12, VT		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	1C181472.D	1	10/02/21 21:51	PS	n/a	n/a	V1C7900

Run #1	Initial Weight
Run #2	5.5 g

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	19.3	11	4.4	ug/kg	
71-43-2	Benzene	ND	0.53	0.48	ug/kg	
108-86-1	Bromobenzene	ND	5.3	0.59	ug/kg	
74-97-5	Bromochloromethane	ND	5.3	0.59	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	0.46	ug/kg	
75-25-2	Bromoform	ND	5.3	1.4	ug/kg	
74-83-9	Bromomethane	ND	5.3	0.81	ug/kg	
78-93-3	2-Butanone (MEK)	ND	11	2.6	ug/kg	
104-51-8	n-Butylbenzene	ND	2.1	0.43	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.1	0.45	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.1	0.53	ug/kg	
75-15-0	Carbon disulfide	ND	2.1	0.57	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.1	0.66	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	0.49	ug/kg	
75-00-3	Chloroethane	ND	5.3	0.63	ug/kg	
67-66-3	Chloroform	ND	2.1	0.55	ug/kg	
74-87-3	Chloromethane	ND	5.3	2.1	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.1	0.57	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.1	0.47	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.1	0.74	ug/kg	
124-48-1	Dibromochloromethane ^a	ND	2.1	0.59	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.1	0.45	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.1	0.58	ug/kg	
541-73-1	1,3-Dichlorobenzene ^b	ND	1.1	0.53	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.1	0.52	ug/kg	
75-71-8	Dichlorodifluoromethane ^a	ND	5.3	0.77	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.1	0.53	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.1	0.50	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.1	0.69	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.1	0.89	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.1	0.65	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	0.50	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.17
 4

Report of Analysis

Client Sample ID:	H-102-B	Date Sampled:	09/22/21
Lab Sample ID:	JD32315-17	Date Received:	09/28/21
Matrix:	SO - Soil	Percent Solids:	85.7
Method:	SW846 8260D		
Project:	Northfield Bridge, Route 12, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.1	0.55	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.1	0.46	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.1	0.49	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.50	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.48	ug/kg	
100-41-4	Ethylbenzene	ND	1.1	0.48	ug/kg	
87-68-3	Hexachlorobutadiene ^a	ND	5.3	0.70	ug/kg	
591-78-6	2-Hexanone	ND	5.3	2.2	ug/kg	
74-88-4	Iodomethane	ND	5.3	2.5	ug/kg	
98-82-8	Isopropylbenzene	ND	2.1	1.5	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.1	0.42	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.1	0.50	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.3	2.4	ug/kg	
74-95-3	Methylene bromide	ND	5.3	0.56	ug/kg	
75-09-2	Methylene chloride	ND	5.3	2.8	ug/kg	
91-20-3	Naphthalene	ND	5.3	2.7	ug/kg	
103-65-1	n-Propylbenzene	ND	2.1	0.50	ug/kg	
100-42-5	Styrene	ND	2.1	0.43	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.1	0.45	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.64	ug/kg	
127-18-4	Tetrachloroethene	ND	2.1	0.62	ug/kg	
108-88-3	Toluene	ND	1.1	0.56	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.3	2.7	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.3	2.7	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.51	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.59	ug/kg	
79-01-6	Trichloroethene	ND	1.1	0.81	ug/kg	
75-69-4	Trichlorofluoromethane ^c	ND	5.3	0.73	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.3	0.59	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.53	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.46	ug/kg	
108-05-4	Vinyl Acetate	ND	11	2.1	ug/kg	
75-01-4	Vinyl chloride	ND	2.1	0.51	ug/kg	
	m,p-Xylene	ND	1.1	0.95	ug/kg	
95-47-6	o-Xylene	ND	1.1	0.49	ug/kg	
1330-20-7	Xylene (total)	ND	1.1	0.49	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		72-130%

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: H-102-B	
Lab Sample ID: JD32315-17	Date Sampled: 09/22/21
Matrix: SO - Soil	Date Received: 09/28/21
Method: SW846 8260D	Percent Solids: 85.7
Project: Northfield Bridge, Route 12, VT	

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	111%		75-131%
2037-26-5	Toluene-D8	99%		81-121%
460-00-4	4-Bromofluorobenzene	91%		60-141%

- (a) Associated CCV outside of control limits high, sample was ND.
- (b) This compound in blank spike is outside in house QC limits bias high.
- (c) Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.17
4

Report of Analysis

Client Sample ID: H-102-B		
Lab Sample ID: JD32315-17		Date Sampled: 09/22/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8270E SW846 3546		Percent Solids: 85.7
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M175459.D	1	10/05/21 14:21	KLS	10/04/21 10:00	OP35710	EM7542
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.9 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	38	13	ug/kg	
208-96-8	Acenaphthylene	ND	38	19	ug/kg	
120-12-7	Anthracene	ND	38	23	ug/kg	
56-55-3	Benzo(a)anthracene	ND	38	11	ug/kg	
50-32-8	Benzo(a)pyrene	ND	38	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	38	17	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	38	19	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	38	18	ug/kg	
218-01-9	Chrysene	ND	38	12	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	38	17	ug/kg	
206-44-0	Fluoranthene	ND	38	17	ug/kg	
86-73-7	Fluorene	ND	38	17	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	38	18	ug/kg	
91-20-3	Naphthalene	ND	38	11	ug/kg	
85-01-8	Phenanthrene	ND	38	13	ug/kg	
129-00-0	Pyrene	ND	38	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	44%		15-114%
321-60-8	2-Fluorobiphenyl	46%		22-104%
1718-51-0	Terphenyl-d14	49%		23-121%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.17 4

Report of Analysis

Client Sample ID: H-102-B Lab Sample ID: JD32315-17 Matrix: SO - Soil Method: SW846 8082A SW846 3540C Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/22/21 Date Received: 09/28/21 Percent Solids: 85.7
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5G110734.D	1	10/05/21 17:30	CP	10/04/21 17:45	OP35567	G5G2806
Run #2							

Run #	Initial Weight	Final Volume
Run #1	10.5 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	56	26	ug/kg	
11104-28-2	Aroclor 1221	ND	56	34	ug/kg	
11141-16-5	Aroclor 1232	ND	56	35	ug/kg	
53469-21-9	Aroclor 1242	ND	56	23	ug/kg	
12672-29-6	Aroclor 1248	ND	56	50	ug/kg	
11097-69-1	Aroclor 1254	ND	56	30	ug/kg	
11096-82-5	Aroclor 1260	ND	56	24	ug/kg	
11100-14-4	Aroclor 1268	ND	56	23	ug/kg	
37324-23-5	Aroclor 1262	ND	56	36	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	55%		24-152%
877-09-8	Tetrachloro-m-xylene	65%		24-152%
2051-24-3	Decachlorobiphenyl	107%		10-172%
2051-24-3	Decachlorobiphenyl	129%		10-172%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.17
4

Report of Analysis

Client Sample ID: H-102-B	Date Sampled: 09/22/21
Lab Sample ID: JD32315-17	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 85.7
Project: Northfield Bridge, Route 12, VT	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	6.5	1.5	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Barium	< 15	15	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Cadmium	< 0.38	0.38	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Chromium	36.2	0.76	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Lead	12.6	1.5	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Mercury	< 0.017	0.017	mg/kg	1	10/04/21	10/04/21	LM	SW846 7471B ² SW846 7471B ⁴
Selenium	< 1.5	1.5	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Silver	< 0.38	0.38	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³

- (1) Instrument QC Batch: MA51210
- (2) Instrument QC Batch: MA51220
- (3) Prep QC Batch: MP28913
- (4) Prep QC Batch: MP28967

RL = Reporting Limit

4.17
4

Report of Analysis

Client Sample ID: H-102-C		
Lab Sample ID: JD32315-18		Date Sampled: 09/22/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8260D SW846 1311		Percent Solids: 88.2
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2V81431.D	5	10/07/21 06:41	JS	10/02/21 16:00	GP36195	V2V3357
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
71-43-2	Benzene	ND	D018	0.50	0.0025	0.0021	mg/l	
78-93-3	2-Butanone (MEK) ^a	ND	D035	200	0.10	0.034	mg/l	
56-23-5	Carbon tetrachloride	ND	D019	0.50	0.0050	0.0028	mg/l	
108-90-7	Chlorobenzene	ND	D021	100	0.0050	0.0028	mg/l	
67-66-3	Chloroform ^b	0.0121	D022	6.0	0.0050	0.0025	mg/l	B
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.0050	0.0025	mg/l	
107-06-2	1,2-Dichloroethane	ND	D028	0.50	0.0050	0.0030	mg/l	
75-35-4	1,1-Dichloroethene	ND	D029	0.70	0.0050	0.0030	mg/l	
127-18-4	Tetrachloroethene	ND	D039	0.70	0.0050	0.0045	mg/l	
79-01-6	Trichloroethene	ND	D040	0.50	0.0050	0.0026	mg/l	
75-01-4	Vinyl chloride	ND	D043	0.20	0.0050	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		76-120%
17060-07-0	1,2-Dichloroethane-D4	112%		64-135%
2037-26-5	Toluene-D8	102%		76-117%
460-00-4	4-Bromofluorobenzene	102%		72-122%

(a) Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.

(b) Indicates analyte found in associated leachate blank.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.18
4

Report of Analysis

Client Sample ID: H-102-C		Date Sampled: 09/22/21
Lab Sample ID: JD32315-18		Date Received: 09/28/21
Matrix: SO - Soil		Percent Solids: 88.2
Method: SW846 8270E SW846 3510C		
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z152230.D	1	10/13/21 07:30	CS	10/12/21 18:20	OP35940	EZ7572
Run #2							

Run #	Initial Volume	Final Volume
Run #1	100 ml	1.0 ml
Run #2		

ABN TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	D023	200	0.020	0.0089	mg/l	
	3&4-Methylphenol	ND	D024	200	0.020	0.0088	mg/l	
87-86-5	Pentachlorophenol	ND	D037	100	0.10	0.014	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	D041	400	0.050	0.013	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	D042	2.0	0.050	0.0092	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.020	0.0017	mg/l	
121-14-2	2,4-Dinitrotoluene	ND	D030	0.13	0.020	0.0055	mg/l	
118-74-1	Hexachlorobenzene	ND	D032	0.13	0.020	0.0033	mg/l	
87-68-3	Hexachlorobutadiene	ND	D033	0.50	0.010	0.0049	mg/l	
67-72-1	Hexachloroethane	ND	D034	3.0	0.050	0.0039	mg/l	
98-95-3	Nitrobenzene	ND	D036	2.0	0.020	0.0064	mg/l	
110-86-1	Pyridine	ND	D038	5.0	0.020	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	34%		10-73%
4165-62-2	Phenol-d5	23%		10-64%
118-79-6	2,4,6-Tribromophenol	84%		31-130%
4165-60-0	Nitrobenzene-d5	73%		28-126%
321-60-8	2-Fluorobiphenyl	67%		26-114%
1718-51-0	Terphenyl-d14	94%		16-122%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: H-102-C Lab Sample ID: JD32315-18 Matrix: SO - Soil Method: SW846 8015D Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/22/21 Date Received: 09/28/21 Percent Solids: 88.2
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM112329.D	1	10/01/21 23:43	DFT	n/a	n/a	GLM4714
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	10.9 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	12	5.9	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	76%		70-116%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.18
4

Report of Analysis

Client Sample ID: H-102-C Lab Sample ID: JD32315-18 Matrix: SO - Soil Method: SW846 8151A SW846 3510C Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/22/21 Date Received: 09/28/21 Percent Solids: 88.2
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G133457.D	1	10/17/21 17:49	TL	10/12/21 14:20	OP35941	G3G4866
Run #2							

Run #	Initial Volume	Final Volume
Run #1	30.0 ml	2.0 ml
Run #2		

Herbicide TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
94-75-7	2,4-D ^a	ND	D016	10	0.0033	0.00098	mg/l	
93-72-1	2,4,5-TP (Silvex)	ND	D017	1.0	0.0010	0.00020	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	45%		13-169%
19719-28-9	2,4-DCAA	30%		13-169%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.18
4

Report of Analysis

Client Sample ID: H-102-C Lab Sample ID: JD32315-18 Matrix: SO - Soil Method: SW846 8081B SW846 3510C Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/22/21 Date Received: 09/28/21 Percent Solids: 88.2
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4G9721370.D	1	10/13/21 00:31	RK	10/12/21 14:15	OP35939	G4G3596
Run #2							

Run #	Initial Volume	Final Volume
Run #1	30.0 ml	2.0 ml
Run #2		

Pesticide TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
58-89-9	gamma-BHC (Lindane)	ND	D013	0.40	0.000067	0.000040	mg/l	
12789-03-6	Chlordane	ND	D020	0.030	0.0033	0.0014	mg/l	
72-20-8	Endrin	ND	D012	0.020	0.000067	0.000040	mg/l	
76-44-8	Heptachlor	ND	D031	0.0080	0.000067	0.000030	mg/l	
1024-57-3	Heptachlor epoxide	ND	D031	0.0080	0.000067	0.000040	mg/l	
72-43-5	Methoxychlor	ND	D014	10	0.00013	0.000045	mg/l	
8001-35-2	Toxaphene	ND	D015	0.50	0.0017	0.0011	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	86%		30-137%
877-09-8	Tetrachloro-m-xylene	91%		30-137%
2051-24-3	Decachlorobiphenyl	91%		10-137%
2051-24-3	Decachlorobiphenyl	94%		10-137%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.18
4

Report of Analysis

Client Sample ID: H-102-C Lab Sample ID: JD32315-18 Matrix: SO - Soil Method: SW846 8082A SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/22/21 Date Received: 09/28/21 Percent Solids: 88.2
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX2471774.D	1	10/05/21 15:55	RK	10/04/21 09:00	OP35760	GXX7601
Run #2							

Run #	Initial Weight	Final Volume
Run #1	16.4 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	35	16	ug/kg	
11104-28-2	Aroclor 1221	ND	35	21	ug/kg	
11141-16-5	Aroclor 1232	ND	35	22	ug/kg	
53469-21-9	Aroclor 1242	ND	35	14	ug/kg	
12672-29-6	Aroclor 1248	ND	35	31	ug/kg	
11097-69-1	Aroclor 1254	ND	35	19	ug/kg	
11096-82-5	Aroclor 1260	ND	35	15	ug/kg	
11100-14-4	Aroclor 1268	ND	35	15	ug/kg	
37324-23-5	Aroclor 1262	ND	35	23	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	94%		24-152%
877-09-8	Tetrachloro-m-xylene	93%		24-152%
2051-24-3	Decachlorobiphenyl	76%		10-172%
2051-24-3	Decachlorobiphenyl	85%		10-172%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.18
4

Report of Analysis

Client Sample ID: H-102-C Lab Sample ID: JD32315-18 Matrix: SO - Soil Method: SW846 8015D SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/22/21 Date Received: 09/28/21 Percent Solids: 88.2
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ101085.D	1	10/05/21 10:08	TC	10/04/21 09:30	OP35757	GZZ3729
Run #2							

Run #	Initial Weight	Final Volume
Run #1	16.6 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	7.25	6.8	2.3	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	72%		18-132%		
438-22-2	5a-Androstane	71%		22-134%		

ND = Not detected RL = Reporting Limit E = Indicates value exceeds calibration range	MDL = Method Detection Limit J = Indicates an estimated value B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound
--	--

4.18
4

Report of Analysis

Client Sample ID: H-102-C	Date Sampled: 09/22/21
Lab Sample ID: JD32315-18	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 88.2
Project: Northfield Bridge, Route 12, VT	

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 0.10	D004	5.0	0.10	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Barium	< 0.20	D005	100	0.20	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Cadmium	< 0.0040	D006	1.0	0.0040	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Chromium	0.031	D007	5.0	0.010	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Lead	< 0.10	D008	5.0	0.10	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Mercury	< 0.00020	D009	0.20	0.00020	mg/l	1	10/06/21	10/06/21	LM	SW846 7470A ¹ SW846 7470A ⁴
Selenium	< 0.10	D010	1.0	0.10	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³
Silver	< 0.010	D011	5.0	0.010	mg/l	1	10/05/21	10/06/21	ND	SW846 6010D ² SW846 3010A ³

- (1) Instrument QC Batch: MA51229
- (2) Instrument QC Batch: MA51233
- (3) Prep QC Batch: MP29010
- (4) Prep QC Batch: MP29030

RL = Reporting Limit
MCL = Maximum Contamination Level (40 CFR 261 7/1/11)

4.18
4

Report of Analysis

Client Sample ID: H-102-C	Date Sampled: 09/22/21
Lab Sample ID: JD32315-18	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 88.2
Project: Northfield Bridge, Route 12, VT	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	8.52 NC		su	1	10/04/21 16:10	MM	SW846 9045D
Cyanide Reactivity ^a	< 10	10	mg/kg	1	10/07/21 21:38	JJ	SW846 CHAP7/9012 B
Ignitability (Flashpoint)	> 200		Deg. F	1	10/05/21 16:30	MM	SW846 1010A/ASTM D93
Paint Filter Test ^b	< 0.50	0.50	ml/100g	1	10/04/21 14:20	MM	SW846 9095/9095B
Solids, Percent	88.2		%	1	10/04/21 16:54	BG	SM2540 G 18TH ED MOD
Sulfide Reactivity ^a	< 100	100	mg/kg	1	10/10/21 12:35	MP	SW846 CHAP7/9034

(a) Analyzed outside the 14 day holding time applied by laboratory SOP. No regulatory holding time published for this method.

(b) No free liquids.

RL = Reporting Limit

Report of Analysis

Client Sample ID: B-102-A		
Lab Sample ID: JD32315-19		Date Sampled: 09/22/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8270E SW846 3546		Percent Solids: 90.6
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M175463.D	1	10/05/21 16:16	KLS	10/04/21 10:00	OP35710	EM7542
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	37	13	ug/kg	
208-96-8	Acenaphthylene	93.0	37	19	ug/kg	
120-12-7	Anthracene	34.7	37	23	ug/kg	J
56-55-3	Benzo(a)anthracene	198	37	10	ug/kg	
50-32-8	Benzo(a)pyrene	264	37	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	320	37	16	ug/kg	
191-24-2	Benzo(g,h,i)perylene	168	37	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	141	37	17	ug/kg	
218-01-9	Chrysene	200	37	12	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	45.2	37	16	ug/kg	
206-44-0	Fluoranthene	212	37	16	ug/kg	
86-73-7	Fluorene	ND	37	17	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	204	37	17	ug/kg	
91-20-3	Naphthalene	21.0	37	10	ug/kg	J
85-01-8	Phenanthrene	73.4	37	12	ug/kg	
129-00-0	Pyrene	284	37	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	24%		15-114%
321-60-8	2-Fluorobiphenyl	26%		22-104%
1718-51-0	Terphenyl-d14	29%		23-121%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.19 4

Report of Analysis

Client Sample ID: B-102-A	Date Sampled: 09/22/21
Lab Sample ID: JD32315-19	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 90.6
Project: Northfield Bridge, Route 12, VT	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.9	2.2	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Barium	35.7	22	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Cadmium	< 0.55	0.55	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Chromium	9.3	1.1	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Lead	29.1	2.2	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Mercury	0.16	0.034	mg/kg	1	10/04/21	10/04/21	LM	SW846 7471B ² SW846 7471B ⁴
Selenium	< 2.2	2.2	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Silver	< 0.55	0.55	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³

- (1) Instrument QC Batch: MA51210
- (2) Instrument QC Batch: MA51220
- (3) Prep QC Batch: MP28913
- (4) Prep QC Batch: MP28967

RL = Reporting Limit

4.19
4

Report of Analysis

Client Sample ID: B-102-B		
Lab Sample ID: JD32315-20		Date Sampled: 09/22/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8260D		Percent Solids: 93.4
Project: Northfield Bridge, Route 12, VT		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	1C181475.D	1	10/02/21 23:13	PS	n/a	n/a	V1C7900

Run #1	Initial Weight
Run #2	6.3 g

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	22.5	8.5	3.5	ug/kg	
71-43-2	Benzene	ND	0.42	0.39	ug/kg	
108-86-1	Bromobenzene	ND	4.2	0.47	ug/kg	
74-97-5	Bromochloromethane	ND	4.2	0.48	ug/kg	
75-27-4	Bromodichloromethane	ND	1.7	0.36	ug/kg	
75-25-2	Bromoform	ND	4.2	1.2	ug/kg	
74-83-9	Bromomethane	ND	4.2	0.65	ug/kg	
78-93-3	2-Butanone (MEK)	ND	8.5	2.1	ug/kg	
104-51-8	n-Butylbenzene	ND	1.7	0.35	ug/kg	
135-98-8	sec-Butylbenzene	ND	1.7	0.36	ug/kg	
98-06-6	tert-Butylbenzene	ND	1.7	0.42	ug/kg	
75-15-0	Carbon disulfide	0.60	1.7	0.45	ug/kg	J
56-23-5	Carbon tetrachloride	ND	1.7	0.53	ug/kg	
108-90-7	Chlorobenzene	ND	1.7	0.39	ug/kg	
75-00-3	Chloroethane	ND	4.2	0.50	ug/kg	
67-66-3	Chloroform	ND	1.7	0.44	ug/kg	
74-87-3	Chloromethane	ND	4.2	1.7	ug/kg	
95-49-8	o-Chlorotoluene	ND	1.7	0.46	ug/kg	
106-43-4	p-Chlorotoluene	ND	1.7	0.38	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.7	0.59	ug/kg	
124-48-1	Dibromochloromethane ^a	ND	1.7	0.48	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.85	0.36	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.85	0.46	ug/kg	
541-73-1	1,3-Dichlorobenzene ^b	ND	0.85	0.42	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.85	0.42	ug/kg	
75-71-8	Dichlorodifluoromethane ^a	ND	4.2	0.62	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.85	0.42	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.85	0.40	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.85	0.56	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.85	0.71	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.85	0.52	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.7	0.40	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.20
4

Report of Analysis

Client Sample ID:	B-102-B	Date Sampled:	09/22/21
Lab Sample ID:	JD32315-20	Date Received:	09/28/21
Matrix:	SO - Soil	Percent Solids:	93.4
Method:	SW846 8260D		
Project:	Northfield Bridge, Route 12, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	1.7	0.44	ug/kg	
594-20-7	2,2-Dichloropropane	ND	1.7	0.36	ug/kg	
563-58-6	1,1-Dichloropropene	ND	1.7	0.40	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.7	0.40	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.7	0.39	ug/kg	
100-41-4	Ethylbenzene	0.62	0.85	0.38	ug/kg	J
87-68-3	Hexachlorobutadiene ^a	ND	4.2	0.56	ug/kg	
591-78-6	2-Hexanone	ND	4.2	1.8	ug/kg	
74-88-4	Iodomethane	ND	4.2	2.0	ug/kg	
98-82-8	Isopropylbenzene	ND	1.7	1.2	ug/kg	
99-87-6	p-Isopropyltoluene	ND	1.7	0.34	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.85	0.40	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	4.2	1.9	ug/kg	
74-95-3	Methylene bromide	ND	4.2	0.45	ug/kg	
75-09-2	Methylene chloride	ND	4.2	2.2	ug/kg	
91-20-3	Naphthalene	156	4.2	2.1	ug/kg	
103-65-1	n-Propylbenzene	ND	1.7	0.40	ug/kg	
100-42-5	Styrene	0.40	1.7	0.34	ug/kg	J
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.7	0.36	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.7	0.51	ug/kg	
127-18-4	Tetrachloroethene	ND	1.7	0.49	ug/kg	
108-88-3	Toluene	ND	0.85	0.45	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.2	2.1	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.2	2.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.7	0.41	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.7	0.47	ug/kg	
79-01-6	Trichloroethene	ND	0.85	0.65	ug/kg	
75-69-4	Trichlorofluoromethane ^c	ND	4.2	0.58	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	4.2	0.47	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	4.4	1.7	0.42	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	2.0	1.7	0.37	ug/kg	
108-05-4	Vinyl Acetate	ND	8.5	1.7	ug/kg	
75-01-4	Vinyl chloride	ND	1.7	0.41	ug/kg	
	m,p-Xylene	1.2	0.85	0.76	ug/kg	
95-47-6	o-Xylene	2.5	0.85	0.39	ug/kg	
1330-20-7	Xylene (total)	3.7	0.85	0.39	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		72-130%

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: B-102-B Lab Sample ID: JD32315-20 Matrix: SO - Soil Method: SW846 8260D Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/22/21 Date Received: 09/28/21 Percent Solids: 93.4
---	--

4.20
4

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	116%		75-131%
2037-26-5	Toluene-D8	103%		81-121%
460-00-4	4-Bromofluorobenzene	96%		60-141%

- (a) Associated CCV outside of control limits high, sample was ND.
- (b) This compound in blank spike is outside in house QC limits bias high.
- (c) Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: B-102-B		Date Sampled: 09/22/21
Lab Sample ID: JD32315-20		Date Received: 09/28/21
Matrix: SO - Soil		Percent Solids: 93.4
Method: SW846 8270E SW846 3546		
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	2P103321.D	2	10/06/21 17:59	BL	10/04/21 10:00	OP35710	E2P4640
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	194	71	24	ug/kg	
208-96-8	Acenaphthylene	266	71	36	ug/kg	
120-12-7	Anthracene	248	71	43	ug/kg	
56-55-3	Benzo(a)anthracene	648	71	20	ug/kg	
50-32-8	Benzo(a)pyrene	750	71	32	ug/kg	
205-99-2	Benzo(b)fluoranthene	794	71	31	ug/kg	
191-24-2	Benzo(g,h,i)perylene ^b	522	71	35	ug/kg	
207-08-9	Benzo(k)fluoranthene	313	71	33	ug/kg	
218-01-9	Chrysene	644	71	22	ug/kg	
53-70-3	Dibenzo(a,h)anthracene ^b	132	71	31	ug/kg	
206-44-0	Fluoranthene	767	71	32	ug/kg	
86-73-7	Fluorene	224	71	33	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene ^b	573	71	33	ug/kg	
91-20-3	Naphthalene	373	71	20	ug/kg	
85-01-8	Phenanthrene	919	71	24	ug/kg	
129-00-0	Pyrene	1160	71	23	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	33%		15-114%
321-60-8	2-Fluorobiphenyl	38%		22-104%
1718-51-0	Terphenyl-d14	43%		23-121%

(a) Dilution required due to matrix interference.

(b) Associated CCV outside of control limits high. Estimated value, due to corresponding failure in the batch associated CCV.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.20
 4

Report of Analysis

Client Sample ID: B-102-B	Date Sampled: 09/22/21
Lab Sample ID: JD32315-20	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 93.4
Method: SW846 8082A SW846 3540C	
Project: Northfield Bridge, Route 12, VT	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5G110735.D	1	10/05/21 18:04	CP	10/04/21 17:45	OP35567	G5G2806
Run #2							

Run #	Initial Weight	Final Volume
Run #1	11.6 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	46	22	ug/kg	
11104-28-2	Aroclor 1221	ND	46	29	ug/kg	
11141-16-5	Aroclor 1232	ND	46	29	ug/kg	
53469-21-9	Aroclor 1242	ND	46	19	ug/kg	
12672-29-6	Aroclor 1248	ND	46	41	ug/kg	
11097-69-1	Aroclor 1254	ND	46	25	ug/kg	
11096-82-5	Aroclor 1260	ND	46	20	ug/kg	
11100-14-4	Aroclor 1268	ND	46	19	ug/kg	
37324-23-5	Aroclor 1262	ND	46	30	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	77%		24-152%
877-09-8	Tetrachloro-m-xylene	48%		24-152%
2051-24-3	Decachlorobiphenyl	82%		10-172%
2051-24-3	Decachlorobiphenyl	65%		10-172%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.20
4

Report of Analysis

Client Sample ID: B-102-B	Date Sampled: 09/22/21
Lab Sample ID: JD32315-20	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 93.4
Project: Northfield Bridge, Route 12, VT	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.5	2.2	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Barium	27.8	22	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Cadmium	< 0.55	0.55	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Chromium	14.3	1.1	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Lead	319	2.2	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Mercury	0.036	0.030	mg/kg	1	10/04/21	10/04/21	LM SW846 7471B ²	SW846 7471B ⁴
Selenium	< 2.2	2.2	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Silver	< 0.55	0.55	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA51210
- (2) Instrument QC Batch: MA51220
- (3) Prep QC Batch: MP28913
- (4) Prep QC Batch: MP28967

RL = Reporting Limit

4.20
4

Report of Analysis

Client Sample ID: B-102-C		
Lab Sample ID: JD32315-21		Date Sampled: 09/22/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8260D SW846 1311		Percent Solids: 88.2
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2V81432.D	5	10/07/21 07:08	JS	10/02/21 16:00	GP36195	V2V3357
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
71-43-2	Benzene	ND	D018	0.50	0.0025	0.0021	mg/l	
78-93-3	2-Butanone (MEK) ^a	ND	D035	200	0.10	0.034	mg/l	
56-23-5	Carbon tetrachloride	ND	D019	0.50	0.0050	0.0028	mg/l	
108-90-7	Chlorobenzene	ND	D021	100	0.0050	0.0028	mg/l	
67-66-3	Chloroform ^b	0.0120	D022	6.0	0.0050	0.0025	mg/l	B
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.0050	0.0025	mg/l	
107-06-2	1,2-Dichloroethane	ND	D028	0.50	0.0050	0.0030	mg/l	
75-35-4	1,1-Dichloroethene	ND	D029	0.70	0.0050	0.0030	mg/l	
127-18-4	Tetrachloroethene	ND	D039	0.70	0.0050	0.0045	mg/l	
79-01-6	Trichloroethene	ND	D040	0.50	0.0050	0.0026	mg/l	
75-01-4	Vinyl chloride	ND	D043	0.20	0.0050	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		76-120%
17060-07-0	1,2-Dichloroethane-D4	112%		64-135%
2037-26-5	Toluene-D8	103%		76-117%
460-00-4	4-Bromofluorobenzene	103%		72-122%

(a) Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.

(b) Indicates analyte found in associated leachate blank.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.21
4

Report of Analysis

Client Sample ID: B-102-C		
Lab Sample ID: JD32315-21		Date Sampled: 09/22/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8270E SW846 3510C		Percent Solids: 88.2
Project: Northfield Bridge, Route 12, VT		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	Z152231.D	1	10/13/21 07:56	CS	10/12/21 18:20	OP35940	EZ7572

Run #1	Initial Volume	Final Volume
Run #2	100 ml	1.0 ml

ABN TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	D023	200	0.020	0.0089	mg/l	
	3&4-Methylphenol	ND	D024	200	0.020	0.0088	mg/l	
87-86-5	Pentachlorophenol	ND	D037	100	0.10	0.014	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	D041	400	0.050	0.013	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	D042	2.0	0.050	0.0092	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.020	0.0017	mg/l	
121-14-2	2,4-Dinitrotoluene	ND	D030	0.13	0.020	0.0055	mg/l	
118-74-1	Hexachlorobenzene	ND	D032	0.13	0.020	0.0033	mg/l	
87-68-3	Hexachlorobutadiene	ND	D033	0.50	0.010	0.0049	mg/l	
67-72-1	Hexachloroethane	ND	D034	3.0	0.050	0.0039	mg/l	
98-95-3	Nitrobenzene	ND	D036	2.0	0.020	0.0064	mg/l	
110-86-1	Pyridine	ND	D038	5.0	0.020	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	30%		10-73%
4165-62-2	Phenol-d5	21%		10-64%
118-79-6	2,4,6-Tribromophenol	95%		31-130%
4165-60-0	Nitrobenzene-d5	78%		28-126%
321-60-8	2-Fluorobiphenyl	76%		26-114%
1718-51-0	Terphenyl-d14	89%		16-122%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.21
4

Report of Analysis

Client Sample ID: B-102-C		
Lab Sample ID: JD32315-21		Date Sampled: 09/22/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8015D		Percent Solids: 88.2
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM112330.D	1	10/02/21 00:08	DFT	n/a	n/a	GLM4714
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	10.7 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	12	6.0	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	75%		70-116%		

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

4.21
4

Report of Analysis

Client Sample ID: B-102-C Lab Sample ID: JD32315-21 Matrix: SO - Soil Method: SW846 8151A SW846 3510C Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/22/21 Date Received: 09/28/21 Percent Solids: 88.2
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G133458.D	1	10/17/21 18:16	TL	10/12/21 14:20	OP35941	G3G4866
Run #2							

Run #	Initial Volume	Final Volume
Run #1	30.0 ml	2.0 ml
Run #2		

Herbicide TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
94-75-7	2,4-D ^a	ND	D016	10	0.0033	0.00098	mg/l	
93-72-1	2,4,5-TP (Silvex)	ND	D017	1.0	0.0010	0.00020	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	82%		13-169%
19719-28-9	2,4-DCAA	53%		13-169%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.21
4

Report of Analysis

Client Sample ID: B-102-C Lab Sample ID: JD32315-21 Matrix: SO - Soil Method: SW846 8081B SW846 3510C Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/22/21 Date Received: 09/28/21 Percent Solids: 88.2
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4G9721371.D	1	10/13/21 00:46	RK	10/12/21 14:15	OP35939	G4G3596
Run #2							

Run #	Initial Volume	Final Volume
Run #1	30.0 ml	2.0 ml
Run #2		

Pesticide TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
58-89-9	gamma-BHC (Lindane)	ND	D013	0.40	0.000067	0.000040	mg/l	
12789-03-6	Chlordane	ND	D020	0.030	0.0033	0.0014	mg/l	
72-20-8	Endrin	ND	D012	0.020	0.000067	0.000040	mg/l	
76-44-8	Heptachlor	ND	D031	0.0080	0.000067	0.000030	mg/l	
1024-57-3	Heptachlor epoxide	ND	D031	0.0080	0.000067	0.000040	mg/l	
72-43-5	Methoxychlor	ND	D014	10	0.00013	0.000045	mg/l	
8001-35-2	Toxaphene	ND	D015	0.50	0.0017	0.0011	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	71%		30-137%
877-09-8	Tetrachloro-m-xylene	70%		30-137%
2051-24-3	Decachlorobiphenyl	85%		10-137%
2051-24-3	Decachlorobiphenyl	79%		10-137%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.21
4

Report of Analysis

Client Sample ID: B-102-C Lab Sample ID: JD32315-21 Matrix: SO - Soil Method: SW846 8082A SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/22/21 Date Received: 09/28/21 Percent Solids: 88.2
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX2471775.D	1	10/05/21 16:12	RK	10/04/21 09:00	OP35760	GXX7601
Run #2							

Run #	Initial Weight	Final Volume
Run #1	16.3 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	35	16	ug/kg	
11104-28-2	Aroclor 1221	ND	35	22	ug/kg	
11141-16-5	Aroclor 1232	ND	35	22	ug/kg	
53469-21-9	Aroclor 1242	ND	35	14	ug/kg	
12672-29-6	Aroclor 1248	ND	35	31	ug/kg	
11097-69-1	Aroclor 1254	ND	35	19	ug/kg	
11096-82-5	Aroclor 1260	ND	35	15	ug/kg	
11100-14-4	Aroclor 1268	ND	35	15	ug/kg	
37324-23-5	Aroclor 1262	ND	35	23	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	77%		24-152%
877-09-8	Tetrachloro-m-xylene	83%		24-152%
2051-24-3	Decachlorobiphenyl	85%		10-172%
2051-24-3	Decachlorobiphenyl	102%		10-172%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.21
4

Report of Analysis

Client Sample ID: B-102-C Lab Sample ID: JD32315-21 Matrix: SO - Soil Method: SW846 8015D SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/22/21 Date Received: 09/28/21 Percent Solids: 88.2
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ101086.D	1	10/05/21 10:42	TC	10/04/21 09:30	OP35757	GZZ3729
Run #2							

Run #	Initial Weight	Final Volume
Run #1	15.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	217	7.5	2.6	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	67%		18-132%		
438-22-2	5a-Androstane	82%		22-134%		

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.21
4

Report of Analysis

Client Sample ID: B-102-C Lab Sample ID: JD32315-21 Matrix: SO - Soil Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/22/21 Date Received: 09/28/21 Percent Solids: 88.2
---	--

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 0.10	D004	5.0	0.10	mg/l	1	10/06/21	10/07/21	ND	SW846 6010D ² SW846 3010A ³
Barium	0.22	D005	100	0.20	mg/l	1	10/06/21	10/07/21	ND	SW846 6010D ² SW846 3010A ³
Cadmium	< 0.0040	D006	1.0	0.0040	mg/l	1	10/06/21	10/07/21	ND	SW846 6010D ² SW846 3010A ³
Chromium	< 0.010	D007	5.0	0.010	mg/l	1	10/06/21	10/07/21	ND	SW846 6010D ² SW846 3010A ³
Lead	< 0.10	D008	5.0	0.10	mg/l	1	10/06/21	10/07/21	ND	SW846 6010D ² SW846 3010A ³
Mercury	< 0.00020	D009	0.20	0.00020	mg/l	1	10/07/21	10/07/21	LM	SW846 7470A ¹ SW846 7470A ⁴
Selenium	< 0.10	D010	1.0	0.10	mg/l	1	10/06/21	10/07/21	ND	SW846 6010D ² SW846 3010A ³
Silver	< 0.010	D011	5.0	0.010	mg/l	1	10/06/21	10/07/21	ND	SW846 6010D ² SW846 3010A ³

- (1) Instrument QC Batch: MA51237
- (2) Instrument QC Batch: MA51242
- (3) Prep QC Batch: MP29028
- (4) Prep QC Batch: MP29059

RL = Reporting Limit
MCL = Maximum Contamination Level (40 CFR 261 7/1/11)

4.21
4

Report of Analysis

Client Sample ID: B-102-C	Date Sampled: 09/22/21
Lab Sample ID: JD32315-21	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 88.2
Project: Northfield Bridge, Route 12, VT	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	10.91 NC		su	1	10/04/21 16:13	MM	SW846 9045D
Cyanide Reactivity ^a	< 11	11	mg/kg	1	10/14/21 20:28	JJ	SW846 CHAP7/9012 B
Ignitability (Flashpoint)	> 200		Deg. F	1	10/05/21 16:30	MM	SW846 1010A/ASTM D93
Paint Filter Test ^b	< 0.50	0.50	ml/100g	1	10/04/21 14:20	MM	SW846 9095/9095B
Solids, Percent	88.2		%	1	10/04/21 16:54	BG	SM2540 G 18TH ED MOD
Sulfide Reactivity ^a	< 110	110	mg/kg	1	10/10/21 12:35	MP	SW846 CHAP7/9034

(a) Analyzed outside the 14 day holding time applied by laboratory SOP. No regulatory holding time published for this method.

(b) No free liquids.

RL = Reporting Limit

4.21
4

Report of Analysis

Client Sample ID: B-105-A(0.5-2')	
Lab Sample ID: JD32315-22	Date Sampled: 09/23/21
Matrix: SO - Soil	Date Received: 09/28/21
Method: SW846 8270E SW846 3546	Percent Solids: 96.3
Project: Northfield Bridge, Route 12, VT	

Run	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	6P502025.D	2	10/11/21 01:29	CS	10/08/21 09:25	OP35857	E6P3522
Run #2 ^b	Z152182.D	20	10/11/21 15:48	BL	10/08/21 09:25	OP35857	EZ7569
Run #3 ^c	M175464.D	1	10/05/21 16:45	KLS	10/04/21 10:00	OP35710	EM7542

Run	Initial Weight	Final Volume
Run #1	30.7 g	1.0 ml
Run #2	30.7 g	1.0 ml
Run #3	30.4 g	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	250	68	23	ug/kg	
208-96-8	Acenaphthylene	1770	68	34	ug/kg	
120-12-7	Anthracene	2460	68	41	ug/kg	
56-55-3	Benzo(a)anthracene	3950	68	19	ug/kg	
50-32-8	Benzo(a)pyrene	2710	68	31	ug/kg	
205-99-2	Benzo(b)fluoranthene	3500	68	30	ug/kg	
191-24-2	Benzo(g,h,i)perylene	1710	68	34	ug/kg	
207-08-9	Benzo(k)fluoranthene	1370	68	32	ug/kg	
218-01-9	Chrysene	3490	68	21	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	529	68	30	ug/kg	
206-44-0	Fluoranthene	11500 ^d	680	300	ug/kg	
86-73-7	Fluorene	1300	68	31	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	2290	68	32	ug/kg	
91-20-3	Naphthalene	1240	68	19	ug/kg	
85-01-8	Phenanthrene	12200 ^d	680	230	ug/kg	
129-00-0	Pyrene	9120 ^d	680	220	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
4165-60-0	Nitrobenzene-d5	54%	70%	3% ^e	15-114%
321-60-8	2-Fluorobiphenyl	57%	66%	4% ^e	22-104%
1718-51-0	Terphenyl-d14	61%	70%	4% ^e	23-121%

(a) Reextract due to surrogate outside QC limits. Original prep date within holding time. Dilution required due to viscosity of the extract matrix.

(b) Sample extracted outside the holding time.

(c) Confirmation run.

(d) Result is from Run# 2

(e) Outside of in house control limits. Refer to re-extract.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.22
 4

Report of Analysis

Client Sample ID: B-105-A(0.5-2') Lab Sample ID: JD32315-22 Matrix: SO - Soil Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/23/21 Date Received: 09/28/21 Percent Solids: 96.3
---	--

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	8.2	2.0	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Barium	25.2	20	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Cadmium	< 0.50	0.50	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Chromium	13.2	1.0	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Lead	13.6	2.0	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Mercury	< 0.032	0.032	mg/kg	1	10/04/21	10/04/21	LM	SW846 7471B ² SW846 7471B ⁴
Selenium	< 2.0	2.0	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³
Silver	0.61	0.50	mg/kg	1	09/30/21	10/01/21	ND	SW846 6010D ¹ SW846 3050B ³

- (1) Instrument QC Batch: MA51210
- (2) Instrument QC Batch: MA51220
- (3) Prep QC Batch: MP28913
- (4) Prep QC Batch: MP28967

RL = Reporting Limit

4.22
4

Report of Analysis

Client Sample ID: B-105-B(20-24')	
Lab Sample ID: JD32315-23	Date Sampled: 09/23/21
Matrix: SO - Soil	Date Received: 09/28/21
Method: SW846 8260D	Percent Solids: 91.9
Project: Northfield Bridge, Route 12, VT	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	1C181473.D	1	10/02/21 22:19	PS	n/a	n/a	V1C7900

Run #1	Initial Weight
Run #2	13.3 g

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	10.5	4.1	1.7	ug/kg	
71-43-2	Benzene	ND	0.20	0.19	ug/kg	
108-86-1	Bromobenzene	ND	2.0	0.23	ug/kg	
74-97-5	Bromochloromethane	ND	2.0	0.23	ug/kg	
75-27-4	Bromodichloromethane	ND	0.82	0.18	ug/kg	
75-25-2	Bromoform	ND	2.0	0.56	ug/kg	
74-83-9	Bromomethane	ND	2.0	0.31	ug/kg	
78-93-3	2-Butanone (MEK)	ND	4.1	0.99	ug/kg	
104-51-8	n-Butylbenzene	ND	0.82	0.17	ug/kg	
135-98-8	sec-Butylbenzene	ND	0.82	0.18	ug/kg	
98-06-6	tert-Butylbenzene	ND	0.82	0.20	ug/kg	
75-15-0	Carbon disulfide	0.59	0.82	0.22	ug/kg	J
56-23-5	Carbon tetrachloride	ND	0.82	0.25	ug/kg	
108-90-7	Chlorobenzene	ND	0.82	0.19	ug/kg	
75-00-3	Chloroethane	ND	2.0	0.24	ug/kg	
67-66-3	Chloroform	ND	0.82	0.21	ug/kg	
74-87-3	Chloromethane	ND	2.0	0.80	ug/kg	
95-49-8	o-Chlorotoluene	ND	0.82	0.22	ug/kg	
106-43-4	p-Chlorotoluene	ND	0.82	0.18	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.82	0.28	ug/kg	
124-48-1	Dibromochloromethane ^a	ND	0.82	0.23	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.41	0.17	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.41	0.22	ug/kg	
541-73-1	1,3-Dichlorobenzene ^b	ND	0.41	0.20	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.41	0.20	ug/kg	
75-71-8	Dichlorodifluoromethane ^a	ND	2.0	0.30	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.41	0.20	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.41	0.19	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.41	0.27	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.41	0.34	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.41	0.25	ug/kg	
78-87-5	1,2-Dichloropropane	ND	0.82	0.19	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.23
 4

Report of Analysis

Client Sample ID:	B-105-B(20-24')	Date Sampled:	09/23/21
Lab Sample ID:	JD32315-23	Date Received:	09/28/21
Matrix:	SO - Soil	Percent Solids:	91.9
Method:	SW846 8260D		
Project:	Northfield Bridge, Route 12, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	0.82	0.21	ug/kg	
594-20-7	2,2-Dichloropropane	ND	0.82	0.18	ug/kg	
563-58-6	1,1-Dichloropropene	ND	0.82	0.19	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	0.82	0.19	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	0.82	0.19	ug/kg	
100-41-4	Ethylbenzene	ND	0.41	0.19	ug/kg	
87-68-3	Hexachlorobutadiene ^a	ND	2.0	0.27	ug/kg	
591-78-6	2-Hexanone	ND	2.0	0.87	ug/kg	
74-88-4	Iodomethane	ND	2.0	0.95	ug/kg	
98-82-8	Isopropylbenzene	ND	0.82	0.58	ug/kg	
99-87-6	p-Isopropyltoluene	ND	0.82	0.16	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.41	0.19	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	2.0	0.93	ug/kg	
74-95-3	Methylene bromide	ND	2.0	0.22	ug/kg	
75-09-2	Methylene chloride	ND	2.0	1.1	ug/kg	
91-20-3	Naphthalene	ND	2.0	1.0	ug/kg	
103-65-1	n-Propylbenzene	ND	0.82	0.19	ug/kg	
100-42-5	Styrene	ND	0.82	0.16	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.82	0.17	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.82	0.25	ug/kg	
127-18-4	Tetrachloroethene	ND	0.82	0.24	ug/kg	
108-88-3	Toluene	ND	0.41	0.21	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	1.0	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	1.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	0.82	0.20	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	0.82	0.23	ug/kg	
79-01-6	Trichloroethene	ND	0.41	0.31	ug/kg	
75-69-4	Trichlorofluoromethane ^c	ND	2.0	0.28	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.23	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.82	0.20	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.82	0.18	ug/kg	
108-05-4	Vinyl Acetate	ND	4.1	0.81	ug/kg	
75-01-4	Vinyl chloride	ND	0.82	0.20	ug/kg	
	m,p-Xylene	0.40	0.41	0.37	ug/kg	J
95-47-6	o-Xylene	ND	0.41	0.19	ug/kg	
1330-20-7	Xylene (total)	0.40	0.41	0.19	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		72-130%

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: B-105-B(20-24')	
Lab Sample ID: JD32315-23	Date Sampled: 09/23/21
Matrix: SO - Soil	Date Received: 09/28/21
Method: SW846 8260D	Percent Solids: 91.9
Project: Northfield Bridge, Route 12, VT	

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	115%		75-131%
2037-26-5	Toluene-D8	103%		81-121%
460-00-4	4-Bromofluorobenzene	96%		60-141%

- (a) Associated CCV outside of control limits high, sample was ND.
- (b) This compound in blank spike is outside in house QC limits bias high.
- (c) Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.23
4

Report of Analysis

Client Sample ID: B-105-B(20-24') Lab Sample ID: JD32315-23 Matrix: SO - Soil Method: SW846 8270E SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/23/21 Date Received: 09/28/21 Percent Solids: 91.9
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M175460.D	1	10/05/21 14:50	KLS	10/04/21 10:00	OP35710	EM7542
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	36	12	ug/kg	
208-96-8	Acenaphthylene	ND	36	18	ug/kg	
120-12-7	Anthracene	ND	36	22	ug/kg	
56-55-3	Benzo(a)anthracene	ND	36	10	ug/kg	
50-32-8	Benzo(a)pyrene	ND	36	16	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	36	16	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	36	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	36	17	ug/kg	
218-01-9	Chrysene	ND	36	11	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	36	16	ug/kg	
206-44-0	Fluoranthene	ND	36	16	ug/kg	
86-73-7	Fluorene	ND	36	17	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	36	17	ug/kg	
91-20-3	Naphthalene	ND	36	10	ug/kg	
85-01-8	Phenanthrene	ND	36	12	ug/kg	
129-00-0	Pyrene	ND	36	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	53%		15-114%
321-60-8	2-Fluorobiphenyl	57%		22-104%
1718-51-0	Terphenyl-d14	62%		23-121%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.23
4

Report of Analysis

Client Sample ID: B-105-B(20-24') Lab Sample ID: JD32315-23 Matrix: SO - Soil Method: SW846 8082A SW846 3540C Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/23/21 Date Received: 09/28/21 Percent Solids: 91.9
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5G110736.D	1	10/05/21 18:37	CP	10/04/21 17:45	OP35567	G5G2806
Run #2							

Run #	Initial Weight	Final Volume
Run #1	11.7 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	47	22	ug/kg	
11104-28-2	Aroclor 1221	ND	47	29	ug/kg	
11141-16-5	Aroclor 1232	ND	47	30	ug/kg	
53469-21-9	Aroclor 1242	ND	47	19	ug/kg	
12672-29-6	Aroclor 1248	ND	47	41	ug/kg	
11097-69-1	Aroclor 1254	ND	47	25	ug/kg	
11096-82-5	Aroclor 1260	ND	47	20	ug/kg	
11100-14-4	Aroclor 1268	ND	47	20	ug/kg	
37324-23-5	Aroclor 1262	ND	47	30	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	70%		24-152%
877-09-8	Tetrachloro-m-xylene	64%		24-152%
2051-24-3	Decachlorobiphenyl	63%		10-172%
2051-24-3	Decachlorobiphenyl	68%		10-172%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.23
4

Report of Analysis

Client Sample ID: B-105-B(20-24')	Date Sampled: 09/23/21
Lab Sample ID: JD32315-23	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 91.9
Project: Northfield Bridge, Route 12, VT	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	4.6	2.2	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Barium	< 22	22	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Cadmium	< 0.54	0.54	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Chromium	8.8	1.1	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Lead	4.3	2.2	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Mercury	< 0.016	0.016	mg/kg	1	10/04/21	10/04/21	LM SW846 7471B ²	SW846 7471B ⁴
Selenium	< 2.2	2.2	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Silver	< 0.54	0.54	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA51210
- (2) Instrument QC Batch: MA51220
- (3) Prep QC Batch: MP28913
- (4) Prep QC Batch: MP28967

RL = Reporting Limit

Report of Analysis

Client Sample ID: B-105-C(0.5-24')	
Lab Sample ID: JD32315-24	Date Sampled: 09/23/21
Matrix: SO - Soil	Date Received: 09/28/21
Method: SW846 8260D SW846 1311	Percent Solids: 93.2
Project: Northfield Bridge, Route 12, VT	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2V81433.D	5	10/07/21 07:34	JS	10/02/21 16:00	GP36195	V2V3357
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
71-43-2	Benzene	ND	D018	0.50	0.0025	0.0021	mg/l	
78-93-3	2-Butanone (MEK) ^a	ND	D035	200	0.10	0.034	mg/l	
56-23-5	Carbon tetrachloride	ND	D019	0.50	0.0050	0.0028	mg/l	
108-90-7	Chlorobenzene	ND	D021	100	0.0050	0.0028	mg/l	
67-66-3	Chloroform ^b	0.0117	D022	6.0	0.0050	0.0025	mg/l	B
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.0050	0.0025	mg/l	
107-06-2	1,2-Dichloroethane	ND	D028	0.50	0.0050	0.0030	mg/l	
75-35-4	1,1-Dichloroethene	ND	D029	0.70	0.0050	0.0030	mg/l	
127-18-4	Tetrachloroethene	ND	D039	0.70	0.0050	0.0045	mg/l	
79-01-6	Trichloroethene	ND	D040	0.50	0.0050	0.0026	mg/l	
75-01-4	Vinyl chloride	ND	D043	0.20	0.0050	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		76-120%
17060-07-0	1,2-Dichloroethane-D4	110%		64-135%
2037-26-5	Toluene-D8	106%		76-117%
460-00-4	4-Bromofluorobenzene	105%		72-122%

(a) Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.

(b) Indicates analyte found in associated leachate blank.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.24
4

Report of Analysis

Client Sample ID: B-105-C(0.5-24')	
Lab Sample ID: JD32315-24	Date Sampled: 09/23/21
Matrix: SO - Soil	Date Received: 09/28/21
Method: SW846 8270E SW846 3510C	Percent Solids: 93.2
Project: Northfield Bridge, Route 12, VT	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z152232.D	1	10/13/21 08:22	CS	10/12/21 18:20	OP35940	EZ7572
Run #2							

Run #	Initial Volume	Final Volume
Run #1	100 ml	1.0 ml
Run #2		

ABN TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	D023	200	0.020	0.0089	mg/l	
	3&4-Methylphenol	ND	D024	200	0.020	0.0088	mg/l	
87-86-5	Pentachlorophenol	ND	D037	100	0.10	0.014	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	D041	400	0.050	0.013	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	D042	2.0	0.050	0.0092	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.020	0.0017	mg/l	
121-14-2	2,4-Dinitrotoluene	ND	D030	0.13	0.020	0.0055	mg/l	
118-74-1	Hexachlorobenzene	ND	D032	0.13	0.020	0.0033	mg/l	
87-68-3	Hexachlorobutadiene	ND	D033	0.50	0.010	0.0049	mg/l	
67-72-1	Hexachloroethane	ND	D034	3.0	0.050	0.0039	mg/l	
98-95-3	Nitrobenzene	ND	D036	2.0	0.020	0.0064	mg/l	
110-86-1	Pyridine	ND	D038	5.0	0.020	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	29%		10-73%
4165-62-2	Phenol-d5	20%		10-64%
118-79-6	2,4,6-Tribromophenol	86%		31-130%
4165-60-0	Nitrobenzene-d5	75%		28-126%
321-60-8	2-Fluorobiphenyl	72%		26-114%
1718-51-0	Terphenyl-d14	88%		16-122%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.24
4

Report of Analysis

Client Sample ID: B-105-C(0.5-24')		
Lab Sample ID: JD32315-24		Date Sampled: 09/23/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8015D		Percent Solids: 93.2
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM112331.D	1	10/02/21 00:33	DFT	n/a	n/a	GLM4714
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	9.2 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	12	6.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	74%		70-116%		

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

4.24
 4

Report of Analysis

Client Sample ID: B-105-C(0.5-24') Lab Sample ID: JD32315-24 Matrix: SO - Soil Method: SW846 8151A SW846 3510C Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/23/21 Date Received: 09/28/21 Percent Solids: 93.2
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G133459.D	1	10/17/21 18:44	TL	10/12/21 14:20	OP35941	G3G4866
Run #2							

Run #	Initial Volume	Final Volume
Run #1	30.0 ml	2.0 ml
Run #2		

Herbicide TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
94-75-7	2,4-D ^a	ND	D016	10	0.0033	0.00098	mg/l	
93-72-1	2,4,5-TP (Silvex)	ND	D017	1.0	0.0010	0.00020	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	88%		13-169%
19719-28-9	2,4-DCAA	56%		13-169%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.24
4

Report of Analysis

Client Sample ID: B-105-C(0.5-24')		
Lab Sample ID: JD32315-24		Date Sampled: 09/23/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8081B SW846 3510C		Percent Solids: 93.2
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4G9721372.D	1	10/13/21 01:01	RK	10/12/21 14:15	OP35939	G4G3596
Run #2							

Run #	Initial Volume	Final Volume
Run #1	30.0 ml	2.0 ml
Run #2		

Pesticide TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
58-89-9	gamma-BHC (Lindane)	ND	D013	0.40	0.000067	0.000040	mg/l	
12789-03-6	Chlordane	ND	D020	0.030	0.0033	0.0014	mg/l	
72-20-8	Endrin	ND	D012	0.020	0.000067	0.000040	mg/l	
76-44-8	Heptachlor	ND	D031	0.0080	0.000067	0.000030	mg/l	
1024-57-3	Heptachlor epoxide	ND	D031	0.0080	0.000067	0.000040	mg/l	
72-43-5	Methoxychlor	ND	D014	10	0.00013	0.000045	mg/l	
8001-35-2	Toxaphene	ND	D015	0.50	0.0017	0.0011	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	79%		30-137%
877-09-8	Tetrachloro-m-xylene	84%		30-137%
2051-24-3	Decachlorobiphenyl	86%		10-137%
2051-24-3	Decachlorobiphenyl	85%		10-137%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.24
4

Report of Analysis

Client Sample ID: B-105-C(0.5-24')	
Lab Sample ID: JD32315-24	Date Sampled: 09/23/21
Matrix: SO - Soil	Date Received: 09/28/21
Method: SW846 8082A SW846 3546	Percent Solids: 93.2
Project: Northfield Bridge, Route 12, VT	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX2471776.D	1	10/05/21 16:30	RK	10/04/21 09:00	OP35760	GXX7601
Run #2							

Run #	Initial Weight	Final Volume
Run #1	15.6 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	34	16	ug/kg	
11104-28-2	Aroclor 1221	ND	34	21	ug/kg	
11141-16-5	Aroclor 1232	ND	34	22	ug/kg	
53469-21-9	Aroclor 1242	ND	34	14	ug/kg	
12672-29-6	Aroclor 1248	ND	34	31	ug/kg	
11097-69-1	Aroclor 1254	ND	34	19	ug/kg	
11096-82-5	Aroclor 1260	ND	34	15	ug/kg	
11100-14-4	Aroclor 1268	ND	34	15	ug/kg	
37324-23-5	Aroclor 1262	ND	34	22	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	37%		24-152%
877-09-8	Tetrachloro-m-xylene	36%		24-152%
2051-24-3	Decachlorobiphenyl	28%		10-172%
2051-24-3	Decachlorobiphenyl	141%		10-172%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.24
4

Report of Analysis

Client Sample ID: B-105-C(0.5-24')	Date Sampled: 09/23/21
Lab Sample ID: JD32315-24	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 93.2
Method: SW846 8015D SW846 3546	
Project: Northfield Bridge, Route 12, VT	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ101087.D	1	10/05/21 11:16	TC	10/04/21 09:30	OP35757	GZZ3729
Run #2							

Run #	Initial Weight	Final Volume
Run #1	15.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	9.56	7.2	2.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	57%		18-132%		
438-22-2	5a-Androstane	55%		22-134%		

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.24
4

Report of Analysis

Client Sample ID: B-105-C(0.5-24') Lab Sample ID: JD32315-24 Matrix: SO - Soil Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/23/21 Date Received: 09/28/21 Percent Solids: 93.2
--	--

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 0.10	D004	5.0	0.10	mg/l	1	10/06/21	10/07/21	ND	SW846 6010D ² SW846 3010A ³
Barium	< 0.20	D005	100	0.20	mg/l	1	10/06/21	10/07/21	ND	SW846 6010D ² SW846 3010A ³
Cadmium	< 0.0040	D006	1.0	0.0040	mg/l	1	10/06/21	10/07/21	ND	SW846 6010D ² SW846 3010A ³
Chromium	< 0.010	D007	5.0	0.010	mg/l	1	10/06/21	10/07/21	ND	SW846 6010D ² SW846 3010A ³
Lead	< 0.10	D008	5.0	0.10	mg/l	1	10/06/21	10/07/21	ND	SW846 6010D ² SW846 3010A ³
Mercury	< 0.00020	D009	0.20	0.00020	mg/l	1	10/07/21	10/07/21	LM	SW846 7470A ¹ SW846 7470A ⁴
Selenium	< 0.10	D010	1.0	0.10	mg/l	1	10/06/21	10/07/21	ND	SW846 6010D ² SW846 3010A ³
Silver	< 0.010	D011	5.0	0.010	mg/l	1	10/06/21	10/07/21	ND	SW846 6010D ² SW846 3010A ³

- (1) Instrument QC Batch: MA51237
- (2) Instrument QC Batch: MA51242
- (3) Prep QC Batch: MP29028
- (4) Prep QC Batch: MP29059

RL = Reporting Limit
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11)

4.24
4

Report of Analysis

Client Sample ID: B-105-C(0.5-24')	Date Sampled: 09/23/21
Lab Sample ID: JD32315-24	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 93.2
Project: Northfield Bridge, Route 12, VT	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.68 NC		su	1	10/04/21 16:17	MM	SW846 9045D
Cyanide Reactivity	< 10	10	mg/kg	1	10/07/21 21:44	JJ	SW846 CHAP7/9012 B
Ignitability (Flashpoint)	> 200		Deg. F	1	10/05/21 16:30	MM	SW846 1010A/ASTM D93
Paint Filter Test ^a	< 0.50	0.50	ml/100g	1	10/04/21 14:20	MM	SW846 9095/9095B
Solids, Percent	93.2		%	1	10/04/21 16:54	BG	SM2540 G 18TH ED MOD
Sulfide Reactivity ^b	< 100	100	mg/kg	1	10/10/21 12:35	MP	SW846 CHAP7/9034

(a) No free liquids.

(b) Analyzed outside the 14 day holding time applied by laboratory SOP. No regulatory holding time published for this method.

RL = Reporting Limit

Report of Analysis

Client Sample ID: B-104-A		Date Sampled: 09/24/21
Lab Sample ID: JD32315-25		Date Received: 09/28/21
Matrix: SO - Soil		Percent Solids: 94.3
Method: SW846 8270E SW846 3546		
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M175461.D	1	10/05/21 15:19	KLS	10/04/21 10:00	OP35710	EM7542
Run #2							

Run #	Initial Weight	Final Volume
Run #1	31.5 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	34	12	ug/kg	
208-96-8	Acenaphthylene	ND	34	17	ug/kg	
120-12-7	Anthracene	ND	34	21	ug/kg	
56-55-3	Benzo(a)anthracene	ND	34	9.5	ug/kg	
50-32-8	Benzo(a)pyrene	ND	34	15	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	34	15	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	34	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	34	16	ug/kg	
218-01-9	Chrysene	ND	34	11	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	34	15	ug/kg	
206-44-0	Fluoranthene	ND	34	15	ug/kg	
86-73-7	Fluorene	ND	34	15	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	34	16	ug/kg	
91-20-3	Naphthalene	ND	34	9.5	ug/kg	
85-01-8	Phenanthrene	ND	34	11	ug/kg	
129-00-0	Pyrene	ND	34	11	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	23%		15-114%
321-60-8	2-Fluorobiphenyl	24%		22-104%
1718-51-0	Terphenyl-d14	26%		23-121%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.25
4

Report of Analysis

Client Sample ID: B-104-A	Date Sampled: 09/24/21
Lab Sample ID: JD32315-25	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 94.3
Project: Northfield Bridge, Route 12, VT	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	11.9	2.2	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Barium	< 22	22	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Cadmium	< 0.55	0.55	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Chromium	11.2	1.1	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Lead	7.2	2.2	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Mercury	< 0.027	0.027	mg/kg	1	10/04/21	10/04/21	LM SW846 7471B ²	SW846 7471B ⁴
Selenium	< 2.2	2.2	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Silver	< 0.55	0.55	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA51210
- (2) Instrument QC Batch: MA51220
- (3) Prep QC Batch: MP28913
- (4) Prep QC Batch: MP28967

RL = Reporting Limit

Report of Analysis

Client Sample ID: B-104-B		
Lab Sample ID: JD32315-26		Date Sampled: 09/24/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8260D		Percent Solids: 67.8
Project: Northfield Bridge, Route 12, VT		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	1C181474.D	1	10/02/21 22:46	PS	n/a	n/a	V1C7900

Run #1	Initial Weight
Run #2	5.6 g

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	153	13	5.5	ug/kg	
71-43-2	Benzene	ND	0.66	0.60	ug/kg	
108-86-1	Bromobenzene	ND	6.6	0.73	ug/kg	
74-97-5	Bromochloromethane	ND	6.6	0.74	ug/kg	
75-27-4	Bromodichloromethane	ND	2.6	0.56	ug/kg	
75-25-2	Bromoform	ND	6.6	1.8	ug/kg	
74-83-9	Bromomethane	ND	6.6	1.0	ug/kg	
78-93-3	2-Butanone (MEK)	29.5	13	3.2	ug/kg	
104-51-8	n-Butylbenzene	ND	2.6	0.54	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.6	0.56	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.6	0.66	ug/kg	
75-15-0	Carbon disulfide	1.8	2.6	0.70	ug/kg	J
56-23-5	Carbon tetrachloride	ND	2.6	0.81	ug/kg	
108-90-7	Chlorobenzene	ND	2.6	0.60	ug/kg	
75-00-3	Chloroethane	ND	6.6	0.78	ug/kg	
67-66-3	Chloroform	ND	2.6	0.68	ug/kg	
74-87-3	Chloromethane	ND	6.6	2.6	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.6	0.71	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.6	0.58	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.6	0.91	ug/kg	
124-48-1	Dibromochloromethane ^a	ND	2.6	0.74	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.3	0.55	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.3	0.72	ug/kg	
541-73-1	1,3-Dichlorobenzene ^b	ND	1.3	0.65	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.3	0.65	ug/kg	
75-71-8	Dichlorodifluoromethane ^a	ND	6.6	0.96	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.3	0.65	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.3	0.62	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.3	0.86	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.3	1.1	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.3	0.80	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.6	0.62	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.26
 4

Report of Analysis

Client Sample ID:	B-104-B	Date Sampled:	09/24/21
Lab Sample ID:	JD32315-26	Date Received:	09/28/21
Matrix:	SO - Soil	Percent Solids:	67.8
Method:	SW846 8260D		
Project:	Northfield Bridge, Route 12, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.6	0.69	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.6	0.56	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.6	0.61	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.6	0.63	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.6	0.60	ug/kg	
100-41-4	Ethylbenzene	ND	1.3	0.60	ug/kg	
87-68-3	Hexachlorobutadiene ^a	ND	6.6	0.86	ug/kg	
591-78-6	2-Hexanone	ND	6.6	2.8	ug/kg	
74-88-4	Iodomethane	ND	6.6	3.1	ug/kg	
98-82-8	Isopropylbenzene	ND	2.6	1.9	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.6	0.52	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.3	0.62	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	6.6	3.0	ug/kg	
74-95-3	Methylene bromide	ND	6.6	0.69	ug/kg	
75-09-2	Methylene chloride	ND	6.6	3.4	ug/kg	
91-20-3	Naphthalene	ND	6.6	3.3	ug/kg	
103-65-1	n-Propylbenzene	ND	2.6	0.62	ug/kg	
100-42-5	Styrene	ND	2.6	0.53	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.6	0.55	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.6	0.79	ug/kg	
127-18-4	Tetrachloroethene	ND	2.6	0.76	ug/kg	
108-88-3	Toluene	ND	1.3	0.69	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.6	3.3	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.6	3.3	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.6	0.64	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.6	0.73	ug/kg	
79-01-6	Trichloroethene	ND	1.3	1.0	ug/kg	
75-69-4	Trichlorofluoromethane ^c	ND	6.6	0.90	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	6.6	0.73	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.6	0.66	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.6	0.57	ug/kg	
108-05-4	Vinyl Acetate	ND	13	2.6	ug/kg	
75-01-4	Vinyl chloride	ND	2.6	0.63	ug/kg	
	m,p-Xylene	ND	1.3	1.2	ug/kg	
95-47-6	o-Xylene	ND	1.3	0.60	ug/kg	
1330-20-7	Xylene (total)	ND	1.3	0.60	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		72-130%

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: B-104-B		Date Sampled: 09/24/21
Lab Sample ID: JD32315-26		Date Received: 09/28/21
Matrix: SO - Soil		Percent Solids: 67.8
Method: SW846 8260D		
Project: Northfield Bridge, Route 12, VT		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	115%		75-131%
2037-26-5	Toluene-D8	102%		81-121%
460-00-4	4-Bromofluorobenzene	100%		60-141%

- (a) Associated CCV outside of control limits high, sample was ND.
- (b) This compound in blank spike is outside in house QC limits bias high.
- (c) Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.26
4

Report of Analysis

Client Sample ID: B-104-B		
Lab Sample ID: JD32315-26		Date Sampled: 09/24/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8270E SW846 3546		Percent Solids: 67.8
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6P502015.D	1	10/10/21 21:50	CS	10/08/21 09:25	OP35857	E6P3522
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.5 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	48	17	ug/kg	
208-96-8	Acenaphthylene	ND	48	25	ug/kg	
120-12-7	Anthracene	ND	48	30	ug/kg	
56-55-3	Benzo(a)anthracene	ND	48	14	ug/kg	
50-32-8	Benzo(a)pyrene	ND	48	22	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	48	21	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	48	24	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	48	23	ug/kg	
218-01-9	Chrysene	ND	48	15	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	48	21	ug/kg	
206-44-0	Fluoranthene	ND	48	22	ug/kg	
86-73-7	Fluorene	ND	48	22	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	48	23	ug/kg	
91-20-3	Naphthalene	54.3	48	14	ug/kg	
85-01-8	Phenanthrene	37.9	48	16	ug/kg	J
129-00-0	Pyrene	21.3	48	15	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	56%		15-114%
321-60-8	2-Fluorobiphenyl	65%		22-104%
1718-51-0	Terphenyl-d14	80%		23-121%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.26
4

Report of Analysis

Client Sample ID: B-104-B Lab Sample ID: JD32315-26 Matrix: SO - Soil Method: SW846 8082A SW846 3540C Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/24/21 Date Received: 09/28/21 Percent Solids: 67.8
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX2472196.D	1	10/11/21 02:16	TL	10/08/21 17:50	OP35714	GXX7609
Run #2							

Run #	Initial Weight	Final Volume
Run #1	11.9 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	62	29	ug/kg	
11104-28-2	Aroclor 1221	ND	62	38	ug/kg	
11141-16-5	Aroclor 1232	ND	62	40	ug/kg	
53469-21-9	Aroclor 1242	ND	62	25	ug/kg	
12672-29-6	Aroclor 1248	ND	62	55	ug/kg	
11097-69-1	Aroclor 1254	ND	62	33	ug/kg	
11096-82-5	Aroclor 1260	ND	62	26	ug/kg	
11100-14-4	Aroclor 1268	ND	62	26	ug/kg	
37324-23-5	Aroclor 1262	ND	62	41	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	46%		24-152%
877-09-8	Tetrachloro-m-xylene	50%		24-152%
2051-24-3	Decachlorobiphenyl	75%		10-172%
2051-24-3	Decachlorobiphenyl	74%		10-172%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.26
4

Report of Analysis

Client Sample ID: B-104-B	Date Sampled: 09/24/21
Lab Sample ID: JD32315-26	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 67.8
Project: Northfield Bridge, Route 12, VT	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	6.6	2.9	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Barium	< 29	29	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Cadmium	< 0.73	0.73	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Chromium	15.7	1.5	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Lead	9.3	2.9	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Mercury	< 0.046	0.046	mg/kg	1	10/04/21	10/04/21	LM SW846 7471B ²	SW846 7471B ⁴
Selenium	< 2.9	2.9	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³
Silver	< 0.73	0.73	mg/kg	1	09/30/21	10/01/21	ND SW846 6010D ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA51210
- (2) Instrument QC Batch: MA51220
- (3) Prep QC Batch: MP28913
- (4) Prep QC Batch: MP28967

RL = Reporting Limit

Report of Analysis

Client Sample ID: B-104-C		
Lab Sample ID: JD32315-27		Date Sampled: 09/24/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8260D SW846 1311		Percent Solids: 82.2
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2V81434.D	5	10/07/21 08:00	JS	10/02/21 16:00	GP36195	V2V3357
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
71-43-2	Benzene	ND	D018	0.50	0.0025	0.0021	mg/l	
78-93-3	2-Butanone (MEK) ^a	ND	D035	200	0.10	0.034	mg/l	
56-23-5	Carbon tetrachloride	ND	D019	0.50	0.0050	0.0028	mg/l	
108-90-7	Chlorobenzene	ND	D021	100	0.0050	0.0028	mg/l	
67-66-3	Chloroform ^b	0.0120	D022	6.0	0.0050	0.0025	mg/l	B
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.0050	0.0025	mg/l	
107-06-2	1,2-Dichloroethane	ND	D028	0.50	0.0050	0.0030	mg/l	
75-35-4	1,1-Dichloroethene	ND	D029	0.70	0.0050	0.0030	mg/l	
127-18-4	Tetrachloroethene	ND	D039	0.70	0.0050	0.0045	mg/l	
79-01-6	Trichloroethene	ND	D040	0.50	0.0050	0.0026	mg/l	
75-01-4	Vinyl chloride	ND	D043	0.20	0.0050	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		76-120%
17060-07-0	1,2-Dichloroethane-D4	112%		64-135%
2037-26-5	Toluene-D8	103%		76-117%
460-00-4	4-Bromofluorobenzene	106%		72-122%

(a) Associated CCV outside of control limits high, sample was ND. This compound in blank spike is outside in house QC limits bias high.

(b) Indicates analyte found in associated leachate blank.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.27
4

Report of Analysis

Client Sample ID: B-104-C		
Lab Sample ID: JD32315-27		Date Sampled: 09/24/21
Matrix: SO - Soil		Date Received: 09/28/21
Method: SW846 8270E SW846 3510C		Percent Solids: 82.2
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z152233.D	1	10/13/21 08:47	CS	10/12/21 18:20	OP35940	EZ7572
Run #2							

Run #	Initial Volume	Final Volume
Run #1	100 ml	1.0 ml
Run #2		

ABN TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	D023	200	0.020	0.0089	mg/l	
	3&4-Methylphenol	ND	D024	200	0.020	0.0088	mg/l	
87-86-5	Pentachlorophenol	ND	D037	100	0.10	0.014	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	D041	400	0.050	0.013	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	D042	2.0	0.050	0.0092	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.020	0.0017	mg/l	
121-14-2	2,4-Dinitrotoluene	ND	D030	0.13	0.020	0.0055	mg/l	
118-74-1	Hexachlorobenzene	ND	D032	0.13	0.020	0.0033	mg/l	
87-68-3	Hexachlorobutadiene	ND	D033	0.50	0.010	0.0049	mg/l	
67-72-1	Hexachloroethane	ND	D034	3.0	0.050	0.0039	mg/l	
98-95-3	Nitrobenzene	ND	D036	2.0	0.020	0.0064	mg/l	
110-86-1	Pyridine	ND	D038	5.0	0.020	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	16%		10-73%
4165-62-2	Phenol-d5	14%		10-64%
118-79-6	2,4,6-Tribromophenol	26% ^a		31-130%
4165-60-0	Nitrobenzene-d5	82%		28-126%
321-60-8	2-Fluorobiphenyl	75%		26-114%
1718-51-0	Terphenyl-d14	70%		16-122%

(a) Outside of in house control limits.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.27
4

Report of Analysis

Client Sample ID: B-104-C	Date Sampled: 09/24/21
Lab Sample ID: JD32315-27	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 82.2
Method: SW846 8015D	
Project: Northfield Bridge, Route 12, VT	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM112332.D	1	10/02/21 00:58	DFT	n/a	n/a	GLM4714
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	11.7 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	6.3	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	75%		70-116%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.27
4

Report of Analysis

Client Sample ID: B-104-C Lab Sample ID: JD32315-27 Matrix: SO - Soil Method: SW846 8151A SW846 3510C Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/24/21 Date Received: 09/28/21 Percent Solids: 82.2
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G133460.D	1	10/17/21 19:11	TL	10/12/21 14:20	OP35941	G3G4866
Run #2							

Run #	Initial Volume	Final Volume
Run #1	30.0 ml	2.0 ml
Run #2		

Herbicide TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
94-75-7	2,4-D ^a	ND	D016	10	0.0033	0.00098	mg/l	
93-72-1	2,4,5-TP (Silvex)	ND	D017	1.0	0.0010	0.00020	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	100%		13-169%
19719-28-9	2,4-DCAA	59%		13-169%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.27
4

Report of Analysis

Client Sample ID: B-104-C	Date Sampled: 09/24/21
Lab Sample ID: JD32315-27	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 82.2
Method: SW846 8081B SW846 3510C	
Project: Northfield Bridge, Route 12, VT	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4G9721373.D	1	10/13/21 01:16	RK	10/12/21 14:15	OP35939	G4G3596
Run #2							

Run #	Initial Volume	Final Volume
Run #1	30.0 ml	2.0 ml
Run #2		

Pesticide TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
58-89-9	gamma-BHC (Lindane)	ND	D013	0.40	0.000067	0.000040	mg/l	
12789-03-6	Chlordane	ND	D020	0.030	0.0033	0.0014	mg/l	
72-20-8	Endrin	ND	D012	0.020	0.000067	0.000040	mg/l	
76-44-8	Heptachlor	ND	D031	0.0080	0.000067	0.000030	mg/l	
1024-57-3	Heptachlor epoxide	ND	D031	0.0080	0.000067	0.000040	mg/l	
72-43-5	Methoxychlor	ND	D014	10	0.00013	0.000045	mg/l	
8001-35-2	Toxaphene	ND	D015	0.50	0.0017	0.0011	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	73%		30-137%
877-09-8	Tetrachloro-m-xylene	80%		30-137%
2051-24-3	Decachlorobiphenyl	84%		10-137%
2051-24-3	Decachlorobiphenyl	90%		10-137%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.27
4

Report of Analysis

Client Sample ID: B-104-C Lab Sample ID: JD32315-27 Matrix: SO - Soil Method: SW846 8082A SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/24/21 Date Received: 09/28/21 Percent Solids: 82.2
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	XX2471803.D	1	10/06/21 01:31	CP	10/04/21 09:00	OP35760	GXX7602
Run #2							

Run #	Initial Weight	Final Volume
Run #1	15.3 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	40	19	ug/kg	
11104-28-2	Aroclor 1221	ND	40	25	ug/kg	
11141-16-5	Aroclor 1232	ND	40	25	ug/kg	
53469-21-9	Aroclor 1242	ND	40	16	ug/kg	
12672-29-6	Aroclor 1248	ND	40	35	ug/kg	
11097-69-1	Aroclor 1254	ND	40	21	ug/kg	
11096-82-5	Aroclor 1260	ND	40	17	ug/kg	
11100-14-4	Aroclor 1268	ND	40	17	ug/kg	
37324-23-5	Aroclor 1262	ND	40	26	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	65%		24-152%
877-09-8	Tetrachloro-m-xylene	67%		24-152%
2051-24-3	Decachlorobiphenyl	53%		10-172%
2051-24-3	Decachlorobiphenyl	68%		10-172%

(a) Had TBA cleanup.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.27
4

Report of Analysis

Client Sample ID: B-104-C Lab Sample ID: JD32315-27 Matrix: SO - Soil Method: SW846 8015D SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/24/21 Date Received: 09/28/21 Percent Solids: 82.2
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ101088.D	1	10/05/21 11:50	TC	10/04/21 09:30	OP35757	GZZ3729
Run #2							

Run #	Initial Weight	Final Volume
Run #1	15.8 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	35.5	7.7	2.6	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	57%		18-132%		
438-22-2	5a-Androstane	55%		22-134%		

ND = Not detected RL = Reporting Limit E = Indicates value exceeds calibration range	MDL = Method Detection Limit J = Indicates an estimated value B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound
--	--

4.27
4

Report of Analysis

Client Sample ID: B-104-C	Date Sampled: 09/24/21
Lab Sample ID: JD32315-27	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 82.2
Project: Northfield Bridge, Route 12, VT	

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 0.10	D004	5.0	0.10	mg/l	1	10/06/21	10/07/21	ND	SW846 6010D ² SW846 3010A ³
Barium	< 0.20	D005	100	0.20	mg/l	1	10/06/21	10/07/21	ND	SW846 6010D ² SW846 3010A ³
Cadmium	< 0.0040	D006	1.0	0.0040	mg/l	1	10/06/21	10/07/21	ND	SW846 6010D ² SW846 3010A ³
Chromium	< 0.010	D007	5.0	0.010	mg/l	1	10/06/21	10/07/21	ND	SW846 6010D ² SW846 3010A ³
Lead	< 0.10	D008	5.0	0.10	mg/l	1	10/06/21	10/07/21	ND	SW846 6010D ² SW846 3010A ³
Mercury	< 0.00020	D009	0.20	0.00020	mg/l	1	10/07/21	10/07/21	LM	SW846 7470A ¹ SW846 7470A ⁴
Selenium	< 0.10	D010	1.0	0.10	mg/l	1	10/06/21	10/07/21	ND	SW846 6010D ² SW846 3010A ³
Silver	< 0.010	D011	5.0	0.010	mg/l	1	10/06/21	10/07/21	ND	SW846 6010D ² SW846 3010A ³

- (1) Instrument QC Batch: MA51237
- (2) Instrument QC Batch: MA51242
- (3) Prep QC Batch: MP29028
- (4) Prep QC Batch: MP29059

RL = Reporting Limit
MCL = Maximum Contamination Level (40 CFR 261 7/1/11)

4.27
4

Report of Analysis

Client Sample ID: B-104-C	Date Sampled: 09/24/21
Lab Sample ID: JD32315-27	Date Received: 09/28/21
Matrix: SO - Soil	Percent Solids: 82.2
Project: Northfield Bridge, Route 12, VT	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	6.89 NC		su	1	10/04/21 16:20	MM	SW846 9045D
Cyanide Reactivity	< 12	12	mg/kg	1	10/07/21 21:45	JJ	SW846 CHAP7/9012 B
Ignitability (Flashpoint)	> 200		Deg. F	1	10/05/21 16:30	MM	SW846 1010A/ASTM D93
Paint Filter Test ^a	< 0.50	0.50	ml/100g	1	10/04/21 14:20	MM	SW846 9095/9095B
Solids, Percent	82.2		%	1	10/04/21 16:54	BG	SM2540 G 18TH ED MOD
Sulfide Reactivity ^b	< 120	120	mg/kg	1	10/10/21 12:35	MP	SW846 CHAP7/9034

(a) No free liquids.

(b) Analyzed outside the 14 day holding time applied by laboratory SOP. No regulatory holding time published for this method.

RL = Reporting Limit

4.27
4

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- **Certification Exceptions**
- **Chain of Custody**

Parameter Certification Exceptions

Job Number: JD32315
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

The following parameters included in this report are exceptions to NELAC certification. The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
Cyanide Reactivity		SW846 CHAP7/9012 B	SO	SGS is not certified for this parameter. ^a
Sulfide Reactivity		SW846 CHAP7/9034	SO	SGS is not certified for this parameter. ^a

(a) Reactivity analyzed following SW846 Chapter 7 is no longer recognized by regulatory agencies. Use of results should be verified through the program to which the data is being submitted.

Certification exceptions shown are based on the New Jersey DEP certifications. Applicability in other states may vary. Please contact your laboratory representative if additional information is required for a specific regulatory program.

5.1
5



SO
SLL
SME

CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

92510922 7862

EHSA-QAC-0023-04-FORM-Standard COC

FED-EX Tracking #	Booking Order Control #
SGS Quote #	PREM-02-09821-67
	SGS Job #
	JD32315

Client / Reporting Information		Project Information		Requested Analysis												Matrix Codes							
Company Name: Atlas		Project Name: Northfield Bridge														DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OL - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank							
Street Address: 51 Knight Lane		Street: Lt 12																					
City: Williston VT 05495		City: VT																					
Project Contact: Erik Urech e.urch@atlas.com		Project #: 290BS02090																					
Phone #: 802-962-1180		Client Purchase Order #																					
Sampler(s) Name(s): Jo Palmer		Project Manager: E. Urech																					
SGS Sample #	Field ID / Point of Collection	MEQH/DI Vial #	2021 Date	Time	Sampled by	Grab (G) Comp (C)	Source Characterized (Y/N)	Matrix	# of bottles	PC	NAOH	HNO3	USO4	NONE	DI Water	MEQH	ENCLOSURE	Notes	pH Check	Lab Use Only	LAB USE ONLY		
1	B-106-A		9/20	0950	AP	G	N	So	1													BP	
2	B-106-B			1115		G			6					221								PS	
3	B-106-C			1130		C			4					1		3			X	X	X	X	HOLD
4	H-104-A			1420		G			1					1					X	X	X	X	1425
5	H-104-B			1520		G			6					221					X	X	X	X	4/106
6	H-104-C1			1540		C			4					1		3			X	X	X	X	HOLD
7	H-104-C2			1542		C			4					1		3			X	X	X	X	HOLD
8	DUP-A			0001		G			1					1					X	X	X	X	ERIT3
9	DUP-B			0002		G			6					221					X	X	X	X	
10	H-101-A		9/21	0915		G			1					1					X	X	X	X	
11	H-101-B			1010		G			6					221					X	X	X	X	
12	H-101-C			1030		C			4					1		3			X	X	X	X	HOLD

Turn Around Time (Business Days) <input type="checkbox"/> 10 Business Days <input type="checkbox"/> 5 Business Days <input type="checkbox"/> 3 Business Days* <input type="checkbox"/> 2 Business Days* <input type="checkbox"/> 1 Business Day* <input type="checkbox"/> Other	Approved By (SGS PM) / Date: <i>normal Atlas</i> Initial Assessment: <u>3B, SS</u> Label Verification: _____	Deliverable <input type="checkbox"/> Commercial "A" (Level 1) <input checked="" type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> NJ Reduced (Level 3) <input type="checkbox"/> Full Tier 1 (Level 4) <input type="checkbox"/> Commercial "C" <input type="checkbox"/> NJ DKQP	<input type="checkbox"/> NYASP Category A <input type="checkbox"/> NYASP Category B <input type="checkbox"/> MA MCP Criteria <input type="checkbox"/> CT RCP Criteria <input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format	<input type="checkbox"/> DOD-QSMS Comments / Special Instructions: Hold all "C" samples (sample set #3 on bottle config. sheet) DI Vials frozen in 12 hrs at sample collection
---	---	--	---	---

Relinquished by: <i>[Signature]</i>	Date / Time: 9/24/14 1301	Received By: <i>[Signature]</i>	Date / Time: 9/24/14 1301
Relinquished by: <i>[Signature]</i>	Date / Time: 9/27/14 1403	Received By: <i>[Signature]</i>	Date / Time: 9/27/14 1403
Relinquished by: <i>[Signature]</i>	Date / Time:	Received By: <i>[Signature]</i>	Date / Time:

Therm ID: _____ On Ice: Cooler Temp. °C: 3.4 / 2.2



CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

EHSQA-QAC-0023-04-FORM-Standard COC

FED-EX Tracking #
Bottle Order/Control #
SGS Quote #
SGS Job # JD32315

Client / Reporting Information
Company Name: Atlas
Project Name: Northfield Bridge
Street Address: 51 Knight Lane, Williston VT 05495
Project Contact: Erik Urech
Project # 280BS02090
Client Purchase Order # 280BS02090
Project Manager: E. Urech

Table with columns: SGS Sample #, Field ID / Point of Collection, MEQH/Dial #, Date, Time, Sampling by, Grab (G) Comp (C), Source Characterized (Y/N), Matrix, # of bottles, and various chemical analysis columns (HC, NaOH, HNO3, H2SO4, H2O2, DI Water, MICH, ENCORE, MNO3). Includes handwritten sample data for samples 13-24.

Turn Around Time (Business Days)
Approved By (SGS PM) / Date: [Signature] / 9/23/11
Deliverable
Comments / Special Instructions: Hold all "C" samples. DI vials frozen w/in 12 hrs of sample collection.

Chain of Custody Table with columns: Relinquished By, Date / Time, Received By, Date / Time. Shows the sequence of sample handoffs between personnel.



CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

EHSQA-QAC-0023-04-FORM-Standard COC

FED-EX Tracking #	Bottle Order Control #
SGS Quote #	SGS Job # JD32315

Client / Reporting Information	Project Information	Requested Analysis	Matrix Codes
Company Name: Atlas	Project Name: Northfield Bridge	PAH PCRA 8 MSTD PCB TEL PAH PCRA CUGS PNTFIL DRO GLO PCB 11	DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank
Street Address: 51 Knight Lane	Street: RT 12		
City: Williston VT State: VT Zip: 05495	Billing Information (if different from Report to)		
Project Contact: Frik Urich E-mail: Frik.Urich@oneatlas.com	Project #: 889 B502090		
Phone #: 802-962-1980	Client Purchase Order #		
Sampler(s) Name(s): Jo Palmer Phone #	Project Manager: F. Urich Attention:	pH Check (Lab Use Only)	

SGS Sample #	Field ID / Point of Collection	MECH/DI Val #	Collection Date	Sampled by	Grab (G) Comp (C)	Source Chlorinated (Y/N)	Matrix	# of bottles	HCl	NaOH	HNO ₃	H ₂ SO ₄	NONE	DI Water	MEDI	ENCLOSURE	LAB USE ONLY
25	B-104-A		08/20/21		G	N	So	1									
26	B-104-B		08/24/21		G	N		6					221				
27	B-104-C		10/00		C			4									HOLD

Turn Around Time (Business Days)	Deliverable	Comments / Special Instructions
<input type="checkbox"/> 10 Business Days <input type="checkbox"/> 5 Business Days <input type="checkbox"/> 3 Business Days* <input type="checkbox"/> 2 Business Days* <input type="checkbox"/> 1 Business Day* <input type="checkbox"/> Other	<input type="checkbox"/> Commercial "A" (Level 1) <input checked="" type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> NJ Reduced (Level 3) <input type="checkbox"/> Full Tier 1 (Level 4) <input type="checkbox"/> Commercial "C" <input type="checkbox"/> NJ DKQP	<input type="checkbox"/> NYASP Category A <input type="checkbox"/> NYASP Category B <input type="checkbox"/> MA MCP Criteria <input type="checkbox"/> CT RCP Criteria <input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format
Approved By (SGS PM) / Date: nsawal Atlas * Approval needed for 1-3 Business Day TAT	<input type="checkbox"/> DOD-QSMS Commercial "A" = Results only; Commercial "B" = Results + QC Summary Commercial "C" = Results + QC Summary + Partial Raw data	Hold all "C" samples DI vials frozen w/in 12hrs OR sample collection

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by: [Signature]	Date / Time: 9/24/21 1300	Received by: [Signature]	Date / Time: 9/24/21 1630
Relinquished by: [Signature]	Date / Time: 9/27/21 1400	Received by: [Signature]	Date / Time: 10/00
Relinquished by: [Signature]	Date / Time:	Received by: [Signature]	Date / Time:

Custody Seal # Intact Not intact Absent Therm ID: On Ice Cooler Temp. °C

5.2
5



SGS Sample Receipt Summary

Job Number: JD32315

Client: ATLAS TECHNICAL CONSULTANTS, LLC

Project: NORTHFIELD BRIDGE PROJECT, VT

Date / Time Received: 9/28/2021 10:00:00 AM

Delivery Method: _____

Airbill #s: _____

Cooler Temps (Raw Measured) °C: Cooler 1: (3.4); Cooler 2: (3.2);

Cooler Temps (Corrected) °C: Cooler 1: (2.5); Cooler 2: (2.3);

<u>Cooler Security</u>	<u>Y</u>	<u>or</u>	<u>N</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Cooler Temperature</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	2		

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:	Intact		

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Test Strip Lot #s: pH 1-12: 231619 pH 12+: 203117A Other: (Specify) _____

Comments: -21, Confirm ID, same as -20. Also confirm collection time, not noted on COC

SM089-02 Rev. Date 12/1/16

JD32315: Chain of Custody

Page 4 of 6

5.2
5

JD32315: Chain of Custody
Page 5 of 6

Job Change Order: JD32315

Requested Date: 10/1/2021 Received Date: 9/28/2021
Account Name: Atlas Technical Consultants, LLC Due Date: 10/1/2021
Project Description: Northfield Bridge Project, VT Deliverable: COMMBN
C/O Initiated By: MARIE.MEID PM: KR TAT (Days): 3

Sample #: JD32315-3, 6, 7, 12, 15, 18, 21, Change:
24, 27

Dept: All samples on HOLD have to be run, TCLPFULL, DRO, GRO, PNFIL,
RORACLAS, PCB's and DRO

TAT: 3

JD32315: Chain of Custody
Page 6 of 6

Above Changes Per: Erik Urch Date/Time: 10/1/2021

To Client: This Change Order is confirmation of the revisions, previously discussed with the Client Service Representative.

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1C7900-MB	1C181457.D	1	10/02/21	PS	n/a	n/a	V1C7900

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32315-2, JD32315-5, JD32315-9, JD32315-11, JD32315-14, JD32315-17, JD32315-20, JD32315-23, JD32315-26

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	4.1	ug/kg	
71-43-2	Benzene	ND	0.50	0.46	ug/kg	
108-86-1	Bromobenzene	ND	5.0	0.55	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	0.56	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	0.43	ug/kg	
75-25-2	Bromoform	ND	5.0	1.4	ug/kg	
74-83-9	Bromomethane	ND	5.0	0.76	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	2.4	ug/kg	
104-51-8	n-Butylbenzene	ND	2.0	0.41	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.0	0.43	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.0	0.50	ug/kg	
75-15-0	Carbon disulfide	ND	2.0	0.54	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	0.62	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	0.46	ug/kg	
75-00-3	Chloroethane	ND	5.0	0.59	ug/kg	
67-66-3	Chloroform	ND	2.0	0.52	ug/kg	
74-87-3	Chloromethane	ND	5.0	2.0	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.0	0.54	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.0	0.44	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	0.56	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.42	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.55	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.49	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	0.73	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.47	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.0	0.66	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.84	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.61	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	0.47	ug/kg	
142-28-9	1,3-Dichloropropane	ND	2.0	0.52	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.0	0.43	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.0	0.47	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.48	ug/kg	

Method Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1C7900-MB	1C181457.D	1	10/02/21	PS	n/a	n/a	V1C7900

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32315-2, JD32315-5, JD32315-9, JD32315-11, JD32315-14, JD32315-17, JD32315-20, JD32315-23, JD32315-26

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.46	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.45	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	0.66	ug/kg	
591-78-6	2-Hexanone	ND	5.0	2.1	ug/kg	
74-88-4	Iodomethane	ND	5.0	2.3	ug/kg	
98-82-8	Isopropylbenzene	ND	2.0	1.4	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.0	0.40	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.47	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	2.3	ug/kg	
74-95-3	Methylene bromide	ND	5.0	0.53	ug/kg	
75-09-2	Methylene chloride	ND	5.0	2.6	ug/kg	
91-20-3	Naphthalene	ND	5.0	2.5	ug/kg	
103-65-1	n-Propylbenzene	ND	2.0	0.47	ug/kg	
100-42-5	Styrene	ND	2.0	0.40	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.0	0.42	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.60	ug/kg	
127-18-4	Tetrachloroethene	ND	2.0	0.58	ug/kg	
108-88-3	Toluene	ND	1.0	0.53	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	2.5	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	2.5	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.48	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.55	ug/kg	
79-01-6	Trichloroethene	ND	1.0	0.76	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	0.68	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.56	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.50	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.43	ug/kg	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/kg	
75-01-4	Vinyl chloride	ND	2.0	0.48	ug/kg	
	m,p-Xylene	ND	1.0	0.90	ug/kg	
95-47-6	o-Xylene	ND	1.0	0.46	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.46	ug/kg	

Method Blank Summary

Job Number: JD32315
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1C7900-MB	1C181457.D	1	10/02/21	PS	n/a	n/a	V1C7900

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32315-2, JD32315-5, JD32315-9, JD32315-11, JD32315-14, JD32315-17, JD32315-20, JD32315-23, JD32315-26

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	97% 72-130%
17060-07-0	1,2-Dichloroethane-D4	105% 75-131%
2037-26-5	Toluene-D8	103% 81-121%
460-00-4	4-Bromofluorobenzene	96% 60-141%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

Method Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2V3357-MB	2V81416.D	1	10/07/21	JS	n/a	n/a	V2V3357

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.43	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	6.9	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.55	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.56	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.51	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.60	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.59	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.90	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.53	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.79	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	94%	76-120%
17060-07-0	1,2-Dichloroethane-D4	109%	64-135%
2037-26-5	Toluene-D8	103%	76-117%
460-00-4	4-Bromofluorobenzene	103%	72-122%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Method Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A9274-MB	1A214848.D	1	10/05/21	ED	n/a	n/a	V1A9274

The QC reported here applies to the following samples:

Method: SW846 8260D

GP36195-LS8

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.43	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	6.9	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.55	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.56	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.51	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.60	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.59	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.90	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.53	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.79	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	97% 76-120%
17060-07-0	1,2-Dichloroethane-D4	98% 64-135%
2037-26-5	Toluene-D8	103% 76-117%
460-00-4	4-Bromofluorobenzene	99% 72-122%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Leachate Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GP36195-LB9	2V81417.D	5	10/07/21	JS	10/02/21	GP36195	V2V3357

The QC reported here applies to the following samples: Method: SW846 8260D

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	2.5	2.1	ug/l	
78-93-3	2-Butanone (MEK)	ND	50	34	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	2.8	ug/l	
108-90-7	Chlorobenzene	ND	5.0	2.8	ug/l	
67-66-3	Chloroform	11.8	5.0	2.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	2.5	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	3.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	5.0	3.0	ug/l	
127-18-4	Tetrachloroethene	ND	5.0	4.5	ug/l	
79-01-6	Trichloroethene	ND	5.0	2.6	ug/l	
75-01-4	Vinyl chloride	ND	5.0	3.9	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	95%	76-120%
17060-07-0	1,2-Dichloroethane-D4	111%	64-135%
2037-26-5	Toluene-D8	102%	76-117%
460-00-4	4-Bromofluorobenzene	103%	72-122%

Leachate Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GP36195-LB8	1A214852.D	5	10/05/21	ED	10/01/21	GP36195	V1A9274

The QC reported here applies to the following samples:

Method: SW846 8260D

GP36195-LS8

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	2.5	2.1	ug/l	
78-93-3	2-Butanone (MEK)	ND	50	34	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	2.8	ug/l	
108-90-7	Chlorobenzene	ND	5.0	2.8	ug/l	
67-66-3	Chloroform	12.5	5.0	2.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	2.5	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	3.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	5.0	3.0	ug/l	
127-18-4	Tetrachloroethene	ND	5.0	4.5	ug/l	
79-01-6	Trichloroethene	ND	5.0	2.6	ug/l	
75-01-4	Vinyl chloride	ND	5.0	3.9	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	96%	76-120%
17060-07-0	1,2-Dichloroethane-D4	101%	64-135%
2037-26-5	Toluene-D8	102%	76-117%
460-00-4	4-Bromofluorobenzene	103%	72-122%

Blank Spike Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1C7900-BS	1C181455.D	1	10/02/21	PS	n/a	n/a	V1C7900

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32315-2, JD32315-5, JD32315-9, JD32315-11, JD32315-14, JD32315-17, JD32315-20, JD32315-23, JD32315-26

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	200	220	110	67-130
71-43-2	Benzene	50	52.8	106	80-115
108-86-1	Bromobenzene	50	55.6	111	80-116
74-97-5	Bromochloromethane	50	54.3	109	82-121
75-27-4	Bromodichloromethane	50	57.5	115	83-121
75-25-2	Bromoform	50	61.5	123	80-141
74-83-9	Bromomethane	50	57.3	115	56-146
78-93-3	2-Butanone (MEK)	200	207	104	72-134
104-51-8	n-Butylbenzene	50	52.6	105	73-124
135-98-8	sec-Butylbenzene	50	53.3	107	73-121
98-06-6	tert-Butylbenzene	50	53.1	106	74-122
75-15-0	Carbon disulfide	50	52.2	104	65-125
56-23-5	Carbon tetrachloride	50	60.1	120	75-126
108-90-7	Chlorobenzene	50	56.6	113	81-115
75-00-3	Chloroethane	50	57.6	115	72-133
67-66-3	Chloroform	50	52.2	104	75-114
74-87-3	Chloromethane	50	54.7	109	57-135
95-49-8	o-Chlorotoluene	50	54.2	108	78-117
106-43-4	p-Chlorotoluene	50	50.8	102	77-114
96-12-8	1,2-Dibromo-3-chloropropane	50	60.8	122	72-129
124-48-1	Dibromochloromethane	50	61.4	123	82-133
106-93-4	1,2-Dibromoethane	50	60.6	121	81-126
95-50-1	1,2-Dichlorobenzene	50	55.9	112	83-114
541-73-1	1,3-Dichlorobenzene	50	56.5	113* a	81-112
106-46-7	1,4-Dichlorobenzene	50	54.5	109	79-113
75-71-8	Dichlorodifluoromethane	50	67.8	136	50-150
75-34-3	1,1-Dichloroethane	50	52.4	105	75-120
107-06-2	1,2-Dichloroethane	50	55.2	110	72-117
75-35-4	1,1-Dichloroethene	50	50.4	101	69-124
156-59-2	cis-1,2-Dichloroethene	50	50.6	101	73-119
156-60-5	trans-1,2-Dichloroethene	50	51.0	102	70-123
78-87-5	1,2-Dichloropropane	50	51.7	103	80-118
142-28-9	1,3-Dichloropropane	50	54.6	109	81-116
594-20-7	2,2-Dichloropropane	50	56.3	113	74-126
563-58-6	1,1-Dichloropropene	50	55.6	111	75-119
10061-01-5	cis-1,3-Dichloropropene	50	54.6	109	83-121

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1C7900-BS	1C181455.D	1	10/02/21	PS	n/a	n/a	V1C7900

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32315-2, JD32315-5, JD32315-9, JD32315-11, JD32315-14, JD32315-17, JD32315-20, JD32315-23, JD32315-26

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	62.2	124	83-125
100-41-4	Ethylbenzene	50	53.8	108	80-114
87-68-3	Hexachlorobutadiene	50	61.3	123	71-125
591-78-6	2-Hexanone	200	209	105	77-126
74-88-4	Iodomethane	50	54.8	110	25-189
98-82-8	Isopropylbenzene	50	55.4	111	76-121
99-87-6	p-Isopropyltoluene	50	55.6	111	74-122
1634-04-4	Methyl Tert Butyl Ether	50	56.3	113	76-127
108-10-1	4-Methyl-2-pentanone(MIBK)	200	196	98	75-129
74-95-3	Methylene bromide	50	55.8	112	83-119
75-09-2	Methylene chloride	50	49.0	98	71-120
91-20-3	Naphthalene	50	55.8	112	73-131
103-65-1	n-Propylbenzene	50	51.1	102	74-116
100-42-5	Styrene	50	54.7	109	83-118
630-20-6	1,1,1,2-Tetrachloroethane	50	58.8	118	82-128
79-34-5	1,1,2,2-Tetrachloroethane	50	52.2	104	76-120
127-18-4	Tetrachloroethene	50	60.7	121	75-125
108-88-3	Toluene	50	54.6	109	79-115
87-61-6	1,2,3-Trichlorobenzene	50	58.8	118	75-131
120-82-1	1,2,4-Trichlorobenzene	50	58.1	116	76-130
71-55-6	1,1,1-Trichloroethane	50	58.5	117	77-122
79-00-5	1,1,2-Trichloroethane	50	56.9	114	82-119
79-01-6	Trichloroethene	50	57.1	114	82-119
75-69-4	Trichlorofluoromethane	50	68.2	136* a	70-134
96-18-4	1,2,3-Trichloropropane	50	57.3	115	80-118
95-63-6	1,2,4-Trimethylbenzene	50	55.8	112	77-116
108-67-8	1,3,5-Trimethylbenzene	50	55.0	110	76-118
108-05-4	Vinyl Acetate	50	59.6	119	75-124
75-01-4	Vinyl chloride	50	59.4	119	60-139
	m,p-Xylene	100	109	109	81-115
95-47-6	o-Xylene	50	55.9	112	82-117
1330-20-7	Xylene (total)	150	165	110	81-116

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD32315
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1C7900-BS	1C181455.D	1	10/02/21	PS	n/a	n/a	V1C7900

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32315-2, JD32315-5, JD32315-9, JD32315-11, JD32315-14, JD32315-17, JD32315-20, JD32315-23, JD32315-26

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	97%	72-130%
17060-07-0	1,2-Dichloroethane-D4	106%	75-131%
2037-26-5	Toluene-D8	103%	81-121%
460-00-4	4-Bromofluorobenzene	97%	60-141%

(a) High percent recovery and no associated positive reported in the QC batch.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2V3357-BS	2V81414.D	1	10/06/21	JS	n/a	n/a	V2V3357

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	50	49.7	99	75-122
78-93-3	2-Butanone (MEK)	200	262	131* a	64-130
56-23-5	Carbon tetrachloride	50	41.7	83	75-148
108-90-7	Chlorobenzene	50	45.4	91	76-124
67-66-3	Chloroform	50	43.7	87	77-124
106-46-7	1,4-Dichlorobenzene	50	43.2	86	71-123
107-06-2	1,2-Dichloroethane	50	51.1	102	66-150
75-35-4	1,1-Dichloroethene	50	45.6	91	61-132
127-18-4	Tetrachloroethene	50	41.9	84	70-136
79-01-6	Trichloroethene	50	47.7	95	79-126
75-01-4	Vinyl chloride	50	53.6	107	56-146

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	95%	76-120%
17060-07-0	1,2-Dichloroethane-D4	113%	64-135%
2037-26-5	Toluene-D8	99%	76-117%
460-00-4	4-Bromofluorobenzene	99%	72-122%

(a) High percent recovery and no associated positive reported in the QC batch.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD32428-1MS	1C181463.D	1	10/02/21	PS	n/a	n/a	V1C7900
JD32428-1MSD	1C181464.D	1	10/02/21	PS	n/a	n/a	V1C7900
JD32428-1	1C181458.D	1	10/02/21	PS	n/a	n/a	V1C7900

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32315-2, JD32315-5, JD32315-9, JD32315-11, JD32315-14, JD32315-17, JD32315-20, JD32315-23, JD32315-26

CAS No.	Compound	JD32428-1		Spike			MSD			RPD	Limits Rec/RPD
		ug/kg	Q	ug/kg	MS ug/kg	MS %	ug/kg	ug/kg	%		
67-64-1	Acetone	11.7	J	324	242	71	324	239	70	1	31-142/24
71-43-2	Benzene	ND		81.1	82.0	101	81.1	72.6	90	12	62-126/15
108-86-1	Bromobenzene	ND		81.1	73.5	91	81.1	60.8	75	19* a	56-126/17
74-97-5	Bromochloromethane	ND		81.1	81.7	101	81.1	76.9	95	6	68-125/14
75-27-4	Bromodichloromethane	ND		81.1	83.9	103	81.1	76.3	94	9	63-132/15
75-25-2	Bromoform	ND		81.1	80.7	100	81.1	69.4	86	15	59-138/17
74-83-9	Bromomethane	ND		81.1	86.5	107	81.1	78.9	97	9	13-164/34
78-93-3	2-Butanone (MEK)	ND		324	241	74	324	262	81	8	51-135/20
104-51-8	n-Butylbenzene	ND		81.1	58.4	72	81.1	40.2	50	37* b	23-148/23
135-98-8	sec-Butylbenzene	ND		81.1	62.9	78	81.1	47.7	59	27* b	34-142/21
98-06-6	tert-Butylbenzene	ND		81.1	65.7	81	81.1	51.0	63	25* b	46-136/21
75-15-0	Carbon disulfide	ND		81.1	80.0	99	81.1	66.7	82	18	49-134/22
56-23-5	Carbon tetrachloride	ND		81.1	85.6	106	81.1	75.0	92	13	60-133/16
108-90-7	Chlorobenzene	ND		81.1	74.9	92	81.1	61.6	76	19* a	58-126/17
75-00-3	Chloroethane	ND		81.1	94.8	117	81.1	81.6	101	15	18-165/38
67-66-3	Chloroform	ND		81.1	81.3	100	81.1	73.6	91	10	60-125/14
74-87-3	Chloromethane	ND		81.1	92.9	115	81.1	78.0	96	17* a	43-145/16
95-49-8	o-Chlorotoluene	ND		81.1	69.1	85	81.1	55.5	68	22* b	53-128/18
106-43-4	p-Chlorotoluene	ND		81.1	64.2	79	81.1	52.3	64	20* b	49-126/19
96-12-8	1,2-Dibromo-3-chloropropane	ND		81.1	78.6	97	81.1	61.4	76	25* b	43-133/18
124-48-1	Dibromochloromethane	ND		81.1	87.7	108	81.1	74.7	92	16* a	68-131/14
106-93-4	1,2-Dibromoethane	ND		81.1	83.8	103	81.1	73.3	90	13	63-127/14
95-50-1	1,2-Dichlorobenzene	ND		81.1	68.7	85	81.1	50.7	63	30* b	46-130/18
541-73-1	1,3-Dichlorobenzene	ND		81.1	69.4	86	81.1	52.8	65	27* b	45-129/19
106-46-7	1,4-Dichlorobenzene	ND		81.1	66.6	82	81.1	50.4	62	28* b	43-129/19
75-71-8	Dichlorodifluoromethane	ND		81.1	100	123	81.1	94.4	116	6	35-157/16
75-34-3	1,1-Dichloroethane	ND		81.1	78.3	97	81.1	82.0	101	5	63-130/14
107-06-2	1,2-Dichloroethane	ND		81.1	83.1	102	81.1	79.2	98	5	61-118/14
75-35-4	1,1-Dichloroethene	ND		81.1	74.5	92	81.1	68.4	84	9	55-135/15
156-59-2	cis-1,2-Dichloroethene	ND		81.1	72.7	90	81.1	74.8	92	3	55-131/15
156-60-5	trans-1,2-Dichloroethene	ND		81.1	72.4	89	81.1	69.9	86	4	54-135/16
78-87-5	1,2-Dichloropropane	ND		81.1	74.9	92	81.1	71.9	89	4	68-123/14
142-28-9	1,3-Dichloropropane	ND		81.1	80.9	100	81.1	74.8	92	8	67-119/15
594-20-7	2,2-Dichloropropane	ND		81.1	73.8	91	81.1	74.2	91	1	50-131/15
563-58-6	1,1-Dichloropropene	ND		81.1	80.0	99	81.1	72.1	89	10	60-129/17
10061-01-5	cis-1,3-Dichloropropene	ND		81.1	83.4	103	81.1	69.4	86	18* a	65-123/16

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD32428-1MS	1C181463.D	1	10/02/21	PS	n/a	n/a	V1C7900
JD32428-1MSD	1C181464.D	1	10/02/21	PS	n/a	n/a	V1C7900
JD32428-1	1C181458.D	1	10/02/21	PS	n/a	n/a	V1C7900

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32315-2, JD32315-5, JD32315-9, JD32315-11, JD32315-14, JD32315-17, JD32315-20, JD32315-23, JD32315-26

CAS No.	Compound	JD32428-1 ug/kg	Spike Q	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD	
10061-02-6	trans-1,3-Dichloropropene	ND		81.1	87.5	108	81.1	76.0	94	14	63-128/15
100-41-4	Ethylbenzene	ND		81.1	71.4	88	81.1	59.8	74	18* a	48-135/17
87-68-3	Hexachlorobutadiene	ND		81.1	57.0	70	81.1	32.0	39	56* b	10-151/30
591-78-6	2-Hexanone	ND		324	265	82	324	265	82	0	55-127/16
74-88-4	Iodomethane	ND		81.1	76.7	95	81.1	76.6	94	0	23-174/24
98-82-8	Isopropylbenzene	ND		81.1	70.9	87	81.1	58.3	72	20* a	46-139/19
99-87-6	p-Isopropyltoluene	ND		81.1	65.2	80	81.1	49.7	61	27* b	36-142/21
1634-04-4	Methyl Tert Butyl Ether	ND		81.1	79.6	98	81.1	79.9	99	0	62-128/13
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		324	278	86	324	242	75	14	59-125/18
74-95-3	Methylene bromide	ND		81.1	81.5	100	81.1	71.7	88	13	68-120/15
75-09-2	Methylene chloride	ND		81.1	73.8	91	81.1	71.9	89	3	59-127/14
91-20-3	Naphthalene	ND		81.1	65.1	80	81.1	45.2	56	36* b	10-160/31
103-65-1	n-Propylbenzene	ND		81.1	64.2	79	81.1	52.2	64	21* b	35-140/19
100-42-5	Styrene	ND		81.1	72.0	89	81.1	60.2	74	18	52-136/18
630-20-6	1,1,1,2-Tetrachloroethane	ND		81.1	81.4	100	81.1	68.6	85	17	68-132/17
79-34-5	1,1,2,2-Tetrachloroethane	ND		81.1	64.6	80	81.1	61.6	76	5	53-127/20
127-18-4	Tetrachloroethene	ND		81.1	79.6	98	81.1	65.6	81	19	50-138/19
108-88-3	Toluene	ND		81.1	80.2	99	81.1	66.2	82	19* a	57-129/16
87-61-6	1,2,3-Trichlorobenzene	ND		81.1	64.3	79	81.1	36.4	45	55* b	13-152/29
120-82-1	1,2,4-Trichlorobenzene	ND		81.1	65.7	81	81.1	37.9	47	54* b	15-153/27
71-55-6	1,1,1-Trichloroethane	ND		81.1	88.0	109	81.1	77.8	96	12	60-134/15
79-00-5	1,1,2-Trichloroethane	ND		81.1	84.9	105	81.1	75.7	93	11	56-137/14
79-01-6	Trichloroethene	ND		81.1	81.3	100	81.1	71.5	88	13	52-144/19
75-69-4	Trichlorofluoromethane	ND		81.1	103	127	81.1	91.7	113	12	48-144/27
96-18-4	1,2,3-Trichloropropane	ND		81.1	73.3	90	81.1	69.3	85	6	57-126/18
95-63-6	1,2,4-Trimethylbenzene	ND		81.1	69.2	85	81.1	56.0	69	21* b	38-137/18
108-67-8	1,3,5-Trimethylbenzene	ND		81.1	69.3	85	81.1	55.5	68	22* b	39-139/18
108-05-4	Vinyl Acetate	ND		81.1	48.7	60	81.1	42.7	53	13	17-143/43
75-01-4	Vinyl chloride	ND		81.1	98.4	121	81.1	96.0	118	2	44-152/15
	m,p-Xylene	ND		162	144	89	162	116	72	22* b	53-130/17
95-47-6	o-Xylene	ND		81.1	75.7	93	81.1	63.9	79	17* a	52-135/16
1330-20-7	Xylene (total)	ND		243	220	90	243	180	74	20* a	54-131/16

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD32428-1MS	1C181463.D	1	10/02/21	PS	n/a	n/a	V1C7900
JD32428-1MSD	1C181464.D	1	10/02/21	PS	n/a	n/a	V1C7900
JD32428-1	1C181458.D	1	10/02/21	PS	n/a	n/a	V1C7900

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32315-2, JD32315-5, JD32315-9, JD32315-11, JD32315-14, JD32315-17, JD32315-20, JD32315-23, JD32315-26

CAS No.	Surrogate Recoveries	MS	MSD	JD32428-1	Limits
1868-53-7	Dibromofluoromethane	103%	102%	96%	72-130%
17060-07-0	1,2-Dichloroethane-D4	113%	105%	102%	75-131%
2037-26-5	Toluene-D8	108%	105%	104%	81-121%
460-00-4	4-Bromofluorobenzene	96%	101%	96%	60-141%

(a) Analytical precision exceeds in-house control limits.

(b) Outside control limits due to matrix interference.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD32528-16AMS	2V81422.D	5	10/07/21	JS	n/a	n/a	V2V3357
JD32528-16AMSD	2V81423.D	5	10/07/21	JS	n/a	n/a	V2V3357
JD32528-16A	2V81418.D	5	10/07/21	JS	10/03/21	GP36203	V2V3357

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	JD32528-16ASpike		MS	MS	Spike	MSD	MSD	RPD	Limits
		ug/l	Q ug/l	ug/l	%		ug/l	%		Rec/RPD
71-43-2	Benzene	ND	250	256	102	250	253	101	1	38-139/13
78-93-3	2-Butanone (MEK)	ND	1000	987	99	1000	945	95	4	58-140/14
56-23-5	Carbon tetrachloride	ND	250	218	87	250	216	86	1	50-161/18
108-90-7	Chlorobenzene	ND	250	234	94	250	232	93	1	65-128/12
67-66-3	Chloroform	10.7	B 250	230	88	250	229	87	0	66-132/14
106-46-7	1,4-Dichlorobenzene	ND	250	220	88	250	222	89	1	63-126/13
107-06-2	1,2-Dichloroethane	ND	250	266	106	250	257	103	3	59-153/15
75-35-4	1,1-Dichloroethene	ND	250	236	94	250	238	95	1	41-144/17
127-18-4	Tetrachloroethene	ND	250	213	85	250	215	86	1	48-145/15
79-01-6	Trichloroethene	ND	250	238	95	250	240	96	1	53-141/15
75-01-4	Vinyl chloride	ND	250	274	110	250	270	108	1	34-151/20

CAS No.	Surrogate Recoveries	MS	MSD	JD32528-16ALimits	
1868-53-7	Dibromofluoromethane	95%	94%	97%	76-120%
17060-07-0	1,2-Dichloroethane-D4	112%	108%	111%	64-135%
2037-26-5	Toluene-D8	101%	100%	103%	76-117%
460-00-4	4-Bromofluorobenzene	97%	98%	105%	72-122%

* = Outside of Control Limits.

Leachate Spike Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GP36195-LS8	1A214865A.D	5	10/06/21	ED	10/01/21	GP36195	V1A9274
JD32442-64A	1A214861.D	5	10/06/21	ED	10/01/21	GP36195	V1A9274

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	JD32442-64ASpike		LS	LS	Limits	
		ug/l	Q ug/l	ug/l	%		
71-43-2	Benzene	ND		250	245	98	38-139
78-93-3	2-Butanone (MEK)	ND		1000	904	90	58-140
56-23-5	Carbon tetrachloride	ND		250	237	95	50-161
108-90-7	Chlorobenzene	ND		250	245	98	65-128
67-66-3	Chloroform	14.4	B	250	229	86	66-132
106-46-7	1,4-Dichlorobenzene	ND		250	247	99	63-126
107-06-2	1,2-Dichloroethane	ND		250	221	88	59-153
75-35-4	1,1-Dichloroethene	ND		250	234	94	41-144
127-18-4	Tetrachloroethene	ND		250	230	92	48-145
79-01-6	Trichloroethene	ND		250	252	101	53-141
75-01-4	Vinyl chloride	ND		250	228	91	34-151

CAS No.	Surrogate Recoveries	LS	JD32442-64ALimits
1868-53-7	Dibromofluoromethane	97%	99% 76-120%
17060-07-0	1,2-Dichloroethane-D4	96%	100% 64-135%
2037-26-5	Toluene-D8	97%	101% 76-117%
460-00-4	4-Bromofluorobenzene	101%	101% 72-122%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	V1A9258-BFB	Injection Date:	09/26/21
Lab File ID:	1A214394.D	Injection Time:	23:53
Instrument ID:	GCMS1A		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	25210	21.0	Pass
75	30.0 - 60.0% of mass 95	58968	49.2	Pass
95	Base peak, 100% relative abundance	119837	100.0	Pass
96	5.0 - 9.0% of mass 95	8107	6.77	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 120.0% of mass 95	105720	88.2	Pass
175	5.0 - 9.0% of mass 174	8408	7.02 (7.95) ^a	Pass
176	95.0 - 101.0% of mass 174	103672	86.5 (98.1) ^a	Pass
177	5.0 - 9.0% of mass 176	6471	5.40 (6.24) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V1A9258-IC9258	1A214395.D	09/27/21	00:12	00:19	Initial cal 0.2
V1A9258-IC9258	1A214396.D	09/27/21	00:32	00:39	Initial cal 0.5
V1A9258-IC9258	1A214397.D	09/27/21	00:51	00:58	Initial cal 1
V1A9258-IC9258	1A214398.D	09/27/21	01:10	01:17	Initial cal 2
V1A9258-IC9258	1A214399.D	09/27/21	01:29	01:36	Initial cal 4
V1A9258-IC9258	1A214400.D	09/27/21	01:48	01:55	Initial cal 8
V1A9258-IC9258	1A214401.D	09/27/21	02:08	02:15	Initial cal 20
V1A9258-ICC9258	1A214402.D	09/27/21	02:27	02:34	Initial cal 50
V1A9258-IC9258	1A214403.D	09/27/21	02:46	02:53	Initial cal 100
V1A9258-IC9258	1A214404.D	09/27/21	03:05	03:12	Initial cal 200
V1A9258-ICV9258	1A214407.D	09/27/21	04:03	04:10	Initial cal verification 50
V1A9258-ICV9258	1A214408.D	09/27/21	04:22	04:29	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	V1A9274-BFB	Injection Date:	10/05/21
Lab File ID:	1A214844.D	Injection Time:	18:53
Instrument ID:	GCMS1A		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	28001	19.6	Pass
75	30.0 - 60.0% of mass 95	67387	47.1	Pass
95	Base peak, 100% relative abundance	143104	100.0	Pass
96	5.0 - 9.0% of mass 95	9032	6.31	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 120.0% of mass 95	130672	91.3	Pass
175	5.0 - 9.0% of mass 174	9811	6.86 (7.51) ^a	Pass
176	95.0 - 101.0% of mass 174	127413	89.0 (97.5) ^a	Pass
177	5.0 - 9.0% of mass 176	8638	6.04 (6.78) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V1A9274-CC9258	1A214844.D	10/05/21	18:53	00:00	Continuing cal 50
V1A9274-BS	1A214846.D	10/05/21	19:32	00:39	Blank Spike
V1A9274-MB	1A214848.D	10/05/21	20:12	01:19	Method Blank
GP36130-LB2	1A214849.D	10/05/21	20:31	01:38	Leachate Blank
GP36123-LB3	1A214850.D	10/05/21	20:51	01:58	Leachate Blank
GP36123-LB4	1A214851.D	10/05/21	21:11	02:18	Leachate Blank
GP36195-LB8	1A214852.D	10/05/21	21:31	02:38	Leachate Blank
GP36203-LB10	1A214853.D	10/05/21	21:51	02:58	Leachate Blank
ZZZZZZ	1A214854.D	10/05/21	22:10	03:17	(unrelated sample)
ZZZZZZ	1A214855.D	10/05/21	22:30	03:37	(unrelated sample)
ZZZZZZ	1A214856.D	10/05/21	22:50	03:57	(unrelated sample)
ZZZZZZ	1A214857.D	10/05/21	23:10	04:17	(unrelated sample)
ZZZZZZ	1A214858.D	10/05/21	23:29	04:36	(unrelated sample)
ZZZZZZ	1A214859.D	10/05/21	23:49	04:56	(unrelated sample)
ZZZZZZ	1A214860.D	10/06/21	00:09	05:16	(unrelated sample)
JD32442-64A	1A214861.D	10/06/21	00:29	05:36	(used for QC only; not part of job JD32315)
ZZZZZZ	1A214862.D	10/06/21	00:48	05:55	(unrelated sample)
GP36130-LS2	1A214863.D	10/06/21	01:08	06:15	Leachate Spike
GP36123-LS3	1A214864.D	10/06/21	01:28	06:35	Leachate Spike
JD32442-64AMS	1A214865.D	10/06/21	01:47	06:54	Matrix Spike
GP36195-LS8	1A214865A.D	10/06/21	01:47	06:54	Leachate Spike
JD32442-64AMSD	1A214866.D	10/06/21	02:07	07:14	Matrix Spike Duplicate
ZZZZZZ	1A214868.D	10/06/21	02:46	07:53	(unrelated sample)
ZZZZZZ	1A214869.D	10/06/21	03:06	08:13	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JD32315
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Sample:	V1A9274-BFB	Injection Date:	10/05/21
Lab File ID:	1A214844.D	Injection Time:	18:53
Instrument ID:	GCMS1A		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	1A214870.D	10/06/21	03:26	08:33	(unrelated sample)
ZZZZZZ	1A214871.D	10/06/21	03:45	08:52	(unrelated sample)
ZZZZZZ	1A214872.D	10/06/21	04:05	09:12	(unrelated sample)
ZZZZZZ	1A214873.D	10/06/21	04:25	09:32	(unrelated sample)
V1A9275-BS100	1A214876.D	10/06/21	05:23	10:30	Blank Spike
V1A9275-BS100	1A214877.D	10/06/21	05:43	10:50	Blank Spike
V1A9275-BS100	1A214878.D	10/06/21	06:03	11:10	Blank Spike
V1A9275-BS100	1A214879.D	10/06/21	06:22	11:29	Blank Spike

6.6.2

6

Instrument Performance Check (BFB)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	V1C7827-BFB	Injection Date:	07/15/21
Lab File ID:	1C179464.D	Injection Time:	19:04
Instrument ID:	GCMS1C		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	10860	16.2	Pass
75	30.0 - 60.0% of mass 95	29650	44.3	Pass
95	Base peak, 100% relative abundance	66877	100.0	Pass
96	5.0 - 9.0% of mass 95	4243	6.34	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 120.0% of mass 95	58986	88.2	Pass
175	5.0 - 9.0% of mass 174	4574	6.84 (7.75) ^a	Pass
176	95.0 - 101.0% of mass 174	57141	85.4 (96.9) ^a	Pass
177	5.0 - 9.0% of mass 176	3651	5.46 (6.39) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V1C7827-IC7827	1C179465.D	07/15/21	19:34	00:30	Initial cal 0.2
V1C7827-IC7827	1C179466.D	07/15/21	20:01	00:57	Initial cal 0.5
V1C7827-IC7827	1C179467.D	07/15/21	20:28	01:24	Initial cal 1
V1C7827-IC7827	1C179468.D	07/15/21	20:56	01:52	Initial cal 2
V1C7827-IC7827	1C179469.D	07/15/21	21:23	02:19	Initial cal 4
V1C7827-IC7827	1C179470.D	07/15/21	21:50	02:46	Initial cal 8
V1C7827-IC7827	1C179471.D	07/15/21	22:17	03:13	Initial cal 20
V1C7827-ICC7827	1C179472.D	07/15/21	22:44	03:40	Initial cal 50
V1C7827-IC7827	1C179473.D	07/15/21	23:11	04:07	Initial cal 100
V1C7827-IC7827	1C179474.D	07/15/21	23:38	04:34	Initial cal 200
V1C7827-ICV7827	1C179477.D	07/16/21	01:00	05:56	Initial cal verification 50
V1C7827-ICV7827	1C179478.D	07/16/21	01:27	06:23	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	V1C7827-BFB2	Injection Date:	07/16/21
Lab File ID:	1C179480.D	Injection Time:	11:04
Instrument ID:	GCMS1C		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	12305	16.4	Pass
75	30.0 - 60.0% of mass 95	33320	44.4	Pass
95	Base peak, 100% relative abundance	74986	100.0	Pass
96	5.0 - 9.0% of mass 95	5062	6.75	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 120.0% of mass 95	67389	89.9	Pass
175	5.0 - 9.0% of mass 174	5194	6.93 (7.71) ^a	Pass
176	95.0 - 101.0% of mass 174	65469	87.3 (97.2) ^a	Pass
177	5.0 - 9.0% of mass 176	4307	5.74 (6.58) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V1C7827-ICV7827	1C179481.D	07/16/21	11:34	00:30	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	V1C7900-BFB	Injection Date:	10/02/21
Lab File ID:	1C181454.D	Injection Time:	12:51
Instrument ID:	GCMS1C		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	11456	17.3	Pass
75	30.0 - 60.0% of mass 95	31360	47.4	Pass
95	Base peak, 100% relative abundance	66120	100.0	Pass
96	5.0 - 9.0% of mass 95	4334	6.55	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 120.0% of mass 95	60299	91.2	Pass
175	5.0 - 9.0% of mass 174	4620	6.99 (7.66) ^a	Pass
176	95.0 - 101.0% of mass 174	58667	88.7 (97.3) ^a	Pass
177	5.0 - 9.0% of mass 176	4027	6.09 (6.86) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V1C7900-CC7827	1C181454.D	10/02/21	12:51	00:00	Continuing cal 50
V1C7900-BS	1C181455.D	10/02/21	13:28	00:37	Blank Spike
ZZZZZZ	1C181457A.D	10/02/21	14:38	01:47	(unrelated sample)
V1C7900-MB	1C181457.D	10/02/21	14:38	01:47	Method Blank
JD32428-1	1C181458.D	10/02/21	15:27	02:36	(used for QC only; not part of job JD32315)
ZZZZZZ	1C181459.D	10/02/21	15:54	03:03	(unrelated sample)
ZZZZZZ	1C181460.D	10/02/21	16:22	03:31	(unrelated sample)
ZZZZZZ	1C181461.D	10/02/21	16:49	03:58	(unrelated sample)
JD32428-1MS	1C181463.D	10/02/21	17:44	04:53	Matrix Spike
JD32428-1MSD	1C181464.D	10/02/21	18:11	05:20	Matrix Spike Duplicate
ZZZZZZ	1C181466.D	10/02/21	19:07	06:16	(unrelated sample)
JD32315-2	1C181467.D	10/02/21	19:34	06:43	B-106-B
JD32315-5	1C181468.D	10/02/21	20:02	07:11	H-104-B
JD32315-9	1C181469.D	10/02/21	20:29	07:38	DUP-B
JD32315-11	1C181470.D	10/02/21	20:56	08:05	H-101-B
JD32315-14	1C181471.D	10/02/21	21:24	08:33	B-103-B
JD32315-17	1C181472.D	10/02/21	21:51	09:00	H-102-B
JD32315-23	1C181473.D	10/02/21	22:19	09:28	B-105-B(20-24')
JD32315-26	1C181474.D	10/02/21	22:46	09:55	B-104-B
JD32315-20	1C181475.D	10/02/21	23:13	10:22	B-102-B
ZZZZZZ	1C181476.D	10/02/21	23:40	10:49	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	V2V3279-BFB	Injection Date:	08/07/21
Lab File ID:	2V79378.D	Injection Time:	13:22
Instrument ID:	GCMS2V		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	6527	18.2	Pass
75	30.0 - 60.0% of mass 95	17295	48.2	Pass
95	Base peak, 100% relative abundance	35917	100.0	Pass
96	5.0 - 9.0% of mass 95	2271	6.32	Pass
173	Less than 2.0% of mass 174	150	0.42 (0.46) ^a	Pass
174	50.0 - 120.0% of mass 95	32520	90.5	Pass
175	5.0 - 9.0% of mass 174	2423	6.75 (7.45) ^a	Pass
176	95.0 - 101.0% of mass 174	31784	88.5 (97.7) ^a	Pass
177	5.0 - 9.0% of mass 176	2114	5.89 (6.65) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V2V3279-IC3279	2V79379.D	08/07/21	13:55	00:33	Initial cal 0.2
V2V3279-IC3279	2V79380.D	08/07/21	14:20	00:58	Initial cal 0.5
V2V3279-IC3279	2V79381.D	08/07/21	14:46	01:24	Initial cal 1
V2V3279-IC3279	2V79382.D	08/07/21	15:12	01:50	Initial cal 2
V2V3279-IC3279	2V79383.D	08/07/21	15:37	02:15	Initial cal 4
V2V3279-IC3279	2V79384.D	08/07/21	16:03	02:41	Initial cal 8
V2V3279-IC3279	2V79385.D	08/07/21	16:29	03:07	Initial cal 20
V2V3279-ICC3279	2V79386.D	08/07/21	16:54	03:32	Initial cal 50
V2V3279-IC3279	2V79387.D	08/07/21	17:20	03:58	Initial cal 100
V2V3279-IC3279	2V79388.D	08/07/21	17:46	04:24	Initial cal 200
V2V3279-ICV3279	2V79391.D	08/07/21	19:03	05:41	Initial cal verification 50
V2V3279-ICV3279	2V79392.D	08/07/21	19:28	06:06	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample: V2V3279-BFB2	Injection Date: 08/10/21
Lab File ID: 2V79396.D	Injection Time: 12:34
Instrument ID: GCMS2V	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	7214	18.3	Pass
75	30.0 - 60.0% of mass 95	18717	47.5	Pass
95	Base peak, 100% relative abundance	39395	100.0	Pass
96	5.0 - 9.0% of mass 95	2683	6.81	Pass
173	Less than 2.0% of mass 174	258	0.65 (0.72) ^a	Pass
174	50.0 - 120.0% of mass 95	35683	90.6	Pass
175	5.0 - 9.0% of mass 174	2736	6.95 (7.67) ^a	Pass
176	95.0 - 101.0% of mass 174	34363	87.2 (96.3) ^a	Pass
177	5.0 - 9.0% of mass 176	2336	5.93 (6.80) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V2V3279-ICV3279	2V79397.D	08/10/21	13:00	00:26	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	V2V3357-BFB	Injection Date:	10/06/21
Lab File ID:	2V81412.D	Injection Time:	22:25
Instrument ID:	GCMS2V		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	7467	19.2	Pass
75	30.0 - 60.0% of mass 95	18808	48.5	Pass
95	Base peak, 100% relative abundance	38792	100.0	Pass
96	5.0 - 9.0% of mass 95	2506	6.46	Pass
173	Less than 2.0% of mass 174	152	0.39 (0.44) ^a	Pass
174	50.0 - 120.0% of mass 95	34224	88.2	Pass
175	5.0 - 9.0% of mass 174	2627	6.77 (7.68) ^a	Pass
176	95.0 - 101.0% of mass 174	33293	85.8 (97.3) ^a	Pass
177	5.0 - 9.0% of mass 176	2169	5.59 (6.51) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V2V3357-CC3279	2V81412.D	10/06/21	22:25	00:00	Continuing cal 50
V2V3357-BS	2V81414.D	10/06/21	23:17	00:52	Blank Spike
V2V3357-MB	2V81416.D	10/07/21	00:09	01:44	Method Blank
GP36195-LB9	2V81417.D	10/07/21	00:35	02:10	Leachate Blank
JD32528-16A	2V81418.D	10/07/21	01:01	02:36	(used for QC only; not part of job JD32315)
ZZZZZ	2V81419.D	10/07/21	01:27	03:02	(unrelated sample)
ZZZZZ	2V81420.D	10/07/21	01:54	03:29	(unrelated sample)
ZZZZZ	2V81421.D	10/07/21	02:20	03:55	(unrelated sample)
GP36203-LS10	2V81422A.D	10/07/21	02:46	04:21	Leachate Spike
JD32528-16AMS	2V81422.D	10/07/21	02:46	04:21	Matrix Spike
JD32528-16AMSD	2V81423.D	10/07/21	03:12	04:47	Matrix Spike Duplicate
ZZZZZ	2V81425.D	10/07/21	04:04	05:39	(unrelated sample)
JD32315-3	2V81426.D	10/07/21	04:30	06:05	B-106-C
JD32315-6	2V81427.D	10/07/21	04:56	06:31	H-104-C1
JD32315-7	2V81428.D	10/07/21	05:23	06:58	H-104-C2
JD32315-12	2V81429.D	10/07/21	05:49	07:24	H-101-C
JD32315-15	2V81430.D	10/07/21	06:15	07:50	B-103-C
JD32315-18	2V81431.D	10/07/21	06:41	08:16	H-102-C
JD32315-21	2V81432.D	10/07/21	07:08	08:43	B-102-C
JD32315-24	2V81433.D	10/07/21	07:34	09:09	B-105-C(0.5-24')
JD32315-27	2V81434.D	10/07/21	08:00	09:35	B-104-C
ZZZZZ	2V81435.D	10/07/21	08:26	10:01	(unrelated sample)
ZZZZZ	2V81436.D	10/07/21	08:53	10:28	(unrelated sample)

Surrogate Recovery Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Method: SW846 8260D	Matrix: LEACHATE
---------------------	------------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JD32315-3	2V81426.D	93	110	102	102
JD32315-6	2V81427.D	94	109	103	102
JD32315-7	2V81428.D	95	110	103	102
JD32315-12	2V81429.D	96	112	103	104
JD32315-15	2V81430.D	97	111	104	105
JD32315-18	2V81431.D	98	112	102	102
JD32315-21	2V81432.D	96	112	103	103
JD32315-24	2V81433.D	95	110	106	105
JD32315-27	2V81434.D	97	112	103	106
GP36195-LB9	2V81417.D	95	111	102	103
GP36195-LS8	1A214865A.D	97	96	97	101
JD32528-16AMS	2V81422.D	95	112	101	97
JD32528-16AMSD	2V81423.D	94	108	100	98
V2V3357-BS	2V81414.D	95	113	99	99
V2V3357-MB	2V81416.D	94	109	103	103
GP36195-LB8	1A214852.D	96	101	102	103
V1A9274-MB	1A214848.D	97	98	103	99

Surrogate Compounds	Recovery Limits
----------------------------	------------------------

S1 = Dibromofluoromethane	76-120%
S2 = 1,2-Dichloroethane-D4	64-135%
S3 = Toluene-D8	76-117%
S4 = 4-Bromofluorobenzene	72-122%

6.7.1

6

Surrogate Recovery Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Method: SW846 8260D	Matrix: SO
---------------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JD32315-2	1C181467.D	100	111	108	93
JD32315-5	1C181468.D	101	109	106	98
JD32315-9	1C181469.D	101	110	103	99
JD32315-11	1C181470.D	102	111	101	96
JD32315-14	1C181471.D	104	118	101	91
JD32315-17	1C181472.D	102	111	99	91
JD32315-20	1C181475.D	104	116	103	96
JD32315-23	1C181473.D	104	115	103	96
JD32315-26	1C181474.D	101	115	102	100
JD32428-1MS	1C181463.D	103	113	108	96
JD32428-1MSD	1C181464.D	102	105	105	101
V1C7900-BS	1C181455.D	97	106	103	97
V1C7900-MB	1C181457.D	97	105	103	96

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	72-130%
S2 = 1,2-Dichloroethane-D4	75-131%
S3 = Toluene-D8	81-121%
S4 = 4-Bromofluorobenzene	60-141%

6.7.2
6

MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (DFTPP)
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35710-MB1	2P103267.D	1	10/05/21	KLS	10/04/21	OP35710	E2P4638

The QC reported here applies to the following samples: Method: SW846 8270E

JD32315-1, JD32315-2, JD32315-4, JD32315-5, JD32315-9, JD32315-10, JD32315-11, JD32315-13, JD32315-14, JD32315-16, JD32315-17, JD32315-19, JD32315-20, JD32315-23, JD32315-25

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	33	11	ug/kg	
208-96-8	Acenaphthylene	ND	33	17	ug/kg	
120-12-7	Anthracene	ND	33	20	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	9.4	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	15	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	15	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	33	16	ug/kg	
218-01-9	Chrysene	ND	33	10	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	33	15	ug/kg	
206-44-0	Fluoranthene	ND	33	15	ug/kg	
86-73-7	Fluorene	ND	33	15	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	33	16	ug/kg	
91-20-3	Naphthalene	ND	33	9.4	ug/kg	
85-01-8	Phenanthrene	ND	33	11	ug/kg	
129-00-0	Pyrene	ND	33	11	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
4165-60-0	Nitrobenzene-d5	53%	15-114%
321-60-8	2-Fluorobiphenyl	58%	22-104%
1718-51-0	Terphenyl-d14	69%	23-121%

7.1.1
7

Method Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35710-MB1	M175457.D	1	10/05/21	KLS	10/04/21	OP35710	EM7542

The QC reported here applies to the following samples: Method: SW846 8270E

JD32315-1, JD32315-2, JD32315-4, JD32315-5, JD32315-9, JD32315-10, JD32315-11, JD32315-13, JD32315-14, JD32315-16, JD32315-17, JD32315-19, JD32315-20, JD32315-23, JD32315-25

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	33	11	ug/kg	
208-96-8	Acenaphthylene	ND	33	17	ug/kg	
120-12-7	Anthracene	ND	33	20	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	9.4	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	15	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	15	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	33	16	ug/kg	
218-01-9	Chrysene	ND	33	10	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	33	15	ug/kg	
206-44-0	Fluoranthene	ND	33	15	ug/kg	
86-73-7	Fluorene	ND	33	15	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	33	16	ug/kg	
91-20-3	Naphthalene	ND	33	9.4	ug/kg	
85-01-8	Phenanthrene	ND	33	11	ug/kg	
129-00-0	Pyrene	ND	33	11	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
4165-60-0	Nitrobenzene-d5	53%	15-114%
321-60-8	2-Fluorobiphenyl	55%	22-104%
1718-51-0	Terphenyl-d14	59%	23-121%

7.1.2
7

Method Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35857-MB1	6P502004.D	1	10/10/21	CS	10/08/21	OP35857	E6P3522

The QC reported here applies to the following samples:

Method: SW846 8270E

JD32315-8, JD32315-22, JD32315-26

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	33	11	ug/kg	
208-96-8	Acenaphthylene	ND	33	17	ug/kg	
120-12-7	Anthracene	ND	33	20	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	9.4	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	15	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	15	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	33	16	ug/kg	
218-01-9	Chrysene	ND	33	10	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	33	15	ug/kg	
206-44-0	Fluoranthene	ND	33	15	ug/kg	
86-73-7	Fluorene	ND	33	15	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	33	16	ug/kg	
91-20-3	Naphthalene	ND	33	9.4	ug/kg	
85-01-8	Phenanthrene	ND	33	11	ug/kg	
129-00-0	Pyrene	ND	33	11	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
367-12-4	2-Fluorophenol	57%	7-101%
4165-62-2	Phenol-d5	55%	12-101%
118-79-6	2,4,6-Tribromophenol	67%	10-127%
4165-60-0	Nitrobenzene-d5	55%	15-114%
321-60-8	2-Fluorobiphenyl	59%	22-104%
1718-51-0	Terphenyl-d14	78%	23-121%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	2.07	370	ug/kg	J
	system artifact	3.27	230	ug/kg	J
	system artifact/aldol-condensation	3.32	350	ug/kg	J
	system artifact	3.45	170	ug/kg	J
	Total TIC, Semi-Volatile		0	ug/kg	

7.1.3
7

Method Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35857-MB1	Z152175.D	1	10/11/21	BL	10/08/21	OP35857	EZ7569

The QC reported here applies to the following samples:

Method: SW846 8270E

JD32315-8, JD32315-22, JD32315-26

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	33	11	ug/kg	
208-96-8	Acenaphthylene	ND	33	17	ug/kg	
120-12-7	Anthracene	ND	33	20	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	9.4	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	15	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	15	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	33	16	ug/kg	
218-01-9	Chrysene	ND	33	10	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	33	15	ug/kg	
206-44-0	Fluoranthene	ND	33	15	ug/kg	
86-73-7	Fluorene	ND	33	15	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	33	16	ug/kg	
91-20-3	Naphthalene	ND	33	9.4	ug/kg	
85-01-8	Phenanthrene	ND	33	11	ug/kg	
129-00-0	Pyrene	ND	33	11	ug/kg	

CAS No.	Surrogate Recoveries	Limits
367-12-4	2-Fluorophenol	56% 7-101%
4165-62-2	Phenol-d5	55% 12-101%
118-79-6	2,4,6-Tribromophenol	68% 10-127%
4165-60-0	Nitrobenzene-d5	62% 15-114%
321-60-8	2-Fluorobiphenyl	60% 22-104%
1718-51-0	Terphenyl-d14	68% 23-121%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	System artifact	2.71	280	ug/kg	J
	System artifact/aldol-condensation	2.78	470	ug/kg	J
	System artifact	2.91	200	ug/kg	J
	Total TIC, Semi-Volatile		0	ug/kg	

7.1.4
7

Method Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35940-MB1	Z152218.D	1	10/13/21	CS	10/12/21	OP35940	EZ7572

The QC reported here applies to the following samples: Method: SW846 8270E

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Result	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	2.0	0.89	ug/l	
	3&4-Methylphenol	ND	2.0	0.88	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.4	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.3	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	0.92	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.17	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	2.0	0.55	ug/l	
118-74-1	Hexachlorobenzene	ND	2.0	0.33	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.0	0.49	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.39	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.64	ug/l	
110-86-1	Pyridine	ND	2.0	0.39	ug/l	

CAS No.	Surrogate Recoveries	Limits
367-12-4	2-Fluorophenol	34% 10-73%
4165-62-2	Phenol-d5	23% 10-64%
118-79-6	2,4,6-Tribromophenol	84% 31-130%
4165-60-0	Nitrobenzene-d5	82% 28-126%
321-60-8	2-Fluorobiphenyl	78% 26-114%
1718-51-0	Terphenyl-d14	93% 16-122%

7.1.5
7

Leachate Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35940-LB13	Z152219.D	1	10/13/21	CS	10/12/21	OP35940	EZ7572

The QC reported here applies to the following samples: Method: SW846 8270E

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Result	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	20	8.9	ug/l	
	3&4-Methylphenol	ND	20	8.8	ug/l	
87-86-5	Pentachlorophenol	ND	100	14	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	50	13	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	50	9.2	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	20	1.7	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	20	5.5	ug/l	
118-74-1	Hexachlorobenzene	ND	20	3.3	ug/l	
87-68-3	Hexachlorobutadiene	ND	10	4.9	ug/l	
67-72-1	Hexachloroethane	ND	50	3.9	ug/l	
98-95-3	Nitrobenzene	ND	20	6.4	ug/l	
110-86-1	Pyridine	ND	20	3.9	ug/l	

CAS No.	Surrogate Recoveries	Limits	
367-12-4	2-Fluorophenol	29%	10-73%
4165-62-2	Phenol-d5	20%	10-64%
118-79-6	2,4,6-Tribromophenol	81%	31-130%
4165-60-0	Nitrobenzene-d5	72%	28-126%
321-60-8	2-Fluorobiphenyl	67%	26-114%
1718-51-0	Terphenyl-d14	96%	16-122%

7.2.1
7

Leachate Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35940-LB15	Z152220.D	1	10/13/21	CS	10/12/21	OP35940	EZ7572

The QC reported here applies to the following samples: Method: SW846 8270E

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Result	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	20	8.9	ug/l	
	3&4-Methylphenol	ND	20	8.8	ug/l	
87-86-5	Pentachlorophenol	ND	100	14	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	50	13	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	50	9.2	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	20	1.7	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	20	5.5	ug/l	
118-74-1	Hexachlorobenzene	ND	20	3.3	ug/l	
87-68-3	Hexachlorobutadiene	ND	10	4.9	ug/l	
67-72-1	Hexachloroethane	ND	50	3.9	ug/l	
98-95-3	Nitrobenzene	ND	20	6.4	ug/l	
110-86-1	Pyridine	ND	20	3.9	ug/l	

CAS No.	Surrogate Recoveries	Limits
367-12-4	2-Fluorophenol	29% 10-73%
4165-62-2	Phenol-d5	21% 10-64%
118-79-6	2,4,6-Tribromophenol	87% 31-130%
4165-60-0	Nitrobenzene-d5	80% 28-126%
321-60-8	2-Fluorobiphenyl	75% 26-114%
1718-51-0	Terphenyl-d14	94% 16-122%

7.2.2
7

Leachate Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35940-LB16	Z152221.D	1	10/13/21	CS	10/12/21	OP35940	EZ7572

The QC reported here applies to the following samples: Method: SW846 8270E

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Result	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	20	8.9	ug/l	
	3&4-Methylphenol	ND	20	8.8	ug/l	
87-86-5	Pentachlorophenol	ND	100	14	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	50	13	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	50	9.2	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	20	1.7	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	20	5.5	ug/l	
118-74-1	Hexachlorobenzene	ND	20	3.3	ug/l	
87-68-3	Hexachlorobutadiene	ND	10	4.9	ug/l	
67-72-1	Hexachloroethane	ND	50	3.9	ug/l	
98-95-3	Nitrobenzene	ND	20	6.4	ug/l	
110-86-1	Pyridine	ND	20	3.9	ug/l	

CAS No.	Surrogate Recoveries	Limits	
367-12-4	2-Fluorophenol	35%	10-73%
4165-62-2	Phenol-d5	25%	10-64%
118-79-6	2,4,6-Tribromophenol	90%	31-130%
4165-60-0	Nitrobenzene-d5	75%	28-126%
321-60-8	2-Fluorobiphenyl	71%	26-114%
1718-51-0	Terphenyl-d14	96%	16-122%

7.2.3
7

Blank Spike Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35710-BS1	2P103268.D	1	10/05/21	KLS	10/04/21	OP35710	E2P4638

The QC reported here applies to the following samples: Method: SW846 8270E

JD32315-1, JD32315-2, JD32315-4, JD32315-5, JD32315-9, JD32315-10, JD32315-11, JD32315-13, JD32315-14, JD32315-16, JD32315-17, JD32315-19, JD32315-20, JD32315-23, JD32315-25

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	1670	950	57	24-129
208-96-8	Acenaphthylene	1670	906	54	25-130
120-12-7	Anthracene	1670	1020	61	28-131
56-55-3	Benzo(a)anthracene	1670	1050	63	30-130
50-32-8	Benzo(a)pyrene	1670	1060	64	27-139
205-99-2	Benzo(b)fluoranthene	1670	1050	63	32-133
191-24-2	Benzo(g,h,i)perylene	1670	988	59	24-141
207-08-9	Benzo(k)fluoranthene	1670	1090	65	26-135
218-01-9	Chrysene	1670	1070	64	29-127
53-70-3	Dibenzo(a,h)anthracene	1670	1050	63	24-135
206-44-0	Fluoranthene	1670	1020	61	31-134
86-73-7	Fluorene	1670	982	59	26-136
193-39-5	Indeno(1,2,3-cd)pyrene	1670	1040	62	26-137
91-20-3	Naphthalene	1670	925	56	26-127
85-01-8	Phenanthrene	1670	995	60	26-131
129-00-0	Pyrene	1670	1090	65	30-131

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	51%	15-114%
321-60-8	2-Fluorobiphenyl	54%	22-104%
1718-51-0	Terphenyl-d14	69%	23-121%

* = Outside of Control Limits.

7.3.1
7

Blank Spike Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35857-BS1	6P502005.D	1	10/10/21	CS	10/08/21	OP35857	E6P3522

The QC reported here applies to the following samples:

Method: SW846 8270E

JD32315-8, JD32315-22, JD32315-26

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	1670	1180	71	24-129
208-96-8	Acenaphthylene	1670	1110	67	25-130
120-12-7	Anthracene	1670	1270	76	28-131
56-55-3	Benzo(a)anthracene	1670	1310	79	30-130
50-32-8	Benzo(a)pyrene	1670	1350	81	27-139
205-99-2	Benzo(b)fluoranthene	1670	1340	80	32-133
191-24-2	Benzo(g,h,i)perylene	1670	1340	80	24-141
207-08-9	Benzo(k)fluoranthene	1670	1330	80	26-135
218-01-9	Chrysene	1670	1320	79	29-127
53-70-3	Dibenzo(a,h)anthracene	1670	1370	82	24-135
206-44-0	Fluoranthene	1670	1270	76	31-134
86-73-7	Fluorene	1670	1190	71	26-136
193-39-5	Indeno(1,2,3-cd)pyrene	1670	1400	84	26-137
91-20-3	Naphthalene	1670	1120	67	26-127
85-01-8	Phenanthrene	1670	1270	76	26-131
129-00-0	Pyrene	1670	1300	78	30-131

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	67%	7-101%
4165-62-2	Phenol-d5	65%	12-101%
118-79-6	2,4,6-Tribromophenol	83%	10-127%
4165-60-0	Nitrobenzene-d5	65%	15-114%
321-60-8	2-Fluorobiphenyl	71%	22-104%
1718-51-0	Terphenyl-d14	86%	23-121%

* = Outside of Control Limits.

7.3.2
7

Blank Spike Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35940-BS1	Z152222.D	1	10/13/21	CS	10/12/21	OP35940	EZ7572

The QC reported here applies to the following samples:

Method: SW846 8270E

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
95-48-7	2-Methylphenol	50	28.4	57	26-101
	3&4-Methylphenol	100	57.3	57	23-98
87-86-5	Pentachlorophenol	100	93.3	93	37-147
95-95-4	2,4,5-Trichlorophenol	50	43.4	87	39-125
88-06-2	2,4,6-Trichlorophenol	50	43.8	88	40-127
106-46-7	1,4-Dichlorobenzene	50	30.8	62	25-101
121-14-2	2,4-Dinitrotoluene	50	49.3	99	47-128
118-74-1	Hexachlorobenzene	50	47.2	94	46-113
87-68-3	Hexachlorobutadiene	50	32.8	66	17-111
67-72-1	Hexachloroethane	50	29.2	58	18-101
98-95-3	Nitrobenzene	50	40.6	81	36-120
110-86-1	Pyridine	50	16.4	33	10-78

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	45%	10-73%
4165-62-2	Phenol-d5	33%	10-64%
118-79-6	2,4,6-Tribromophenol	99%	31-130%
4165-60-0	Nitrobenzene-d5	83%	28-126%
321-60-8	2-Fluorobiphenyl	83%	26-114%
1718-51-0	Terphenyl-d14	91%	16-122%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35710-MS	2P103280.D	1	10/05/21	KLS	10/04/21	OP35710	E2P4638
OP35710-MSD	2P103281.D	1	10/05/21	KLS	10/04/21	OP35710	E2P4638
JD32315-1	2P103320.D	1	10/06/21	BL	10/04/21	OP35710	E2P4640

The QC reported here applies to the following samples:

Method: SW846 8270E

JD32315-1, JD32315-2, JD32315-4, JD32315-5, JD32315-9, JD32315-10, JD32315-11, JD32315-13, JD32315-14, JD32315-16, JD32315-17, JD32315-19, JD32315-20, JD32315-23, JD32315-25

CAS No.	Compound	JD32315-1 ug/kg	Spike Q	ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		1740	537	31	1740	234	13	79* a	10-145/63
208-96-8	Acenaphthylene	32.0	J	1740	533	28	1740	241	12	75* a	10-144/59
120-12-7	Anthracene	ND		1740	570	33	1740	262	15	74* a	10-153/66
56-55-3	Benzo(a)anthracene	88.2		1740	610	30	1740	295	12	70	10-157/71
50-32-8	Benzo(a)pyrene	96.8		1740	623	30	1740	300	12	70* a	10-164/67
205-99-2	Benzo(b)fluoranthene	117		1740	600	28	1740	281	9* b	72* a	10-154/69
191-24-2	Benzo(g,h,i)perylene	72.4		1740	667	34	1740	322	14	70* a	10-156/64
207-08-9	Benzo(k)fluoranthene	52.2		1740	603	32	1740	294	14	69* a	10-156/62
218-01-9	Chrysene	90.7		1740	633	31	1740	305	13	70	10-148/70
53-70-3	Dibenzo(a,h)anthracene	19.7	J	1740	664	37	1740	307	16	74* a	10-146/63
206-44-0	Fluoranthene	129		1740	535	24	1740	274	9* b	65	10-171/80
86-73-7	Fluorene	ND		1740	544	31	1740	240	14	78* a	10-148/65
193-39-5	Indeno(1,2,3-cd)pyrene	84.3		1740	691	35	1740	323	13	73* a	10-152/65
91-20-3	Naphthalene	ND		1740	517	30	1740	215	12	83* a	10-147/64
85-01-8	Phenanthrene	29.4	J	1740	571	31	1740	265	14	73	10-162/81
129-00-0	Pyrene	147		1740	710	32	1740	351	11	68	10-166/77

CAS No.	Surrogate Recoveries	MS	MSD	JD32315-1	Limits
4165-60-0	Nitrobenzene-d5	26%	11%* a	36%	15-114%
321-60-8	2-Fluorobiphenyl	29%	13%* a	41%	22-104%
1718-51-0	Terphenyl-d14	38%	19%* a	57%	23-121%

- (a) Outside of in house control limits.
- (b) Outside control limits due to matrix interference.

* = Outside of Control Limits.

7.4.1
7

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35857-MS	6P502020.D	1	10/10/21	CS	10/08/21	OP35857	E6P3522
OP35857-MSD	6P502021.D	1	10/11/21	CS	10/08/21	OP35857	E6P3522
JD31890-2 ^a	6P502022.D	1	10/11/21	CS	10/08/21	OP35857	E6P3522

The QC reported here applies to the following samples:

Method: SW846 8270E

JD32315-8, JD32315-22, JD32315-26

CAS No.	Compound	JD31890-2 ug/kg	J	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	30.2	J	1950	1360	68	1910	1360	69	0	10-145/63
208-96-8	Acenaphthylene	34.0	J	1950	1370	68	1910	1310	67	4	10-144/59
120-12-7	Anthracene	ND		1950	1430	73	1910	1440	75	1	10-153/66
56-55-3	Benzo(a)anthracene	79.1		1950	1530	74	1910	1560	77	2	10-157/71
50-32-8	Benzo(a)pyrene	41.7		1950	1510	75	1910	1520	77	1	10-164/67
205-99-2	Benzo(b)fluoranthene	87.6		1950	1480	71	1910	1520	75	3	10-154/69
191-24-2	Benzo(g,h,i)perylene	53.0		1950	1610	80	1910	1660	84	3	10-156/64
207-08-9	Benzo(k)fluoranthene	35.7	J	1950	1440	72	1910	1450	74	1	10-156/62
218-01-9	Chrysene	75.1		1950	1500	73	1910	1510	75	1	10-148/70
53-70-3	Dibenzo(a,h)anthracene	ND		1950	1650	85	1910	1700	89	3	10-146/63
206-44-0	Fluoranthene	153		1950	1620	75	1910	1580	75	3	10-171/80
86-73-7	Fluorene	25.7	J	1950	1450	73	1910	1410	72	3	10-148/65
193-39-5	Indeno(1,2,3-cd)pyrene	68.7		1950	1710	84	1910	1740	87	2	10-152/65
91-20-3	Naphthalene	154		1950	1590	74	1910	1470	69	8	10-147/64
85-01-8	Phenanthrene	122		1950	1570	74	1910	1540	74	2	10-162/81
129-00-0	Pyrene	141		1950	1600	75	1910	1620	77	1	10-166/77

CAS No.	Surrogate Recoveries	MS	MSD	JD31890-2	Limits
367-12-4	2-Fluorophenol	41%	41%		7-101%
4165-62-2	Phenol-d5	52%	55%		12-101%
118-79-6	2,4,6-Tribromophenol	79%	86%		10-127%
4165-60-0	Nitrobenzene-d5	142%* c	137%* c	219%* b	15-114%
321-60-8	2-Fluorobiphenyl	71%	74%	76%	22-104%
1718-51-0	Terphenyl-d14	82%	88%	94%	23-121%

(a) Sample extracted outside the holding time. Confirmation run.

(b) Outside of in house control limits.

(c) Outside control limits due to matrix interference.

* = Outside of Control Limits.

7.4.2
7

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35940-MS	Z152223.D	1	10/13/21	CS	10/12/21	OP35940	EZ7572
OP35940-MSD	Z152224.D	1	10/13/21	CS	10/12/21	OP35940	EZ7572
JD32315-3	Z152225.D	1	10/13/21	CS	10/12/21	OP35940	EZ7572

The QC reported here applies to the following samples:

Method: SW846 8270E

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	JD32315-3 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
95-48-7	2-Methylphenol	ND	500	292	58	500	219	44	29	10-130/32
	3&4-Methylphenol	ND	1000	587	59	1000	432	43	30	10-128/36
87-86-5	Pentachlorophenol	ND	1000	891	89	1000	899	90	1	29-154/32
95-95-4	2,4,5-Trichlorophenol	ND	500	427	85	500	419	84	2	33-130/22
88-06-2	2,4,6-Trichlorophenol	ND	500	430	86	500	421	84	2	35-129/26
106-46-7	1,4-Dichlorobenzene	ND	500	305	61	500	297	59	3	10-155/26
121-14-2	2,4-Dinitrotoluene	ND	500	465	93	500	473	95	2	21-160/23
118-74-1	Hexachlorobenzene	ND	500	443	89	500	459	92	4	40-120/21
87-68-3	Hexachlorobutadiene	ND	500	320	64	500	315	63	2	10-129/24
67-72-1	Hexachloroethane	ND	500	297	59	500	289	58	3	10-120/26
98-95-3	Nitrobenzene	ND	500	400	80	500	383	77	4	26-138/26
110-86-1	Pyridine	ND	500	185	37	500	197	39	6	10-94/49

CAS No.	Surrogate Recoveries	MS	MSD	JD32315-3	Limits
367-12-4	2-Fluorophenol	45%	32%	32%	10-73%
4165-62-2	Phenol-d5	33%	23%	23%	10-64%
118-79-6	2,4,6-Tribromophenol	97%	95%	90%	31-130%
4165-60-0	Nitrobenzene-d5	84%	77%	77%	28-126%
321-60-8	2-Fluorobiphenyl	82%	80%	74%	26-114%
1718-51-0	Terphenyl-d14	92%	90%	87%	16-122%

* = Outside of Control Limits.

Leachate Spike Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35940-LS13	Z152223.D	1	10/13/21	CS	10/12/21	OP35940	EZ7572
JD32315-3	Z152225.D	1	10/13/21	CS	10/12/21	OP35940	EZ7572

The QC reported here applies to the following samples: Method: SW846 8270E

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	JD32315-3 ug/l	Spike Q	LS ug/l	LS %	Limits
95-48-7	2-Methylphenol	ND	500	292	58	10-130
	3&4-Methylphenol	ND	1000	587	59	10-128
87-86-5	Pentachlorophenol	ND	1000	891	89	29-154
95-95-4	2,4,5-Trichlorophenol	ND	500	427	85	33-130
88-06-2	2,4,6-Trichlorophenol	ND	500	430	86	35-129
106-46-7	1,4-Dichlorobenzene	ND	500	305	61	10-155
121-14-2	2,4-Dinitrotoluene	ND	500	465	93	21-160
118-74-1	Hexachlorobenzene	ND	500	443	89	40-120
87-68-3	Hexachlorobutadiene	ND	500	320	64	10-129
67-72-1	Hexachloroethane	ND	500	297	59	10-120
98-95-3	Nitrobenzene	ND	500	400	80	26-138
110-86-1	Pyridine	ND	500	185	37	10-94

CAS No.	Surrogate Recoveries	LS	JD32315-3	Limits
367-12-4	2-Fluorophenol	45%	32%	10-73%
4165-62-2	Phenol-d5	33%	23%	10-64%
118-79-6	2,4,6-Tribromophenol	97%	90%	31-130%
4165-60-0	Nitrobenzene-d5	84%	77%	28-126%
321-60-8	2-Fluorobiphenyl	82%	74%	26-114%
1718-51-0	Terphenyl-d14	92%	87%	16-122%

* = Outside of Control Limits.

Instrument Performance Check (DFTPP)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	E2P4598-DFTPP	Injection Date:	08/31/21
Lab File ID:	2P102516.D	Injection Time:	18:08
Instrument ID:	GCMS2P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	350151	35.5	Pass
68	Less than 2.0% of mass 69	6079	0.62 (1.39) ^a	Pass
69	Mass 69 relative abundance	437796	44.4	Pass
70	Less than 2.0% of mass 69	2369	0.24 (0.54) ^a	Pass
127	40.0 - 60.0% of mass 198	455147	46.1	Pass
197	Less than 1.0% of mass 198	5525	0.56	Pass
198	Base peak, 100% relative abundance	986347	100.0	Pass
199	5.0 - 9.0% of mass 198	66784	6.77	Pass
275	10.0 - 30.0% of mass 198	282965	28.7	Pass
365	1.0 - 100.0% of mass 198	40851	4.14	Pass
441	Present, but less than mass 443	151187	15.3 (84.5) ^b	Pass
442	40.0 - 100.0% of mass 198	972629	98.6	Pass
443	17.0 - 23.0% of mass 442	178829	18.1 (18.4) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E2P4598-IC4598	2P102517.D	08/31/21	18:37	00:29	Initial cal 1
E2P4598-IC4598	2P102518.D	08/31/21	19:02	00:54	Initial cal 2
E2P4598-IC4598	2P102519.D	08/31/21	19:27	01:19	Initial cal 5
E2P4598-IC4598	2P102520.D	08/31/21	19:52	01:44	Initial cal 10
E2P4598-IC4598	2P102523.D	08/31/21	21:07	02:59	Initial cal 80
E2P4598-IC4598	2P102524.D	08/31/21	21:32	03:24	Initial cal 100
E2P4598-IC4598	2P102526.D	08/31/21	21:56	03:48	Initial cal 25
E2P4598-ICC4598	2P102527.D	08/31/21	22:22	04:14	Initial cal 50
E2P4598-ICV4598	2P102525.D	08/31/21	22:46	04:38	Initial cal verification 50

7.6.1
7

Instrument Performance Check (DFTPP)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	E2P4610-DFTPP	Injection Date:	09/08/21
Lab File ID:	2P102721.D	Injection Time:	15:01
Instrument ID:	GCMS2P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	130093	37.9	Pass
68	Less than 2.0% of mass 69	1430	0.42 (0.77) ^a	Pass
69	Mass 69 relative abundance	186139	54.2	Pass
70	Less than 2.0% of mass 69	635	0.18 (0.34) ^a	Pass
127	40.0 - 60.0% of mass 198	197104	57.4	Pass
197	Less than 1.0% of mass 198	643	0.19	Pass
198	Base peak, 100% relative abundance	343424	100.0	Pass
199	5.0 - 9.0% of mass 198	22832	6.65	Pass
275	10.0 - 30.0% of mass 198	80533	23.5	Pass
365	1.0 - 100.0% of mass 198	9764	2.84	Pass
441	Present, but less than mass 443	37216	10.8 (79.7) ^b	Pass
442	40.0 - 100.0% of mass 198	242699	70.7	Pass
443	17.0 - 23.0% of mass 442	46696	13.6 (19.2) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E2P4610-IC4610	2P102722.D	09/08/21	15:20	00:19	Initial cal 100
E2P4610-IC4610	2P102723.D	09/08/21	15:47	00:46	Initial cal 1
E2P4610-IC4610	2P102724.D	09/08/21	16:12	01:11	Initial cal 80
E2P4610-IC4610	2P102725.D	09/08/21	16:39	01:38	Initial cal 2
E2P4610-ICC4610	2P102726.D	09/08/21	17:05	02:04	Initial cal 50
E2P4610-IC4610	2P102727.D	09/08/21	17:31	02:30	Initial cal 5
E2P4610-IC4610	2P102728.D	09/08/21	17:57	02:56	Initial cal 25
E2P4610-IC4610	2P102729.D	09/08/21	18:23	03:22	Initial cal 10
E2P4610-ICV4610	2P102730.D	09/08/21	18:49	03:48	Initial cal verification 50
E2P4610-ICV4610	2P102731.D	09/08/21	19:15	04:14	Initial cal verification 50
E2P4610-ICV4610	2P102732.D	09/08/21	19:42	04:41	Initial cal verification 50

7.6.2
7

Instrument Performance Check (DFTPP)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	E2P4611-DFTPP	Injection Date:	09/09/21
Lab File ID:	2P102735.D	Injection Time:	14:20
Instrument ID:	GCMS2P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	128961	38.6	Pass
68	Less than 2.0% of mass 69	1675	0.50 (0.92) ^a	Pass
69	Mass 69 relative abundance	182027	54.5	Pass
70	Less than 2.0% of mass 69	806	0.24 (0.44) ^a	Pass
127	40.0 - 60.0% of mass 198	191773	57.4	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	333915	100.0	Pass
199	5.0 - 9.0% of mass 198	21832	6.54	Pass
275	10.0 - 30.0% of mass 198	73363	22.0	Pass
365	1.0 - 100.0% of mass 198	8958	2.68	Pass
441	Present, but less than mass 443	32952	9.87 (73.6) ^b	Pass
442	40.0 - 100.0% of mass 198	222136	66.5	Pass
443	17.0 - 23.0% of mass 442	44764	13.4 (20.2) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E2P4611-ICV4610	2P102736.D	09/09/21	14:42	00:22	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	E2P4638-DFTPP	Injection Date:	10/05/21
Lab File ID:	2P103264.D	Injection Time:	10:24
Instrument ID:	GCMS2P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	248417	33.1	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
69	Mass 69 relative abundance	342903	45.7	Pass
70	Less than 2.0% of mass 69	1509	0.20 (0.44) ^a	Pass
127	40.0 - 60.0% of mass 198	382140	50.9	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	750464	100.0	Pass
199	5.0 - 9.0% of mass 198	49760	6.63	Pass
275	10.0 - 30.0% of mass 198	177621	23.7	Pass
365	1.0 - 100.0% of mass 198	19863	2.65	Pass
441	Present, but less than mass 443	90933	12.1 (79.4) ^b	Pass
442	40.0 - 100.0% of mass 198	605547	80.7	Pass
443	17.0 - 23.0% of mass 442	114539	15.3 (18.9) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E2P4638-CC4610	2P103265.D	10/05/21	10:35	00:11	Continuing cal 50
E2P4638-CC4598	2P103266.D	10/05/21	10:59	00:35	Continuing cal 50
OP35710-MB1	2P103267.D	10/05/21	11:24	01:00	Method Blank
OP35710-BS1	2P103268.D	10/05/21	11:49	01:25	Blank Spike
ZZZZZZ	2P103269.D	10/05/21	12:14	01:50	(unrelated sample)
ZZZZZZ	2P103270.D	10/05/21	12:42	02:18	(unrelated sample)
JD32286-5A	2P103271.D	10/05/21	13:07	02:43	(used for QC only; not part of job JD32315)
JD32315-2	2P103272.D	10/05/21	13:31	03:07	B-106-B
JD32315-5	2P103273.D	10/05/21	13:56	03:32	H-104-B
JD32315-9	2P103274.D	10/05/21	14:21	03:57	DUP-B
JD32315-11	2P103275.D	10/05/21	14:46	04:22	H-101-B
ZZZZZZ	2P103282.D	10/05/21	15:10	04:46	(unrelated sample)
JD32315-8	2P103276.D	10/05/21	15:35	05:11	DUP-A
JD32315-4	2P103278.D	10/05/21	17:14	06:50	H-104-A
OP35710-MS	2P103280.D	10/05/21	18:04	07:40	Matrix Spike
OP35710-MSD	2P103281.D	10/05/21	18:28	08:04	Matrix Spike Duplicate
ZZZZZZ	2P103285.D	10/05/21	18:53	08:29	(unrelated sample)

7.6.4
7

Instrument Performance Check (DFTPP)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	E2P4640-DFTPP	Injection Date:	10/06/21
Lab File ID:	2P103315.D	Injection Time:	15:13
Instrument ID:	GCMS2P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	55204	34.6	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
69	Mass 69 relative abundance	79247	49.7	Pass
70	Less than 2.0% of mass 69	361	0.23 (0.46) ^a	Pass
127	40.0 - 60.0% of mass 198	83265	52.2	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	159493	100.0	Pass
199	5.0 - 9.0% of mass 198	10408	6.53	Pass
275	10.0 - 30.0% of mass 198	36563	22.9	Pass
365	1.0 - 100.0% of mass 198	4074	2.55	Pass
441	Present, but less than mass 443	17505	11.0 (83.2) ^b	Pass
442	40.0 - 100.0% of mass 198	110339	69.2	Pass
443	17.0 - 23.0% of mass 442	21050	13.2 (19.1) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E2P4640-CC4610	2P103316.D	10/06/21	15:33	00:20	Continuing cal 50
E2P4640-CC4598	2P103317.D	10/06/21	16:00	00:47	Continuing cal 50
JD32315-1	2P103320.D	10/06/21	17:32	02:19	B-106-A
JD32315-20	2P103321.D	10/06/21	17:59	02:46	B-102-B
JD32315-10	2P103322.D	10/06/21	18:26	03:13	H-101-A
JD32315-4	2P103323.D	10/06/21	18:53	03:40	H-104-A

7.6.5
7

Instrument Performance Check (DFTPP)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	E6P3504-DFTPP	Injection Date:	09/29/21
Lab File ID:	6P501599.D	Injection Time:	13:43
Instrument ID:	GCMS6P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	259029	44.7	Pass
68	Less than 2.0% of mass 69	1354	0.23 (0.38) ^a	Pass
69	Mass 69 relative abundance	353085	61.0	Pass
70	Less than 2.0% of mass 69	2293	0.40 (0.65) ^a	Pass
127	40.0 - 60.0% of mass 198	335087	57.9	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	579136	100.0	Pass
199	5.0 - 9.0% of mass 198	36184	6.25	Pass
275	10.0 - 30.0% of mass 198	164402	28.4	Pass
365	1.0 - 100.0% of mass 198	22673	3.91	Pass
441	Present, but less than mass 443	54549	9.42 (85.9) ^b	Pass
442	40.0 - 100.0% of mass 198	346410	59.8	Pass
443	17.0 - 23.0% of mass 442	63467	11.0 (18.3) ^c	Pass

(a) Value is % of mass 69

(b) Value is % of mass 443

(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E6P3504-IC3504	6P501600.D	09/29/21	14:00	00:17	Initial cal 1
E6P3504-IC3504	6P501601.D	09/29/21	14:22	00:39	Initial cal 2
E6P3504-IC3504	6P501602.D	09/29/21	14:44	01:01	Initial cal 5
E6P3504-IC3504	6P501603.D	09/29/21	15:06	01:23	Initial cal 10
E6P3504-IC3504	6P501604.D	09/29/21	15:28	01:45	Initial cal 25
E6P3504-ICC3504	6P501605.D	09/29/21	15:49	02:06	Initial cal 50
E6P3504-IC3504	6P501606.D	09/29/21	16:11	02:28	Initial cal 80
E6P3504-IC3504	6P501607.D	09/29/21	16:33	02:50	Initial cal 100
E6P3504-ICV3504	6P501609.D	09/29/21	17:17	03:34	Initial cal verification 50
E6P3504-ICV3504	6P501610.D	09/29/21	17:39	03:56	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	E6P3505-DFTPP	Injection Date:	09/29/21
Lab File ID:	6P501613.D	Injection Time:	20:16
Instrument ID:	GCMS6P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	220472	43.2	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
69	Mass 69 relative abundance	288218	56.4	Pass
70	Less than 2.0% of mass 69	1549	0.30 (0.54) ^a	Pass
127	40.0 - 60.0% of mass 198	280674	55.0	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	510592	100.0	Pass
199	5.0 - 9.0% of mass 198	33288	6.52	Pass
275	10.0 - 30.0% of mass 198	146973	28.8	Pass
365	1.0 - 100.0% of mass 198	20256	3.97	Pass
441	Present, but less than mass 443	50272	9.85 (79.9) ^b	Pass
442	40.0 - 100.0% of mass 198	322026	63.1	Pass
443	17.0 - 23.0% of mass 442	62917	12.3 (19.5) ^c	Pass

(a) Value is % of mass 69

(b) Value is % of mass 443

(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E6P3505-IC3505	6P501614.D	09/29/21	20:26	00:10	Initial cal 1
E6P3505-IC3505	6P501615.D	09/29/21	20:48	00:32	Initial cal 2
E6P3505-IC3505	6P501616.D	09/29/21	21:10	00:54	Initial cal 5
E6P3505-IC3505	6P501617.D	09/29/21	21:32	01:16	Initial cal 10
E6P3505-IC3505	6P501618.D	09/29/21	21:53	01:37	Initial cal 25
E6P3505-ICC3505	6P501619.D	09/29/21	22:15	01:59	Initial cal 50
E6P3505-IC3505	6P501620.D	09/29/21	22:37	02:21	Initial cal 80
E6P3505-IC3505	6P501621.D	09/29/21	22:59	02:43	Initial cal 100
E6P3505-ICV3505	6P501622.D	09/29/21	23:21	03:05	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	E6P3506-DFTPP	Injection Date:	09/30/21
Lab File ID:	6P501623.D	Injection Time:	11:06
Instrument ID:	GCMS6P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	259309	43.3	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
69	Mass 69 relative abundance	273800	45.7	Pass
70	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
127	40.0 - 60.0% of mass 198	341070	57.0	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	598592	100.0	Pass
199	5.0 - 9.0% of mass 198	35030	5.85	Pass
275	10.0 - 30.0% of mass 198	168085	28.1	Pass
365	1.0 - 100.0% of mass 198	22458	3.75	Pass
441	Present, but less than mass 443	51624	8.62 (78.4) ^b	Pass
442	40.0 - 100.0% of mass 198	364992	61.0	Pass
443	17.0 - 23.0% of mass 442	65872	11.0 (18.0) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E6P3506-ICV3504	6P501625.D	09/30/21	11:38	00:32	Initial cal verification 50

7.6.8
7

Instrument Performance Check (DFTPP)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	E6P3507-DFTPP	Injection Date:	09/30/21
Lab File ID:	6P501626.D	Injection Time:	13:41
Instrument ID:	GCMS6P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	228085	41.3	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
69	Mass 69 relative abundance	316429	57.3	Pass
70	Less than 2.0% of mass 69	1962	0.36 (0.62) ^a	Pass
127	40.0 - 60.0% of mass 198	302040	54.7	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	552000	100.0	Pass
199	5.0 - 9.0% of mass 198	35967	6.52	Pass
275	10.0 - 30.0% of mass 198	160352	29.0	Pass
365	1.0 - 100.0% of mass 198	22148	4.01	Pass
441	Present, but less than mass 443	59389	10.8 (88.4) ^b	Pass
442	40.0 - 100.0% of mass 198	374058	67.8	Pass
443	17.0 - 23.0% of mass 442	67160	12.2 (18.0) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E6P3507-ICV3504	6P501627.D	09/30/21	13:51	00:10	Initial cal verification 50
E6P3507-CC3504	6P501628.D	09/30/21	14:22	00:41	Continuing cal 25
E6P3507-CC3505	6P501629.D	09/30/21	15:07	01:26	Continuing cal 25
OP35623-MB1	6P501630C.D	09/30/21	19:42	06:01	Method Blank
OP35623-BS1	6P501631.D	09/30/21	20:03	06:22	Blank Spike
ZZZZZZ	6P501632.D	09/30/21	20:25	06:44	(unrelated sample)
ZZZZZZ	6P501633.D	09/30/21	20:47	07:06	(unrelated sample)
JD32216-1	6P501634A.D	09/30/21	21:48	08:07	(used for QC only; not part of job JD32315)
ZZZZZZ	6P501635.D	09/30/21	22:09	08:28	(unrelated sample)
ZZZZZZ	6P501636.D	09/30/21	22:31	08:50	(unrelated sample)
ZZZZZZ	6P501637.D	09/30/21	22:53	09:12	(unrelated sample)
ZZZZZZ	6P501638.D	09/30/21	23:15	09:34	(unrelated sample)
OP35623-MS	6P501639.D	09/30/21	23:36	09:55	Matrix Spike
OP35623-MSD	6P501640.D	09/30/21	23:58	10:17	Matrix Spike Duplicate
ZZZZZZ	6P501641.D	10/01/21	00:20	10:39	(unrelated sample)
ZZZZZZ	6P501642.D	10/01/21	00:42	11:01	(unrelated sample)
ZZZZZZ	6P501643.D	10/01/21	01:03	11:22	(unrelated sample)
ZZZZZZ	6P501644.D	10/01/21	01:25	11:44	(unrelated sample)

7.6.9
7

Instrument Performance Check (DFTPP)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	E6P3522-DFTPP	Injection Date:	10/10/21
Lab File ID:	6P502001.D	Injection Time:	16:27
Instrument ID:	GCMS6P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	144120	40.7	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
69	Mass 69 relative abundance	204630	57.7	Pass
70	Less than 2.0% of mass 69	1224	0.35 (0.60) ^a	Pass
127	40.0 - 60.0% of mass 198	194917	55.0	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	354475	100.0	Pass
199	5.0 - 9.0% of mass 198	23830	6.72	Pass
275	10.0 - 30.0% of mass 198	98027	27.7	Pass
365	1.0 - 100.0% of mass 198	14957	4.22	Pass
441	Present, but less than mass 443	36759	10.4 (80.3) ^b	Pass
442	40.0 - 100.0% of mass 198	240443	67.8	Pass
443	17.0 - 23.0% of mass 442	45755	12.9 (19.0) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E6P3522-CC3504	6P502002.D	10/10/21	16:58	00:31	Continuing cal 25
E6P3522-CC3505	6P502003.D	10/10/21	17:20	00:53	Continuing cal 25
OP35857-MB1	6P502004.D	10/10/21	17:49	01:22	Method Blank
OP35857-BS1	6P502005.D	10/10/21	18:11	01:44	Blank Spike
ZZZZZZ	6P502006.D	10/10/21	18:33	02:06	(unrelated sample)
ZZZZZZ	6P502007.D	10/10/21	18:55	02:28	(unrelated sample)
ZZZZZZ	6P502008.D	10/10/21	19:17	02:50	(unrelated sample)
ZZZZZZ	6P502009.D	10/10/21	19:39	03:12	(unrelated sample)
ZZZZZZ	6P502010.D	10/10/21	20:01	03:34	(unrelated sample)
ZZZZZZ	6P502011.D	10/10/21	20:22	03:55	(unrelated sample)
ZZZZZZ	6P502012.D	10/10/21	20:44	04:17	(unrelated sample)
ZZZZZZ	6P502013.D	10/10/21	21:06	04:39	(unrelated sample)
ZZZZZZ	6P502014.D	10/10/21	21:28	05:01	(unrelated sample)
JD32315-26	6P502015.D	10/10/21	21:50	05:23	B-104-B
ZZZZZZ	6P502016.D	10/10/21	22:12	05:45	(unrelated sample)
ZZZZZZ	6P502018.D	10/10/21	22:56	06:29	(unrelated sample)
ZZZZZZ	6P502019.D	10/10/21	23:18	06:51	(unrelated sample)
OP35857-MS	6P502020.D	10/10/21	23:40	07:13	Matrix Spike
OP35857-MSD	6P502021.D	10/11/21	00:01	07:34	Matrix Spike Duplicate

7.6.10
7

Instrument Performance Check (DFTPP)

Job Number: JD32315
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Sample:	E6P3522-DFTPP	Injection Date:	10/10/21
Lab File ID:	6P502001.D	Injection Time:	16:27
Instrument ID:	GCMS6P		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
JD31890-2	6P502022.D	10/11/21	00:23	07:56	(used for QC only; not part of job JD32315)
ZZZZZZ	6P502023.D	10/11/21	00:45	08:18	(unrelated sample)
JD32315-8	6P502024.D	10/11/21	01:07	08:40	DUP-A
JD32315-22	6P502025.D	10/11/21	01:29	09:02	B-105-A(0.5-2')
ZZZZZZ	6P502026.D	10/11/21	01:51	09:24	(unrelated sample)

7.6.10
7

Instrument Performance Check (DFTPP)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	EM7525-DFTPP	Injection Date:	09/21/21
Lab File ID:	M175056.D	Injection Time:	18:37
Instrument ID:	GCMSM		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	55048	36.4	Pass
68	Less than 2.0% of mass 69	222	0.15 (0.31) ^a	Pass
69	Mass 69 relative abundance	72202	47.7	Pass
70	Less than 2.0% of mass 69	238	0.16 (0.33) ^a	Pass
127	40.0 - 60.0% of mass 198	90576	59.8	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	151381	100.0	Pass
199	5.0 - 9.0% of mass 198	10497	6.93	Pass
275	10.0 - 30.0% of mass 198	38794	25.6	Pass
365	1.0 - 100.0% of mass 198	5830	3.85	Pass
441	Present, but less than mass 443	18722	12.4 (72.2) ^b	Pass
442	40.0 - 100.0% of mass 198	133669	88.3	Pass
443	17.0 - 23.0% of mass 442	25917	17.1 (19.4) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EM7525-IC7525	M175057.D	09/21/21	18:49	00:12	Initial cal 1
EM7525-IC7525	M175058.D	09/21/21	19:17	00:40	Initial cal 2
EM7525-IC7525	M175059.D	09/21/21	19:46	01:09	Initial cal 5
EM7525-IC7525	M175060.D	09/21/21	20:15	01:38	Initial cal 10
EM7525-IC7525	M175061.D	09/21/21	20:43	02:06	Initial cal 25
EM7525-ICC7525	M175062.D	09/21/21	21:12	02:35	Initial cal 50
EM7525-IC7525	M175063A.D	09/21/21	22:42	04:05	Initial cal 80
EM7525-IC7525	M175064.D	09/21/21	23:10	04:33	Initial cal 100
EM7525-ICV7525	M175065.D	09/21/21	23:39	05:02	Initial cal verification 50

7.6.11
7

Instrument Performance Check (DFTPP)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	EM7526-DFTPP	Injection Date:	09/22/21
Lab File ID:	M175070.D	Injection Time:	14:01
Instrument ID:	GCMSM		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	59523	33.7	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
69	Mass 69 relative abundance	82293	46.6	Pass
70	Less than 2.0% of mass 69	338	0.19 (0.41) ^a	Pass
127	40.0 - 60.0% of mass 198	103112	58.4	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	176544	100.0	Pass
199	5.0 - 9.0% of mass 198	12565	7.12	Pass
275	10.0 - 30.0% of mass 198	48477	27.5	Pass
365	1.0 - 100.0% of mass 198	7144	4.05	Pass
441	Present, but less than mass 443	23299	13.2 (75.9) ^b	Pass
442	40.0 - 100.0% of mass 198	157978	89.5	Pass
443	17.0 - 23.0% of mass 442	30685	17.4 (19.4) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EM7526-IC7526	M175071.D	09/22/21	14:18	00:17	Initial cal 100
EM7526-IC7526	M175072.D	09/22/21	14:47	00:46	Initial cal 1
EM7526-IC7526	M175073.D	09/22/21	15:16	01:15	Initial cal 80
EM7526-IC7526	M175074.D	09/22/21	15:45	01:44	Initial cal 2
EM7526-ICC7526	M175075.D	09/22/21	16:14	02:13	Initial cal 50
EM7526-IC7526	M175076.D	09/22/21	16:43	02:42	Initial cal 5
EM7526-IC7526	M175077.D	09/22/21	17:12	03:11	Initial cal 25
EM7526-IC7526	M175078.D	09/22/21	17:41	03:40	Initial cal 10
EM7526-ICV7526	M175079.D	09/22/21	18:10	04:09	Initial cal verification 50
EM7526-ICV7526	M175080.D	09/22/21	18:39	04:38	Initial cal verification 50
EM7526-ICV7526	M175081.D	09/22/21	19:08	05:07	Initial cal verification 50
EM7526-ICV7526	M175082.D	09/22/21	19:37	05:36	Initial cal verification 50

7.6.12
7

Instrument Performance Check (DFTPP)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	EM7542-DFTPP	Injection Date:	10/05/21
Lab File ID:	M175453.D	Injection Time:	11:45
Instrument ID:	GCMSM		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	26994	31.0	Pass
68	Less than 2.0% of mass 69	268	0.31 (0.68) ^a	Pass
69	Mass 69 relative abundance	39411	45.3	Pass
70	Less than 2.0% of mass 69	140	0.16 (0.36) ^a	Pass
127	40.0 - 60.0% of mass 198	51760	59.4	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	87096	100.0	Pass
199	5.0 - 9.0% of mass 198	5886	6.76	Pass
275	10.0 - 30.0% of mass 198	24224	27.8	Pass
365	1.0 - 100.0% of mass 198	3600	4.13	Pass
441	Present, but less than mass 443	12193	14.0 (70.3) ^b	Pass
442	40.0 - 100.0% of mass 198	85621	98.3	Pass
443	17.0 - 23.0% of mass 442	17338	19.9 (20.2) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EM7542-CC7526	M175454.D	10/05/21	11:57	00:12	Continuing cal 50
EM7542-CC7525	M175455.D	10/05/21	12:26	00:41	Continuing cal 50
OP35710-MB1	M175457.D	10/05/21	13:24	01:39	Method Blank
JD32315-14	M175458.D	10/05/21	13:52	02:07	B-103-B
JD32315-17	M175459.D	10/05/21	14:21	02:36	H-102-B
JD32315-23	M175460.D	10/05/21	14:50	03:05	B-105-B(20-24')
JD32315-25	M175461.D	10/05/21	15:19	03:34	B-104-A
JD32315-16	M175462.D	10/05/21	15:48	04:03	H-102-A
JD32315-19	M175463.D	10/05/21	16:16	04:31	B-102-A
JD32315-22	M175464.D	10/05/21	16:45	05:00	B-105-A(0.5-2')
ZZZZZZ	M175465.D	10/05/21	17:14	05:29	(unrelated sample)
ZZZZZZ	M175466.D	10/05/21	17:43	05:58	(unrelated sample)
JD32315-13	M175468.D	10/05/21	18:41	06:56	B-103-A
JD32345-10	M175470A.D	10/05/21	20:06	08:21	(used for QC only; not part of job JD32315)
JD32345-10	M175471.D	10/05/21	20:35	08:50	(used for QC only; not part of job JD32315)
ZZZZZZ	M175472.D	10/05/21	21:04	09:19	(unrelated sample)
ZZZZZZ	M175473.D	10/05/21	21:32	09:47	(unrelated sample)
ZZZZZZ	M175474.D	10/05/21	22:01	10:16	(unrelated sample)
ZZZZZZ	M175475.D	10/05/21	22:30	10:45	(unrelated sample)

7.6.13
7

Instrument Performance Check (DFTPP)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	EZ7517-DFTPP	Injection Date:	09/02/21
Lab File ID:	Z151212.D	Injection Time:	11:16
Instrument ID:	GCMSZ		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	67019	39.8	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
69	Mass 69 relative abundance	81472	48.4	Pass
70	Less than 2.0% of mass 69	499	0.30 (0.61) ^a	Pass
127	40.0 - 60.0% of mass 198	84573	50.2	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	168347	100.0	Pass
199	5.0 - 9.0% of mass 198	11451	6.80	Pass
275	10.0 - 30.0% of mass 198	44512	26.4	Pass
365	1.0 - 100.0% of mass 198	7380	4.38	Pass
441	Present, but less than mass 443	23264	13.8 (82.0) ^b	Pass
442	40.0 - 100.0% of mass 198	149459	88.8	Pass
443	17.0 - 23.0% of mass 442	28381	16.9 (19.0) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EZ7517-IC7517	Z151214.D	09/02/21	12:00	00:44	Initial cal 1
EZ7517-IC7517	Z151215.D	09/02/21	12:28	01:12	Initial cal 2
EZ7517-IC7517	Z151216.D	09/02/21	12:57	01:41	Initial cal 5
EZ7517-IC7517	Z151217.D	09/02/21	13:25	02:09	Initial cal 10
EZ7517-IC7517	Z151218.D	09/02/21	13:53	02:37	Initial cal 25
EZ7517-ICC7517	Z151219.D	09/02/21	14:21	03:05	Initial cal 50
EZ7517-IC7517	Z151220.D	09/02/21	14:50	03:34	Initial cal 80
EZ7517-IC7517	Z151221.D	09/02/21	15:19	04:03	Initial cal 100
EZ7517-ICV7517	Z151222.D	09/02/21	15:49	04:33	Initial cal verification 50
EZ7517-ICV7513	Z151224.D	09/02/21	16:45	05:29	Initial cal verification 50

7.6.14
7

Instrument Performance Check (DFTPP)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	EZ7524-DFTPP	Injection Date:	09/09/21
Lab File ID:	Z151331.D	Injection Time:	11:00
Instrument ID:	GCMSZ		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	62163	35.9	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
69	Mass 69 relative abundance	78023	45.1	Pass
70	Less than 2.0% of mass 69	516	0.30 (0.66) ^a	Pass
127	40.0 - 60.0% of mass 198	82981	47.9	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	173171	100.0	Pass
199	5.0 - 9.0% of mass 198	11633	6.72	Pass
275	10.0 - 30.0% of mass 198	48896	28.2	Pass
365	1.0 - 100.0% of mass 198	7616	4.40	Pass
441	Present, but less than mass 443	21822	12.6 (82.7) ^b	Pass
442	40.0 - 100.0% of mass 198	139160	80.4	Pass
443	17.0 - 23.0% of mass 442	26391	15.2 (19.0) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EZ7524-IC7524	Z151332.D	09/09/21	11:19	00:19	Initial cal 1
EZ7524-IC7524	Z151333.D	09/09/21	11:45	00:45	Initial cal 2
EZ7524-IC7524	Z151334.D	09/09/21	12:11	01:11	Initial cal 5
EZ7524-IC7524	Z151335.D	09/09/21	12:37	01:37	Initial cal 10
EZ7524-IC7524	Z151336.D	09/09/21	13:03	02:03	Initial cal 25
EZ7524-ICC7524	Z151337.D	09/09/21	13:29	02:29	Initial cal 50
EZ7524-IC7524	Z151338.D	09/09/21	13:55	02:55	Initial cal 80
EZ7524-IC7524	Z151339.D	09/09/21	14:21	03:21	Initial cal 100
EZ7524-ICV7524	Z151340.D	09/09/21	14:47	03:47	Initial cal verification 50
EZ7524-ICV7524	Z151341.D	09/09/21	15:13	04:13	Initial cal verification 50
EZ7524-ICV7524	Z151342.D	09/09/21	15:39	04:39	Initial cal verification 50
EZ7524-ICV7524	Z151343.D	09/09/21	16:05	05:05	Initial cal verification 50

7.6.15
7

Instrument Performance Check (DFTPP)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	EZ7569-DFTPP	Injection Date:	10/11/21
Lab File ID:	Z152171.D	Injection Time:	10:46
Instrument ID:	GCMSZ		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	56404	34.6	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
69	Mass 69 relative abundance	70933	43.5	Pass
70	Less than 2.0% of mass 69	496	0.30 (0.70) ^a	Pass
127	40.0 - 60.0% of mass 198	84774	52.0	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	163024	100.0	Pass
199	5.0 - 9.0% of mass 198	10480	6.43	Pass
275	10.0 - 30.0% of mass 198	40891	25.1	Pass
365	1.0 - 100.0% of mass 198	6713	4.12	Pass
441	Present, but less than mass 443	14021	8.60 (90.3) ^b	Pass
442	40.0 - 100.0% of mass 198	84069	51.6	Pass
443	17.0 - 23.0% of mass 442	15530	9.53 (18.5) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EZ7569-CC7524	Z152172.D	10/11/21	11:00	00:14	Continuing cal 25
EZ7569-CC7517	Z152173.D	10/11/21	11:26	00:40	Continuing cal 25
OP35857-MB1	Z152175.D	10/11/21	12:47	02:01	Method Blank
ZZZZZZ	Z152176A.D	10/11/21	13:13	02:27	(unrelated sample)
ZZZZZZ	Z152177.D	10/11/21	13:39	02:53	(unrelated sample)
ZZZZZZ	Z152178.D	10/11/21	14:04	03:18	(unrelated sample)
ZZZZZZ	Z152180.D	10/11/21	14:56	04:10	(unrelated sample)
JD32315-8	Z152181.D	10/11/21	15:22	04:36	DUP-A
JD32315-22	Z152182.D	10/11/21	15:48	05:02	B-105-A(0.5-2')
ZZZZZZ	Z152183.D	10/11/21	16:13	05:27	(unrelated sample)
ZZZZZZ	Z152184.D	10/11/21	16:39	05:53	(unrelated sample)
OP35642A-MB1	Z152189.D	10/11/21	18:49	08:03	Method Blank
OP35642A-BS1	Z152190.D	10/11/21	19:15	08:29	Blank Spike
OP35642A-BSD	Z152191.D	10/11/21	19:40	08:54	Blank Spike Duplicate
ZZZZZZ	Z152192.D	10/11/21	20:06	09:20	(unrelated sample)

7.6.16
7

Instrument Performance Check (DFTPP)

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	EZ7572-DFTPP	Injection Date:	10/13/21
Lab File ID:	Z152216.D	Injection Time:	01:25
Instrument ID:	GCMSZ		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	60255	32.6	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
69	Mass 69 relative abundance	77167	41.7	Pass
70	Less than 2.0% of mass 69	314	0.17 (0.41) ^a	Pass
127	40.0 - 60.0% of mass 198	93243	50.4	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	185069	100.0	Pass
199	5.0 - 9.0% of mass 198	11892	6.43	Pass
275	10.0 - 30.0% of mass 198	42733	23.1	Pass
365	1.0 - 100.0% of mass 198	6733	3.64	Pass
441	Present, but less than mass 443	14582	7.88 (84.3) ^b	Pass
442	40.0 - 100.0% of mass 198	88488	47.8	Pass
443	17.0 - 23.0% of mass 442	17288	9.34 (19.5) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EZ7572-CC7524	Z152217.D	10/13/21	01:39	00:14	Continuing cal 50
OP35940-MB1	Z152218.D	10/13/21	02:21	00:56	Method Blank
OP35940-LB13	Z152219.D	10/13/21	02:47	01:22	Leachate Blank
OP35940-LB15	Z152220.D	10/13/21	03:12	01:47	Leachate Blank
OP35940-LB16	Z152221.D	10/13/21	03:38	02:13	Leachate Blank
OP35940-BS1	Z152222.D	10/13/21	04:04	02:39	Blank Spike
OP35940-MS	Z152223.D	10/13/21	04:30	03:05	Matrix Spike
OP35940-LS13	Z152223.D	10/13/21	04:30	03:05	Leachate Spike
OP35940-MSD	Z152224.D	10/13/21	04:55	03:30	Matrix Spike Duplicate
JD32315-3	Z152225.D	10/13/21	05:22	03:57	B-106-C
JD32315-6	Z152226.D	10/13/21	05:47	04:22	H-104-C1
JD32315-7	Z152227.D	10/13/21	06:13	04:48	H-104-C2
JD32315-12	Z152228.D	10/13/21	06:39	05:14	H-101-C
JD32315-15	Z152229.D	10/13/21	07:05	05:40	B-103-C
JD32315-18	Z152230.D	10/13/21	07:30	06:05	H-102-C
JD32315-21	Z152231.D	10/13/21	07:56	06:31	B-102-C
JD32315-24	Z152232.D	10/13/21	08:22	06:57	B-105-C(0.5-24')
JD32315-27	Z152233.D	10/13/21	08:47	07:22	B-104-C
ZZZZZ	Z152234.D	10/13/21	09:13	07:48	(unrelated sample)

7.6.17
7

Instrument Performance Check (DFTPP)

Job Number: JD32315
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Sample:	EZ7572-DFTPP	Injection Date:	10/13/21
Lab File ID:	Z152216.D	Injection Time:	01:25
Instrument ID:	GCMSZ		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	Z152235.D	10/13/21	09:39	08:14	(unrelated sample)
ZZZZZZ	Z152236.D	10/13/21	10:05	08:40	(unrelated sample)
ZZZZZZ	Z152237.D	10/13/21	10:30	09:05	(unrelated sample)
ZZZZZZ	Z152238.D	10/13/21	10:56	09:31	(unrelated sample)
ZZZZZZ	Z152239.D	10/13/21	11:22	09:57	(unrelated sample)
ZZZZZZ	Z152240.D	10/13/21	11:48	10:23	(unrelated sample)
ZZZZZZ	Z152241.D	10/13/21	12:13	10:48	(unrelated sample)
ZZZZZZ	Z152242.D	10/13/21	12:39	11:14	(unrelated sample)
ZZZZZZ	Z152243.D	10/13/21	13:05	11:40	(unrelated sample)

7.6.17
7

Surrogate Recovery Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Method: SW846 8270E	Matrix: LEACHATE
---------------------	------------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
JD32315-3	Z152225.D	32	23	90	77	74	87
JD32315-6	Z152226.D	34	24	86	76	71	95
JD32315-7	Z152227.D	42	29	90	75	71	98
JD32315-12	Z152228.D	37	26	86	72	67	89
JD32315-15	Z152229.D	27	18	55	49	46	54
JD32315-18	Z152230.D	34	23	84	73	67	94
JD32315-21	Z152231.D	30	21	95	78	76	89
JD32315-24	Z152232.D	29	20	86	75	72	88
JD32315-27	Z152233.D	16	14	26* a	82	75	70
OP35940-BS1	Z152222.D	45	33	99	83	83	91
OP35940-LB13	Z152219.D	29	20	81	72	67	96
OP35940-LB15	Z152220.D	29	21	87	80	75	94
OP35940-LB16	Z152221.D	35	25	90	75	71	96
OP35940-LS13	Z152223.D	45	33	97	84	82	92
OP35940-MB1	Z152218.D	34	23	84	82	78	93
OP35940-MS	Z152223.D	45	33	97	84	82	92
OP35940-MSD	Z152224.D	32	23	95	77	80	90

Surrogate Compounds **Recovery Limits**

S1 = 2-Fluorophenol	10-73%
S2 = Phenol-d5	10-64%
S3 = 2,4,6-Tribromophenol	31-130%
S4 = Nitrobenzene-d5	28-126%
S5 = 2-Fluorobiphenyl	26-114%
S6 = Terphenyl-d14	16-122%

(a) Outside of in house control limits.

7.7.1
7

Surrogate Recovery Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Method: SW846 8270E	Matrix: SO
---------------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
JD32315-1	2P103320.D	36	41	57
JD32315-2	2P103272.D	26	27	34
JD32315-4	2P103323.D	52	68	78
JD32315-4	2P103278.D	49	59	66
JD32315-5	2P103273.D	52	56	69
JD32315-8	6P502024.D	59	67	69
JD32315-8	2P103276.D	11* a	12* a	15* a
JD32315-8	Z152181.D	88	79	85
JD32315-9	2P103274.D	52	59	81
JD32315-10	2P103322.D	22	25	29
JD32315-11	2P103275.D	56	60	79
JD32315-13	M175468.D	49	57	61
JD32315-14	M175458.D	34	37	41
JD32315-16	M175462.D	26	27	29
JD32315-17	M175459.D	44	46	49
JD32315-19	M175463.D	24	26	29
JD32315-20	2P103321.D	33	38	43
JD32315-22	6P502025.D	54	57	61
JD32315-22	M175464.D	3* a	4* a	4* a
JD32315-22	Z152182.D	70	66	70
JD32315-23	M175460.D	53	57	62
JD32315-25	M175461.D	23	24	26
JD32315-26	6P502015.D	56	65	80
OP35710-BS1	2P103268.D	51	54	69
OP35710-MB1	2P103267.D	53	58	69
OP35710-MB1	M175457.D	53	55	59
OP35710-MS	2P103280.D	26	29	38
OP35710-MSD	2P103281.D	11* b	13* b	19* b
OP35857-BS1	6P502005.D	65	71	86
OP35857-MB1	6P502004.D	55	59	78
OP35857-MB1	Z152175.D	62	60	68
OP35857-MS	6P502020.D	142* c	71	82
OP35857-MSD	6P502021.D	137* c	74	88

Surrogate Compounds

Recovery Limits

S1 = Nitrobenzene-d5
 S2 = 2-Fluorobiphenyl
 S3 = Terphenyl-d14

15-114%
 22-104%
 23-121%

7.7.2
7

Surrogate Recovery Summary

Job Number: JD32315
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Method: SW846 8270E	Matrix: SO
----------------------------	-------------------

Samples and QC shown here apply to the above method

Surrogate Compounds	Recovery Limits
------------------------	--------------------

- (a) Outside of in house control limits. Refer to re-extract.
- (b) Outside of in house control limits.
- (c) Outside control limits due to matrix interference.

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JD32315
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLM4714-MB3	LM112323.D	1	10/01/21	DFT	n/a	n/a	GLM4714

The QC reported here applies to the following samples:

Method: SW846 8015D

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	5.0	mg/kg	

CAS No.	Surrogate Recoveries	Limits
98-08-8	aaa-Trifluorotoluene	75% 70-116%

Method Blank Summary

Job Number: JD32315
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLM4714-MB	LM112305.D	1	10/01/21	DFT	n/a	n/a	GLM4714

The QC reported here applies to the following samples:

Method: SW846 8015D

GLM4714-BS, JD32192-3AMS, JD32192-3AMSD

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	5.0	mg/kg	

CAS No.	Surrogate Recoveries	Limits
98-08-8	aaa-Trifluorotoluene	74% 70-116%

8.1.2
8

Blank Spike Summary

Job Number: JD32315
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLM4714-BS	LM112306.D	1	10/01/21	DFT	n/a	n/a	GLM4714

The QC reported here applies to the following samples:

Method: SW846 8015D

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	400	344	86	75-126

CAS No.	Surrogate Recoveries	BSP	Limits
98-08-8	aaa-Trifluorotoluene	85%	70-116%

8.2.1

8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD32192-3AMS	LM112310.D	1	10/01/21	DFT	n/a	n/a	GLM4714
JD32192-3AMSD	LM112311.D	1	10/01/21	DFT	n/a	n/a	GLM4714
JD32192-3A	LM112309.D	1	10/01/21	DFT	n/a	n/a	GLM4714

The QC reported here applies to the following samples: Method: SW846 8015D

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	JD32192-3A Spike mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD	
	TPH-GRO (C6-C10)	ND	393	311	79	393	301	77	3	68-128/11

CAS No.	Surrogate Recoveries	MS	MSD	JD32192-3A Limits
98-08-8	aaa-Trifluorotoluene	83%	86%	76% 70-116%

8.3.1
8

* = Outside of Control Limits.

Surrogate Recovery Summary

Job Number: JD32315
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Method: SW846 8015D	Matrix: SO
---------------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a
JD32315-3	LM112324.D	74
JD32315-6	LM112325.D	74
JD32315-7	LM112326.D	76
JD32315-12	LM112327.D	75
JD32315-15	LM112328.D	75
JD32315-18	LM112329.D	76
JD32315-21	LM112330.D	75
JD32315-24	LM112331.D	74
JD32315-27	LM112332.D	75
GLM4714-BS	LM112306.D	85
GLM4714-MB3	LM112323.D	75
JD32192-3AMS	LM112310.D	83
JD32192-3AMSD	LM112311.D	86
GLM4714-MB	LM112305.D	74

Surrogate Compounds	Recovery Limits
---------------------	-----------------

S1 = aaa-Trifluorotoluene	70-116%
---------------------------	---------

(a) Recovery from GC signal #1

GC/LC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JD32315
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35941-MB1	3G133443.D	1	10/17/21	TL	10/12/21	OP35941	G3G4866

The QC reported here applies to the following samples: Method: SW846 8151A

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Result	RL	MDL	Units	Q
94-75-7	2,4-D	ND	0.33	0.098	ug/l	
93-72-1	2,4,5-TP (Silvex)	ND	0.10	0.020	ug/l	

CAS No.	Surrogate Recoveries	Limits
19719-28-9	2,4-DCAA	66% 13-169%
19719-28-9	2,4-DCAA	33% 13-169%

9.1.1
9

Method Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35939-MB1	4G9721358.D	1	10/12/21	RK	10/12/21	OP35939	G4G3596

The QC reported here applies to the following samples: Method: SW846 8081B

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Result	RL	MDL	Units	Q
58-89-9	gamma-BHC (Lindane)	ND	0.020	0.012	ug/l	
12789-03-6	Chlordane	ND	1.0	0.43	ug/l	
72-20-8	Endrin	ND	0.020	0.012	ug/l	
76-44-8	Heptachlor	ND	0.020	0.0090	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.020	0.012	ug/l	
72-43-5	Methoxychlor	ND	0.040	0.013	ug/l	
8001-35-2	Toxaphene	ND	0.50	0.32	ug/l	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	91%	30-137%
877-09-8	Tetrachloro-m-xylene	85%	30-137%
2051-24-3	Decachlorobiphenyl	65%	10-137%
2051-24-3	Decachlorobiphenyl	65%	10-137%

9.1.2
9

Method Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35939-MB1	6G79597.D	1	10/12/21	RK	10/12/21	OP35939	G6G2807

The QC reported here applies to the following samples: Method: SW846 8081B

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Result	RL	MDL	Units	Q
58-89-9	gamma-BHC (Lindane)	ND	0.020	0.012	ug/l	
12789-03-6	Chlordane	ND	1.0	0.43	ug/l	
72-20-8	Endrin	ND	0.020	0.012	ug/l	
76-44-8	Heptachlor	ND	0.020	0.0090	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.020	0.012	ug/l	
72-43-5	Methoxychlor	ND	0.040	0.013	ug/l	
8001-35-2	Toxaphene	ND	0.50	0.32	ug/l	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	104%	30-137%
877-09-8	Tetrachloro-m-xylene	98%	30-137%
2051-24-3	Decachlorobiphenyl	70%	10-137%
2051-24-3	Decachlorobiphenyl	79%	10-137%

9.1.3
9

Method Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35562-MB1	5G110642.D	1	10/03/21	TL	10/01/21	OP35562	G5G2805

The QC reported here applies to the following samples:

Method: SW846 8082A

JD32315-2, JD32315-5, JD32315-9, JD32315-11, JD32315-14

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	50	23	ug/kg	
11104-28-2	Aroclor 1221	ND	50	31	ug/kg	
11141-16-5	Aroclor 1232	ND	50	32	ug/kg	
53469-21-9	Aroclor 1242	ND	50	21	ug/kg	
12672-29-6	Aroclor 1248	ND	50	45	ug/kg	
11097-69-1	Aroclor 1254	ND	50	27	ug/kg	
11096-82-5	Aroclor 1260	ND	50	21	ug/kg	
11100-14-4	Aroclor 1268	ND	50	21	ug/kg	
37324-23-5	Aroclor 1262	ND	50	33	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	78%	24-152%
877-09-8	Tetrachloro-m-xylene	77%	24-152%
2051-24-3	Decachlorobiphenyl	87%	10-172%
2051-24-3	Decachlorobiphenyl	113%	10-172%

9.1.4
9

Method Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35562-MB1 ^a	5G110681.D	1	10/04/21	TL	10/01/21	OP35562	G5G2805

The QC reported here applies to the following samples:

Method: SW846 8082A

JD32315-2, JD32315-5, JD32315-9, JD32315-11, JD32315-14

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	50	23	ug/kg	
11104-28-2	Aroclor 1221	ND	50	31	ug/kg	
11141-16-5	Aroclor 1232	ND	50	32	ug/kg	
53469-21-9	Aroclor 1242	ND	50	21	ug/kg	
12672-29-6	Aroclor 1248	ND	50	45	ug/kg	
11097-69-1	Aroclor 1254	ND	50	27	ug/kg	
11096-82-5	Aroclor 1260	ND	50	21	ug/kg	
11100-14-4	Aroclor 1268	ND	50	21	ug/kg	
37324-23-5	Aroclor 1262	ND	50	33	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	82%	24-152%
877-09-8	Tetrachloro-m-xylene	86%	24-152%
2051-24-3	Decachlorobiphenyl	91%	10-172%
2051-24-3	Decachlorobiphenyl	117%	10-172%

(a) Had TBA cleanup.

9.1.5
9

Method Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35760-MB1	XX2471762.D	1	10/05/21	RK	10/04/21	OP35760	GXX7601

The QC reported here applies to the following samples: Method: SW846 8082A

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	33	16	ug/kg	
11104-28-2	Aroclor 1221	ND	33	21	ug/kg	
11141-16-5	Aroclor 1232	ND	33	21	ug/kg	
53469-21-9	Aroclor 1242	ND	33	14	ug/kg	
12672-29-6	Aroclor 1248	ND	33	30	ug/kg	
11097-69-1	Aroclor 1254	ND	33	18	ug/kg	
11096-82-5	Aroclor 1260	ND	33	14	ug/kg	
11100-14-4	Aroclor 1268	ND	33	14	ug/kg	
37324-23-5	Aroclor 1262	ND	33	22	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	94%	24-152%
877-09-8	Tetrachloro-m-xylene	95%	24-152%
2051-24-3	Decachlorobiphenyl	83%	10-172%
2051-24-3	Decachlorobiphenyl	98%	10-172%

9.1.6
9

Method Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35567-MB1	5G110700.D	1	10/04/21	CP	10/04/21	OP35567	G5G2806

The QC reported here applies to the following samples:

Method: SW846 8082A

JD32315-17, JD32315-20, JD32315-23

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	50	23	ug/kg	
11104-28-2	Aroclor 1221	ND	50	31	ug/kg	
11141-16-5	Aroclor 1232	ND	50	32	ug/kg	
53469-21-9	Aroclor 1242	ND	50	21	ug/kg	
12672-29-6	Aroclor 1248	ND	50	45	ug/kg	
11097-69-1	Aroclor 1254	ND	50	27	ug/kg	
11096-82-5	Aroclor 1260	ND	50	21	ug/kg	
11100-14-4	Aroclor 1268	ND	50	21	ug/kg	
37324-23-5	Aroclor 1262	ND	50	33	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	80%	24-152%
877-09-8	Tetrachloro-m-xylene	98%	24-152%
2051-24-3	Decachlorobiphenyl	89%	10-172%
2051-24-3	Decachlorobiphenyl	118%	10-172%

9.1.7
9

Method Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35567-MB1 ^a	5G110810.D	1	10/07/21	RK	10/04/21	OP35567	G5G2808

The QC reported here applies to the following samples:

Method: SW846 8082A

JD32315-17, JD32315-20, JD32315-23

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	50	23	ug/kg	
11104-28-2	Aroclor 1221	ND	50	31	ug/kg	
11141-16-5	Aroclor 1232	ND	50	32	ug/kg	
53469-21-9	Aroclor 1242	ND	50	21	ug/kg	
12672-29-6	Aroclor 1248	ND	50	45	ug/kg	
11097-69-1	Aroclor 1254	ND	50	27	ug/kg	
11096-82-5	Aroclor 1260	ND	50	21	ug/kg	
11100-14-4	Aroclor 1268	ND	50	21	ug/kg	
37324-23-5	Aroclor 1262	ND	50	33	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	89%	24-152%
877-09-8	Tetrachloro-m-xylene	106%	24-152%
2051-24-3	Decachlorobiphenyl	105%	10-172%
2051-24-3	Decachlorobiphenyl	138%	10-172%

(a) Had TBA cleanup.

9.1.8
9

Method Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35714-MB1	XX2472180.D	1	10/10/21	TL	10/08/21	OP35714	GXX7609

The QC reported here applies to the following samples:

Method: SW846 8082A

JD32315-26

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	50	23	ug/kg	
11104-28-2	Aroclor 1221	ND	50	31	ug/kg	
11141-16-5	Aroclor 1232	ND	50	32	ug/kg	
53469-21-9	Aroclor 1242	ND	50	21	ug/kg	
12672-29-6	Aroclor 1248	ND	50	45	ug/kg	
11097-69-1	Aroclor 1254	ND	50	27	ug/kg	
11096-82-5	Aroclor 1260	ND	50	21	ug/kg	
11100-14-4	Aroclor 1268	ND	50	21	ug/kg	
37324-23-5	Aroclor 1262	ND	50	33	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	99%	24-152%
877-09-8	Tetrachloro-m-xylene	103%	24-152%
2051-24-3	Decachlorobiphenyl	105%	10-172%
2051-24-3	Decachlorobiphenyl	104%	10-172%

9.1.9
9

Method Blank Summary

Job Number: JD32315
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35757-MB1	ZZ101060.D	1	10/04/21	TC	10/04/21	OP35757	GZZ3729

The QC reported here applies to the following samples:

Method: SW846 8015D

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	10	3.4	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	68% 18-132%
438-22-2	5a-Androstane	67% 22-134%

Leachate Blank Summary

Job Number: JD32315
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35941-LB13	3G133445.D	1	10/17/21	TL	10/12/21	OP35941	G3G4866

The QC reported here applies to the following samples:

Method: SW846 8151A

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Result	RL	MDL	Units	Q
94-75-7	2,4-D	ND	3.3	0.98	ug/l	
93-72-1	2,4,5-TP (Silvex)	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Limits
19719-28-9	2,4-DCAA	77% 13-169%
19719-28-9	2,4-DCAA	48% 13-169%

9.2.1
9

Leachate Blank Summary

Job Number: JD32315
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35941-LB15	3G133446.D	1	10/17/21	TL	10/12/21	OP35941	G3G4866

The QC reported here applies to the following samples: Method: SW846 8151A

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Result	RL	MDL	Units	Q
94-75-7	2,4-D	ND	3.3	0.98	ug/l	
93-72-1	2,4,5-TP (Silvex)	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Limits	
19719-28-9	2,4-DCAA	85%	13-169%
19719-28-9	2,4-DCAA	60%	13-169%

9.2.2
9

Leachate Blank Summary

Job Number: JD32315
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35941-LB16	3G133447.D	1	10/17/21	TL	10/12/21	OP35941	G3G4866

The QC reported here applies to the following samples: Method: SW846 8151A

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Result	RL	MDL	Units	Q
94-75-7	2,4-D	ND	3.3	0.98	ug/l	
93-72-1	2,4,5-TP (Silvex)	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Limits
19719-28-9	2,4-DCAA	71% 13-169%
19719-28-9	2,4-DCAA	39% 13-169%

Leachate Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35939-LB13	4G9721360.D	1	10/12/21	RK	10/12/21	OP35939	G4G3596

The QC reported here applies to the following samples: Method: SW846 8081B

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Result	RL	MDL	Units	Q
58-89-9	gamma-BHC (Lindane)	ND	0.067	0.040	ug/l	
12789-03-6	Chlordane	ND	3.3	1.4	ug/l	
72-20-8	Endrin	ND	0.067	0.040	ug/l	
76-44-8	Heptachlor	ND	0.067	0.030	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.067	0.040	ug/l	
72-43-5	Methoxychlor	ND	0.13	0.045	ug/l	
8001-35-2	Toxaphene	ND	1.7	1.1	ug/l	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	84%	30-137%
877-09-8	Tetrachloro-m-xylene	87%	30-137%
2051-24-3	Decachlorobiphenyl	87%	10-137%
2051-24-3	Decachlorobiphenyl	86%	10-137%

9.2.4
9

Leachate Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35939-LB15	4G9721361.D	1	10/12/21	RK	10/12/21	OP35939	G4G3596

The QC reported here applies to the following samples: Method: SW846 8081B

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Result	RL	MDL	Units	Q
58-89-9	gamma-BHC (Lindane)	ND	0.067	0.040	ug/l	
12789-03-6	Chlordane	ND	3.3	1.4	ug/l	
72-20-8	Endrin	ND	0.067	0.040	ug/l	
76-44-8	Heptachlor	ND	0.067	0.030	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.067	0.040	ug/l	
72-43-5	Methoxychlor	ND	0.13	0.045	ug/l	
8001-35-2	Toxaphene	ND	1.7	1.1	ug/l	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	75%	30-137%
877-09-8	Tetrachloro-m-xylene	77%	30-137%
2051-24-3	Decachlorobiphenyl	91%	10-137%
2051-24-3	Decachlorobiphenyl	86%	10-137%

9.2.5
9

Leachate Blank Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35939-LB16	4G9721362.D	1	10/12/21	RK	10/12/21	OP35939	G4G3596

The QC reported here applies to the following samples: Method: SW846 8081B

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Result	RL	MDL	Units	Q
58-89-9	gamma-BHC (Lindane)	ND	0.067	0.040	ug/l	
12789-03-6	Chlordane	ND	3.3	1.4	ug/l	
72-20-8	Endrin	ND	0.067	0.040	ug/l	
76-44-8	Heptachlor	ND	0.067	0.030	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.067	0.040	ug/l	
72-43-5	Methoxychlor	ND	0.13	0.045	ug/l	
8001-35-2	Toxaphene	ND	1.7	1.1	ug/l	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	110%	30-137%
877-09-8	Tetrachloro-m-xylene	107%	30-137%
2051-24-3	Decachlorobiphenyl	113%	10-137%
2051-24-3	Decachlorobiphenyl	106%	10-137%

9.2.6
9

Blank Spike Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35941-BS1	3G133530.D	1	10/19/21	RK	10/12/21	OP35941	G3G4869

The QC reported here applies to the following samples: Method: SW846 8151A

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
94-75-7	2,4-D	1.33	1.4	105 ^a	36-158
93-72-1	2,4,5-TP (Silvex)	0.267	0.17	64 ^b	44-158

CAS No.	Surrogate Recoveries	BSP	Limits
19719-28-9	2,4-DCAA	114%	13-169%
19719-28-9	2,4-DCAA	76%	13-169%

(a) Reported from 2nd signal. 1st signal used for confirmation.

(b) Reported from 1st signal. 2nd signal used for confirmation.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35939-BS1	4G9721359.D	1	10/12/21	RK	10/12/21	OP35939	G4G3596

The QC reported here applies to the following samples: Method: SW846 8081B

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
58-89-9	gamma-BHC (Lindane)	0.5	0.48	96	37-178
72-20-8	Endrin	0.5	0.48	96	45-182
76-44-8	Heptachlor	0.5	0.47	94	26-172
1024-57-3	Heptachlor epoxide	0.5	0.49	98	43-173
72-43-5	Methoxychlor	0.5	0.52	104	40-192

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	86%	30-137%
877-09-8	Tetrachloro-m-xylene	83%	30-137%
2051-24-3	Decachlorobiphenyl	49%	10-137%
2051-24-3	Decachlorobiphenyl	45%	10-137%

9.3.2
9

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35562-BS1	5G110643.D	1	10/03/21	TL	10/01/21	OP35562	G5G2805

The QC reported here applies to the following samples:

Method: SW846 8082A

JD32315-2, JD32315-5, JD32315-9, JD32315-11, JD32315-14

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
12674-11-2	Aroclor 1016	200	247	124	39-169
11104-28-2	Aroclor 1221		ND		50-150
11141-16-5	Aroclor 1232		ND		50-150
53469-21-9	Aroclor 1242		ND		50-150
12672-29-6	Aroclor 1248		ND		50-150
11097-69-1	Aroclor 1254		ND		50-150
11096-82-5	Aroclor 1260	200	212	106 ^a	41-171
11100-14-4	Aroclor 1268		ND		50-150
37324-23-5	Aroclor 1262		ND		50-150

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	75%	24-152%
877-09-8	Tetrachloro-m-xylene	88%	24-152%
2051-24-3	Decachlorobiphenyl	99%	10-172%
2051-24-3	Decachlorobiphenyl	114%	10-172%

(a) Reported from the 1st signal. The %D of the CCV on the 2nd signal exceeds the method criteria of 20%, so it being used for confirmation only.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35562-BS1 ^a	5G110682.D	1	10/04/21	TL	10/01/21	OP35562	G5G2805

The QC reported here applies to the following samples:

Method: SW846 8082A

JD32315-2, JD32315-5, JD32315-9, JD32315-11, JD32315-14

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
12674-11-2	Aroclor 1016	200	238	119	39-169
11104-28-2	Aroclor 1221		ND		50-150
11141-16-5	Aroclor 1232		ND		50-150
53469-21-9	Aroclor 1242		ND		50-150
12672-29-6	Aroclor 1248		ND		50-150
11097-69-1	Aroclor 1254		ND		50-150
11096-82-5	Aroclor 1260	200	218	109 ^b	41-171
11100-14-4	Aroclor 1268		ND		50-150
37324-23-5	Aroclor 1262		ND		50-150

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	76%	24-152%
877-09-8	Tetrachloro-m-xylene	100%	24-152%
2051-24-3	Decachlorobiphenyl	92%	10-172%
2051-24-3	Decachlorobiphenyl	118%	10-172%

(a) Had TBA cleanup.

(b) Reported from the 1st signal. The %D of the CCV on the 2nd signal exceeds the method criteria of 20%, so it being used for confirmation only.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35760-BS1	XX2471763.D	1	10/05/21	RK	10/04/21	OP35760	GXX7601
OP35760-BSD	XX2471764.D	1	10/05/21	RK	10/04/21	OP35760	GXX7601

The QC reported here applies to the following samples: Method: SW846 8082A

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	133	155	116	155	116	0	39-169/28
11104-28-2	Aroclor 1221		ND		ND		nc	50-150/30
11141-16-5	Aroclor 1232		ND		ND		nc	50-150/30
53469-21-9	Aroclor 1242		ND		ND		nc	50-150/30
12672-29-6	Aroclor 1248		ND		ND		nc	50-150/30
11097-69-1	Aroclor 1254		ND		ND		nc	50-150/30
11096-82-5	Aroclor 1260	133	143	107	143	107	0	41-171/29
11100-14-4	Aroclor 1268		ND		ND		nc	50-150/30
37324-23-5	Aroclor 1262		ND		ND		nc	50-150/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
877-09-8	Tetrachloro-m-xylene	117%	121%	24-152%
877-09-8	Tetrachloro-m-xylene	118%	121%	24-152%
2051-24-3	Decachlorobiphenyl	112%	113%	10-172%
2051-24-3	Decachlorobiphenyl	108%	106%	10-172%

* = Outside of Control Limits.

9.4.1
9

Blank Spike/Blank Spike Duplicate Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35567-BS1	5G110701.D	1	10/04/21	CP	10/04/21	OP35567	G5G2806
OP35567-BSD	5G110702.D	1	10/04/21	CP	10/04/21	OP35567	G5G2806

The QC reported here applies to the following samples:

Method: SW846 8082A

JD32315-17, JD32315-20, JD32315-23

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	200	237	119	234	117	1	39-169/28
11104-28-2	Aroclor 1221		ND		ND		nc	50-150/30
11141-16-5	Aroclor 1232		ND		ND		nc	50-150/30
53469-21-9	Aroclor 1242		ND		ND		nc	50-150/30
12672-29-6	Aroclor 1248		ND		ND		nc	50-150/30
11097-69-1	Aroclor 1254		ND		ND		nc	50-150/30
11096-82-5	Aroclor 1260	200	235	118 ^a	221	111 ^a	6 ^a	41-171/29
11100-14-4	Aroclor 1268		ND		ND		nc	50-150/30
37324-23-5	Aroclor 1262		ND		ND		nc	50-150/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
877-09-8	Tetrachloro-m-xylene	81%	81%	24-152%
877-09-8	Tetrachloro-m-xylene	84%	86%	24-152%
2051-24-3	Decachlorobiphenyl	97%	98%	10-172%
2051-24-3	Decachlorobiphenyl	115%	119%	10-172%

(a) Reported from the 1st signal. The %D of the CCV on the 2nd signal exceeds the method criteria of 20%, so it being used for confirmation only.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35714-BS1	XX2472181.D	1	10/10/21	TL	10/08/21	OP35714	GXX7609
OP35714-BSD	XX2472182.D	1	10/10/21	TL	10/08/21	OP35714	GXX7609

The QC reported here applies to the following samples:

Method: SW846 8082A

JD32315-26

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	200	209	105	198	99	5	39-169/28
11104-28-2	Aroclor 1221		ND		ND		nc	50-150/30
11141-16-5	Aroclor 1232		ND		ND		nc	50-150/30
53469-21-9	Aroclor 1242		ND		ND		nc	50-150/30
12672-29-6	Aroclor 1248		ND		ND		nc	50-150/30
11097-69-1	Aroclor 1254		ND		ND		nc	50-150/30
11096-82-5	Aroclor 1260	200	202	101	208	104	3	41-171/29
11100-14-4	Aroclor 1268		ND		ND		nc	50-150/30
37324-23-5	Aroclor 1262		ND		ND		nc	50-150/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
877-09-8	Tetrachloro-m-xylene	93%	94%	24-152%
877-09-8	Tetrachloro-m-xylene	98%	97%	24-152%
2051-24-3	Decachlorobiphenyl	98%	104%	10-172%
2051-24-3	Decachlorobiphenyl	99%	101%	10-172%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35757-BS1	ZZ101061.D	1	10/04/21	TC	10/04/21	OP35757	GZZ3729
OP35757-BSD	ZZ101062.D	1	10/04/21	TC	10/04/21	OP35757	GZZ3729

The QC reported here applies to the following samples: Method: SW846 8015D

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	66.7	50.1	75	43.4	65	14	44-120/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	78%	71%	18-132%
438-22-2	5a-Androstane	75%	69%	22-134%

9.4.4
9

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35941-MS	3G133531.D	1	10/19/21	RK	10/12/21	OP35941	G3G4869
OP35941-MSD	3G133532.D	1	10/19/21	RK	10/12/21	OP35941	G3G4869
JD32315-3	3G133448.D	1	10/17/21	TL	10/12/21	OP35941	G3G4866

The QC reported here applies to the following samples: Method: SW846 8151A

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	JD32315-3 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
94-75-7	2,4-D	ND	13.3	1.8	13* a	13.3	2.1	16* a	15	35-196/60
93-72-1	2,4,5-TP (Silvex)	ND	2.67	1.8	67	2.67	2.0	75	11	10-226/52

CAS No.	Surrogate Recoveries	MS	MSD	JD32315-3	Limits
19719-28-9	2,4-DCAA	114%	133%	87%	13-169%
19719-28-9	2,4-DCAA	78%	95%	53%	13-169%

(a) Outside of in house control limits.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35939-MS	4G9721364.D	1	10/12/21	RK	10/12/21	OP35939	G4G3596
OP35939-MSD	4G9721365.D	1	10/12/21	RK	10/12/21	OP35939	G4G3596
JD32315-3	4G9721363.D	1	10/12/21	RK	10/12/21	OP35939	G4G3596

The QC reported here applies to the following samples: Method: SW846 8081B

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	JD32315-3	Spike	MS	MS	Spike	MSD	MSD	RPD	Limits
		ug/l	Q	ug/l	ug/l	%	ug/l	ug/l		%
58-89-9	gamma-BHC (Lindane)	ND	1.67	2.0	120	1.67	1.8	108	11	39-160/97
12789-03-6	Chlordane	ND		ND			ND		nc	81-123/10
72-20-8	Endrin	ND	1.67	2.0	120	1.67	1.9	114	5	43-169/95
76-44-8	Heptachlor	ND	1.67	2.0	120	1.67	1.8	108	11	35-152/102
1024-57-3	Heptachlor epoxide	ND	1.67	2.0	120	1.67	1.9	114	5	42-159/96
72-43-5	Methoxychlor	ND	1.67	2.2	132	1.67	2.1	126	5	47-170/99
8001-35-2	Toxaphene	ND		ND			ND		nc	50-150/8

CAS No.	Surrogate Recoveries	MS	MSD	JD32315-3	Limits
877-09-8	Tetrachloro-m-xylene	100%	96%	86%	30-137%
877-09-8	Tetrachloro-m-xylene	102%	96%	91%	30-137%
2051-24-3	Decachlorobiphenyl	101%	106%	85%	10-137%
2051-24-3	Decachlorobiphenyl	108%	104%	88%	10-137%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35562-MS	5G110645.D	1	10/03/21	TL	10/01/21	OP35562	G5G2805
OP35562-MSD	5G110646.D	1	10/03/21	TL	10/01/21	OP35562	G5G2805
JD31803-24	5G110644.D	1	10/03/21	TL	10/01/21	OP35562	G5G2805

The QC reported here applies to the following samples:

Method: SW846 8082A

JD32315-2, JD32315-5, JD32315-9, JD32315-11, JD32315-14

CAS No.	Compound	JD31803-24 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND	196	117	60	193	196	102	50	14-200/59
11104-28-2	Aroclor 1221	ND		ND			ND		nc	50-150/30
11141-16-5	Aroclor 1232	ND		ND			ND		nc	50-150/30
53469-21-9	Aroclor 1242	ND		ND			ND		nc	50-150/11
12672-29-6	Aroclor 1248	ND		ND			ND		nc	50-150/25
11097-69-1	Aroclor 1254	1740		2500			2520		1	50-150/37
11096-82-5	Aroclor 1260	ND	196	410	209* a	193	527	273* a	25	10-200/59
11100-14-4	Aroclor 1268	ND		ND			ND		nc	50-150/30
37324-23-5	Aroclor 1262	ND		ND			ND		nc	50-150/10

CAS No.	Surrogate Recoveries	MS	MSD	JD31803-24	Limits
877-09-8	Tetrachloro-m-xylene	44%	83%	81%	24-152%
877-09-8	Tetrachloro-m-xylene	45%	82%	83%	24-152%
2051-24-3	Decachlorobiphenyl	44%	71%	73%	10-172%
2051-24-3	Decachlorobiphenyl	53%	84%	95%	10-172%

(a) Outside control limits due to presence of other Aroclor pattern.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35760-MS	XX2471784.D	1	10/05/21	RK	10/04/21	OP35760	GXX7601
OP35760-MSD	XX2471785.D	1	10/05/21	RK	10/04/21	OP35760	GXX7601
JD32424-4	XX2471779.D	1	10/05/21	RK	10/04/21	OP35760	GXX7601

The QC reported here applies to the following samples: Method: SW846 8082A

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	JD32424-4 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND	159	132	83	152	158	104	18	14-200/59
11104-28-2	Aroclor 1221	ND		ND			ND		nc	50-150/30
11141-16-5	Aroclor 1232	ND		ND			ND		nc	50-150/30
53469-21-9	Aroclor 1242	ND		ND			ND		nc	50-150/11
12672-29-6	Aroclor 1248	ND		ND			ND		nc	50-150/25
11097-69-1	Aroclor 1254	ND		ND			ND		nc	50-150/37
11096-82-5	Aroclor 1260	ND	159	137	86	152	171	113	22	10-200/59
11100-14-4	Aroclor 1268	ND		ND			ND		nc	50-150/30
37324-23-5	Aroclor 1262	ND		ND			ND		nc	50-150/10

CAS No.	Surrogate Recoveries	MS	MSD	JD32424-4	Limits
877-09-8	Tetrachloro-m-xylene	69%	90%	83%	24-152%
877-09-8	Tetrachloro-m-xylene	91%	115%	108%	24-152%
2051-24-3	Decachlorobiphenyl	71%	98%	77%	10-172%
2051-24-3	Decachlorobiphenyl	72%	119%	104%	10-172%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35567-MS	5G110704.D	1	10/05/21	CP	10/04/21	OP35567	G5G2806
OP35567-MSD	5G110705.D	1	10/05/21	CP	10/04/21	OP35567	G5G2806
JD31911-23	5G110703.D	1	10/05/21	CP	10/04/21	OP35567	G5G2806

The QC reported here applies to the following samples:

Method: SW846 8082A

JD32315-17, JD32315-20, JD32315-23

CAS No.	Compound	JD31911-23 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND	179	201	112	185	224	121	11	14-200/59
11104-28-2	Aroclor 1221	ND		ND			ND		nc	50-150/30
11141-16-5	Aroclor 1232	ND		ND			ND		nc	50-150/30
53469-21-9	Aroclor 1242	ND		ND			ND		nc	50-150/11
12672-29-6	Aroclor 1248	ND		ND			ND		nc	50-150/25
11097-69-1	Aroclor 1254	383		587			751		25	50-150/37
11096-82-5	Aroclor 1260	ND	179	301	168 ^a	185	348	188 ^a	14	10-200/59
11100-14-4	Aroclor 1268	ND		ND			ND		nc	50-150/30
37324-23-5	Aroclor 1262	ND		ND			ND		nc	50-150/10

CAS No.	Surrogate Recoveries	MS	MSD	JD31911-23	Limits
877-09-8	Tetrachloro-m-xylene	79%	81%	85%	24-152%
877-09-8	Tetrachloro-m-xylene	75%	96%	104%	24-152%
2051-24-3	Decachlorobiphenyl	82%	89%	91%	10-172%
2051-24-3	Decachlorobiphenyl	101%	113%	118%	10-172%

(a) Outside program requirements.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35714-MS	XX2472184.D	1	10/10/21	TL	10/08/21	OP35714	GXX7609
OP35714-MSD	XX2472185.D	1	10/10/21	TL	10/08/21	OP35714	GXX7609
JD32329-5	XX2472183.D	1	10/10/21	TL	10/08/21	OP35714	GXX7609

The QC reported here applies to the following samples:

Method: SW846 8082A

JD32315-26

CAS No.	Compound	JD32329-5 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND	188	181	96	212	176	83	3	14-200/59
11104-28-2	Aroclor 1221	ND		ND			ND		nc	50-150/30
11141-16-5	Aroclor 1232	ND		ND			ND		nc	50-150/30
53469-21-9	Aroclor 1242	ND		ND			ND		nc	50-150/11
12672-29-6	Aroclor 1248	ND		ND			ND		nc	50-150/25
11097-69-1	Aroclor 1254	ND		ND			ND		nc	50-150/37
11096-82-5	Aroclor 1260	ND	188	192	102	212	195	92	2	10-200/59
11100-14-4	Aroclor 1268	ND		ND			ND		nc	50-150/30
37324-23-5	Aroclor 1262	ND		ND			ND		nc	50-150/10

CAS No.	Surrogate Recoveries	MS	MSD	JD32329-5	Limits
877-09-8	Tetrachloro-m-xylene	81%	74%	94%	24-152%
877-09-8	Tetrachloro-m-xylene	88%	77%	99%	24-152%
2051-24-3	Decachlorobiphenyl	77%	77%	92%	10-172%
2051-24-3	Decachlorobiphenyl	89%	89%	101%	10-172%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35757-MS	ZZ101065.D	1	10/04/21	TC	10/04/21	OP35757	GZZ3729
OP35757-MSD	ZZ101066.D	1	10/04/21	TC	10/04/21	OP35757	GZZ3729
JD32459-1	ZZ101064.D	1	10/04/21	TC	10/04/21	OP35757	GZZ3729

The QC reported here applies to the following samples: Method: SW846 8015D

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	JD32459-1 mg/kg	Spike Q	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	ND	71.6	48.2	67	71.1	51.3	72	6	10-145/50

CAS No.	Surrogate Recoveries	MS	MSD	JD32459-1	Limits
84-15-1	o-Terphenyl	72%	79%	66%	18-132%
438-22-2	5a-Androstane	70%	76%	65%	22-134%

9.5.7
9

* = Outside of Control Limits.

Leachate Spike Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35941-LS13	3G133531.D	1	10/19/21	RK	10/12/21	OP35941	G3G4869
JD32315-3	3G133448.D	1	10/17/21	TL	10/12/21	OP35941	G3G4866

The QC reported here applies to the following samples: Method: SW846 8151A

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	JD32315-3 ug/l	Spike Q	LS ug/l	LS %	Limits
94-75-7	2,4-D	ND	13.3	1.8	13* a	35-196
93-72-1	2,4,5-TP (Silvex)	ND	2.67	1.8	67	10-226

CAS No.	Surrogate Recoveries	LS	JD32315-3	Limits
19719-28-9	2,4-DCAA	114%	87%	13-169%
19719-28-9	2,4-DCAA	78%	53%	13-169%

(a) Outside of in house control limits.

* = Outside of Control Limits.

Leachate Spike Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35939-LS13	4G9721364.D	1	10/12/21	RK	10/12/21	OP35939	G4G3596
JD32315-3	4G9721363.D	1	10/12/21	RK	10/12/21	OP35939	G4G3596

The QC reported here applies to the following samples: Method: SW846 8081B

JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

CAS No.	Compound	JD32315-3 ug/l	Spike Q	ug/l	LS ug/l	LS %	Limits
58-89-9	gamma-BHC (Lindane)	ND	1.67	2.0	120	39-160	
12789-03-6	Chlordane	ND		ND		81-123	
72-20-8	Endrin	ND	1.67	2.0	120	43-169	
76-44-8	Heptachlor	ND	1.67	2.0	120	35-152	
1024-57-3	Heptachlor epoxide	ND	1.67	2.0	120	42-159	
72-43-5	Methoxychlor	ND	1.67	2.2	132	47-170	
8001-35-2	Toxaphene	ND		ND		50-150	

CAS No.	Surrogate Recoveries	LS	JD32315-3	Limits
877-09-8	Tetrachloro-m-xylene	100%	86%	30-137%
877-09-8	Tetrachloro-m-xylene	102%	91%	30-137%
2051-24-3	Decachlorobiphenyl	101%	85%	10-137%
2051-24-3	Decachlorobiphenyl	108%	88%	10-137%

* = Outside of Control Limits.

Surrogate Recovery Summary

Job Number: JD32315
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Method: SW846 8151A Matrix: LEACHATE

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a	S1 ^b
JD32315-3	3G133448.D	87	53
JD32315-6	3G133451.D	47	32
JD32315-7	3G133454.D	84	48
JD32315-12	3G133455.D	99	60
JD32315-15	3G133456.D	91	53
JD32315-18	3G133457.D	45	30
JD32315-21	3G133458.D	82	53
JD32315-24	3G133459.D	88	56
JD32315-27	3G133460.D	100	59
OP35941-BS1	3G133530.D	114	76
OP35941-LB13	3G133445.D	77	48
OP35941-LB15	3G133446.D	85	60
OP35941-LB16	3G133447.D	71	39
OP35941-LS13	3G133531.D	114	78
OP35941-MB1	3G133443.D	66	33
OP35941-MS	3G133531.D	114	78
OP35941-MSD	3G133532.D	133	95

Surrogate Compounds Recovery Limits

S1 = 2,4-DCAA 13-169%

(a) Recovery from GC signal #2
(b) Recovery from GC signal #1

9.7.1
9

Surrogate Recovery Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Method: SW846 8081B	Matrix: LEACHATE
---------------------	------------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a	S1 ^b	S2 ^a	S2 ^b
JD32315-3	4G9721363.D	86	91	85	88
JD32315-6	4G9721366.D	91	95	98	93
JD32315-7	4G9721367.D	87	92	99	95
JD32315-12	4G9721368.D	101	102	121	115
JD32315-15	4G9721369.D	104	111	112	110
JD32315-18	4G9721370.D	86	91	91	94
JD32315-21	4G9721371.D	71	70	85	79
JD32315-24	4G9721372.D	79	84	86	85
JD32315-27	4G9721373.D	73	80	84	90
OP35939-BS1	4G9721359.D	86	83	49	45
OP35939-LB13	4G9721360.D	84	87	87	86
OP35939-LB15	4G9721361.D	75	77	91	86
OP35939-LB16	4G9721362.D	110	107	113	106
OP35939-LS13	4G9721364.D	100	102	101	108
OP35939-MB1	4G9721358.D	91	85	65	65
OP35939-MB1	6G79597.D	104	98	70	79
OP35939-MS	4G9721364.D	100	102	101	108
OP35939-MSD	4G9721365.D	96	96	106	104

Surrogate Compounds Recovery Limits

S1 = Tetrachloro-m-xylene 30-137%
 S2 = Decachlorobiphenyl 10-137%

(a) Recovery from GC signal #1
 (b) Recovery from GC signal #2

9.7.2
 9

Surrogate Recovery Summary

Job Number: JD32315
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Method: SW846 8082A	Matrix: SO
---------------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a	S1 ^b	S2 ^a	S2 ^b
JD32315-2	5G110669.D	79	77	70	105
JD32315-3	XX2471765.D	77	77	71	67
JD32315-5	5G110674.D	78	78	89	106
JD32315-6	XX2471766.D	62	65	51	61
JD32315-7	XX2471767.D	90	90	74	83
JD32315-9	5G110675.D	84	87	98	123
JD32315-11	5G110676.D	76	77	85	101
JD32315-12	XX2471768.D	71	79	60	75
JD32315-14	5G110654.D	86	87	83	85
JD32315-15	XX2471802.D	47	49	38	21
JD32315-17	5G110734.D	55	65	107	129
JD32315-18	XX2471774.D	94	93	76	85
JD32315-20	5G110735.D	77	48	82	65
JD32315-21	XX2471775.D	77	83	85	102
JD32315-23	5G110736.D	70	64	63	68
JD32315-24	XX2471776.D	37	36	28	141
JD32315-26	XX2472196.D	46	50	75	74
JD32315-27	XX2471803.D	65	67	53	68
OP35562-BS1	5G110643.D	75	88	99	114
OP35562-BS1	5G110682.D	76	100	92	118
OP35562-MB1	5G110642.D	78	77	87	113
OP35562-MB1	5G110681.D	82	86	91	117
OP35562-MS	5G110645.D	44	45	44	53
OP35562-MSD	5G110646.D	83	82	71	84
OP35567-BS1	5G110701.D	81	84	97	115
OP35567-BS1	5G110811.D	87	87	100	132
OP35567-BSD	5G110702.D	81	86	98	119
OP35567-MB1	5G110700.D	80	98	89	118
OP35567-MB1	5G110810.D	89	106	105	138
OP35567-MS	5G110704.D	79	75	82	101
OP35567-MSD	5G110705.D	81	96	89	113
OP35714-BS1	XX2472181.D	93	98	98	99
OP35714-BSD	XX2472182.D	94	97	104	101
OP35714-MB1	XX2472180.D	99	103	105	104
OP35714-MS	XX2472184.D	81	88	77	89
OP35714-MSD	XX2472185.D	74	77	77	89
OP35760-BS1	XX2471763.D	117	118	112	108
OP35760-BSD	XX2471764.D	121	121	113	106
OP35760-MB1	XX2471762.D	94	95	83	98
OP35760-MS	XX2471784.D	69	91	71	72

9.7.3
9

Surrogate Recovery Summary

Job Number: JD32315
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Method: SW846 8082A	Matrix: SO
---------------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a	S1 ^b	S2 ^a	S2 ^b
OP35760-MSD	XX2471785.D	90	115	98	119

Surrogate Compounds Recovery Limits

S1 = Tetrachloro-m-xylene 24-152%
S2 = Decachlorobiphenyl 10-172%

(a) Recovery from GC signal #1
(b) Recovery from GC signal #2

9.7.3
9

Surrogate Recovery Summary

Job Number: JD32315
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Method: SW846 8015D Matrix: SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a	S2 ^a
JD32315-3	ZZ101078.D	69	67
JD32315-6	ZZ101081.D	69	68
JD32315-7	ZZ101082.D	34	33
JD32315-12	ZZ101083.D	51	51
JD32315-15	ZZ101084.D	76	75
JD32315-18	ZZ101085.D	72	71
JD32315-21	ZZ101086.D	67	82
JD32315-24	ZZ101087.D	57	55
JD32315-27	ZZ101088.D	57	55
OP35757-BS1	ZZ101061.D	78	75
OP35757-BSD	ZZ101062.D	71	69
OP35757-MB1	ZZ101060.D	68	67
OP35757-MS	ZZ101065.D	72	70
OP35757-MSD	ZZ101066.D	79	76

Surrogate Compounds Recovery Limits

S1 = o-Terphenyl 18-132%
S2 = 5a-Androstane 22-134%

(a) Recovery from GC signal #1

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD32315
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP28913
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 09/30/21

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	1.6	8.1		
Antimony	2.0	.25	.41		
Arsenic	2.0	.2	.28	0.010	<2.0
Barium	20	.04	1.9	0.10	<20
Beryllium	0.20	.01	.08		
Bismuth	2.0	.36	.52		
Boron	10	.19	3.7		
Cadmium	0.50	.04	.07	0.060	<0.50
Calcium	500	.56	21		
Chromium	1.0	.05	.37	0.10	<1.0
Cobalt	5.0	.05	.28		
Copper	2.5	.1	.84		
Iron	50	1.1	19		
Lead	2.0	.12	.41	0.15	<2.0
Lithium	5.0	.23	.92		
Magnesium	500	6.5	14		
Manganese	1.5	.02	.41		
Molybdenum	2.0	.04	.32		
Nickel	4.0	.03	.35		
Phosphorus	20	.41	3.3		
Potassium	1000	5.5	32		
Selenium	2.0	.35	.65	0.040	<2.0
Silicon	20	.16	11		
Silver	0.50	.11	.17	0.020	<0.50
Sodium	1000	1.1	78		
Strontium	5.0	.01	.18		
Sulfur	10	.44	3.9		
Thallium	1.0	.25	.58		
Tin	20	.1	3.8		
Titanium	1.0	.04	.34		
Tungsten	5.0	.28	1.8		
Vanadium	5.0	.06	.19		
Zinc	5.0	.01	2.3		

10.1.1
10

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD32315
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP28913
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 09/30/21

Metal	RL	IDL	MDL	MB	
				raw	final

Zirconium 2.0 .04 .54

Associated samples MP28913: JD32315-1, JD32315-2, JD32315-4, JD32315-5, JD32315-8, JD32315-9, JD32315-10, JD32315-11, JD32315-13, JD32315-14, JD32315-16, JD32315-17, JD32315-19, JD32315-20, JD32315-22, JD32315-23, JD32315-25, JD32315-26

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

10.1.1
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP28913
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: mg/kg

Prep Date: 09/30/21

Metal	JD32315-1 Original MS		SpikeLot MPSPK2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	6.3	202	214	91.4	75-125
Barium	25.7	222	214	91.7	75-125
Beryllium	anr				
Bismuth					
Boron					
Cadmium	0.48	195	214	90.9	75-125
Calcium					
Chromium	19.4	210	214	89.1	75-125
Cobalt					
Copper	anr				
Lead	18.0	209	214	89.3	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel	anr				
Phosphorus					
Potassium					
Selenium	1.2	190	214	88.2	75-125
Silicon					
Silver	0.61	26.5	26.8	96.8	75-125
Sodium					
Strontium					
Sulfur					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc	anr				
Zirconium					

10.1.2
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP28913
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: mg/kg

Prep Date: 09/30/21

Metal	JD32315-1 Original MS	Spike/lot MPSPK2	% Rec	QC Limits
-------	--------------------------	---------------------	-------	--------------

Associated samples MP28913: JD32315-1, JD32315-2, JD32315-4, JD32315-5, JD32315-8, JD32315-9, JD32315-10, JD32315-11, JD32315-13, JD32315-14, JD32315-16, JD32315-17, JD32315-19, JD32315-20, JD32315-22, JD32315-23, JD32315-25, JD32315-26

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

10.1.2
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP28913
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: mg/kg

Prep Date: 09/30/21

Metal	JD32315-1 Original MSD		SpikeLot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	6.3	200	212	91.4	1.0	20
Barium	25.7	222	212	92.7	0.0	20
Beryllium	anr					
Bismuth						
Boron						
Cadmium	0.48	195	212	91.8	0.0	20
Calcium						
Chromium	19.4	207	212	88.5	1.4	20
Cobalt						
Copper	anr					
Lead	18.0	207	212	89.2	1.0	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel	anr					
Phosphorus						
Potassium						
Selenium	1.2	190	212	89.1	0.0	20
Silicon						
Silver	0.61	26.2	26.5	96.6	1.1	20
Sodium						
Strontium						
Sulfur						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc	anr					
Zirconium						

10.1.2
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP28913
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: mg/kg

Prep Date: 09/30/21

Metal	JD32315-1 Original MSD	SpikeLot MPSPK2	% Rec	MSD RPD	QC Limit
-------	---------------------------	--------------------	-------	------------	-------------

Associated samples MP28913: JD32315-1, JD32315-2, JD32315-4, JD32315-5, JD32315-8, JD32315-9, JD32315-10, JD32315-11, JD32315-13, JD32315-14, JD32315-16, JD32315-17, JD32315-19, JD32315-20, JD32315-22, JD32315-23, JD32315-25, JD32315-26

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

10.1.2
 10

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP28913
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: mg/kg

Prep Date: 09/30/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	192	198	97.0	80-120
Barium	193	198	97.5	80-120
Beryllium	anr			
Bismuth				
Boron				
Cadmium	192	198	97.0	80-120
Calcium				
Chromium	195	198	98.5	80-120
Cobalt				
Copper	anr			
Iron				
Lead	193	198	97.5	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium	189	198	95.4	80-120
Silicon				
Silver	25.1	24.8	101.4	80-120
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc	anr			

10.1.3
10

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP28913
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: mg/kg

Prep Date: 09/30/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
-------	---------------	--------------------	-------	--------------

Zirconium

Associated samples MP28913: JD32315-1, JD32315-2, JD32315-4, JD32315-5, JD32315-8, JD32315-9, JD32315-10, JD32315-11, JD32315-13, JD32315-14, JD32315-16, JD32315-17, JD32315-19, JD32315-20, JD32315-22, JD32315-23, JD32315-25, JD32315-26

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

10.1.3
 10

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP28913
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: ug/l

Prep Date: 09/30/21

Metal	JD32315-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	59.1	65.0	10.0	0-10
Barium	243	262	7.9	0-10
Beryllium	anr			
Bismuth				
Boron				
Cadmium	4.50	5.40	20.0 (a)	0-10
Calcium				
Chromium	183	203	10.8*(b)	0-10
Cobalt				
Copper	anr			
Iron				
Lead	170	181	6.4	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium	11.6	0.00	100.0(a)	0-10
Silicon				
Silver	5.80	7.10	22.4 (a)	0-10
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc	anr			

10.1.4
10

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD32315
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP28913
Matrix Type: SOLID

Methods: SW846 6010D
Units: ug/l

Prep Date: 09/30/21

Metal	JD32315-1 Original SDL 1:5	%DIF	QC Limits
-------	-------------------------------	------	--------------

Zirconium

Associated samples MP28913: JD32315-1, JD32315-2, JD32315-4, JD32315-5, JD32315-8, JD32315-9, JD32315-10, JD32315-11, JD32315-13, JD32315-14, JD32315-16, JD32315-17, JD32315-19, JD32315-20, JD32315-22, JD32315-23, JD32315-25, JD32315-26

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

(b) Serial dilution indicates possible matrix interference.

10.1.4
10

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD32315
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP28930
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 09/30/21

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.033	.0057	.015	-0.0084	<0.033

Associated samples MP28930: JD32315-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP28930
 Matrix Type: SOLID

Methods: SW846 7471B
 Units: mg/kg

Prep Date: 09/30/21

Metal	JD32329-5 Original MS	SpikeLot HGPWS1	% Rec	QC Limits
-------	--------------------------	--------------------	-------	--------------

Mercury	0.050	0.42	0.357	103.6	80-120
---------	-------	------	-------	-------	--------

Associated samples MP28930: JD32315-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

10.2.2
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP28930
 Matrix Type: SOLID

Methods: SW846 7471B
 Units: mg/kg

Prep Date: 09/30/21

Metal	JD32329-5 Original MSD	Spike lot	HGPWS1 % Rec	MSD RPD	QC Limit
Mercury	0.050	0.44	0.36	108.5	4.7 20

Associated samples MP28930: JD32315-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

10.2.2
 10

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD32315
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP28930
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 09/30/21

Metal	BSP Result	Spikelot HGPWS1	% Rec	QC Limits
Mercury	0.28	0.333	84.0	80-120

Associated samples MP28930: JD32315-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD32315
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP28967
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 10/04/21

Metal	RL	IDL	MDL	MB raw	final
-------	----	-----	-----	-----------	-------

Mercury 0.033 .0057 .015 0.011 <0.033

Associated samples MP28967: JD32315-2, JD32315-4, JD32315-5, JD32315-8, JD32315-9, JD32315-10, JD32315-11, JD32315-13, JD32315-14, JD32315-16, JD32315-17, JD32315-19, JD32315-20, JD32315-22, JD32315-23, JD32315-25, JD32315-26

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

10.3.1
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP28967
 Matrix Type: SOLID

Methods: SW846 7471B
 Units: mg/kg

Prep Date: 10/04/21

Metal	JD32315-4 Original MS	Spike HGPWS1	lot % Rec	QC Limits
-------	--------------------------	-----------------	--------------	--------------

Mercury 0.017 0.38 0.342 106.0 80-120

Associated samples MP28967: JD32315-2, JD32315-4, JD32315-5, JD32315-8, JD32315-9, JD32315-10, JD32315-11, JD32315-13, JD32315-14, JD32315-16, JD32315-17, JD32315-19, JD32315-20, JD32315-22, JD32315-23, JD32315-25, JD32315-26

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

10.3.2
 10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP28967
 Matrix Type: SOLID

Methods: SW846 7471B
 Units: mg/kg

Prep Date: 10/04/21

Metal	JD32315-4 Original MSD	Spikelot HGPWS1	% Rec	MSD RPD	QC Limit
Mercury	0.017	0.38	0.342	106.1	0.0 20

Associated samples MP28967: JD32315-2, JD32315-4, JD32315-5, JD32315-8, JD32315-9, JD32315-10, JD32315-11, JD32315-13, JD32315-14, JD32315-16, JD32315-17, JD32315-19, JD32315-20, JD32315-22, JD32315-23, JD32315-25, JD32315-26

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

10.3.2
 10

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP28967
 Matrix Type: SOLID

Methods: SW846 7471B
 Units: mg/kg

Prep Date: 10/04/21

Metal	BSP Result	Spikelot HGPWS1	% Rec	QC Limits
Mercury	0.30	0.333	90.0	80-120

Associated samples MP28967: JD32315-2, JD32315-4, JD32315-5, JD32315-8, JD32315-9, JD32315-10, JD32315-11, JD32315-13, JD32315-14, JD32315-16, JD32315-17, JD32315-19, JD32315-20, JD32315-22, JD32315-23, JD32315-25, JD32315-26

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

10.3.3
10

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD32315
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29010
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: mg/l

Prep Date: 10/05/21

Metal	RL	IDL	MDL	MB raw	final
Aluminum	0.20	.017	.046		
Antimony	0.10	.0017	.0047		
Arsenic	0.10	.0021	.0028	0.0016	<0.10
Barium	0.20	.0008	.013	0.0062	<0.20
Beryllium	0.0020	.0003	.0005		
Bismuth	0.020	.0023	.004		
Boron	0.10	.0023	.063		
Cadmium	0.0040	.0003	.001	0.0	<0.0040
Calcium	5.0	.0066	.099		
Chromium	0.010	.0003	.002	0.0016	<0.010
Cobalt	0.050	.0004	.0026		
Copper	0.010	.0008	.0059		
Iron	0.10	.0053	.032		
Lead	0.10	.0011	.0018	0.0091	<0.10
Lithium	0.050	.0048	.0073		
Magnesium	5.0	.032	.14		
Manganese	0.015	.0001	.0014		
Molybdenum	0.020	.0006	.0036		
Nickel	0.010	.0004	.0017		
Phosphorus	0.050	.0012	.018		
Potassium	10	.077	.2		
Selenium	0.10	.0032	.0049	0.0030	<0.10
Silicon	0.20	.0017	.1		
Silver	0.010	.001	.0019	-0.00010	<0.010
Strontium	0.010	.0003	.001		
Sulfur	0.050	.003	.045		
Thallium	0.10	.0018	.0018		
Tin	0.010	.0008	.0037		
Titanium	0.010	.0005	.0025		
Tungsten	0.050	.0026	.04		
Vanadium	0.050	.0006	.0018		
Zinc	0.020	.0001	.0069		
Zirconium	0.010	.0003	.0041		

10.4.1
10

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD32315
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29010
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: mg/l

Prep Date: 10/05/21

Metal	RL	IDL	MDL	MB raw	final
-------	----	-----	-----	-----------	-------

Associated samples MP29010: JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

10.4.1
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29010
 Matrix Type: LEACHATE

Methods: SW846 6010D
 Units: mg/l

Prep Date: 10/05/21

Metal	JD32226-1A Original MS		SpikeLot MPSPK2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	0.0	1.8	2.0	90.0	75-125
Barium	0.032	1.9	2.0	93.4	75-125
Beryllium	anr				
Bismuth					
Boron					
Cadmium	0.00090	1.9	2.0	95.0	75-125
Chromium	2.8	4.5	2.0	85.0	75-125
Cobalt					
Copper	anr				
Iron					
Lead	0.0	1.8	2.0	90.0	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel	anr				
Phosphorus					
Potassium					
Selenium	0.0033	2.0	2.0	99.8	75-125
Silicon					
Silver	0.0011	0.23	0.25	91.6	75-125
Strontium					
Sulfur					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc	anr				
Zirconium					

Associated samples MP29010: JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18

10.4.2
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32315
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29010
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: mg/l

Prep Date: 10/05/21

Metal	JD32226-1A Original MS	SpikeLot MPSPK2	% Rec	QC Limits
-------	---------------------------	--------------------	-------	--------------

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

10.4.2
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29010
 Matrix Type: LEACHATE

Methods: SW846 6010D
 Units: mg/l

Prep Date: 10/05/21

Metal	JD32226-1A Original MSD		SpikeLot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	0.0	1.8	2.0	90.0	0.0	20
Barium	0.032	1.9	2.0	93.4	0.0	20
Beryllium	anr					
Bismuth						
Boron						
Cadmium	0.00090	1.9	2.0	95.0	0.0	20
Chromium	2.8	4.5	2.0	85.0	0.0	20
Cobalt						
Copper	anr					
Iron						
Lead	0.0	1.8	2.0	90.0	0.0	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel	anr					
Phosphorus						
Potassium						
Selenium	0.0033	2.0	2.0	99.8	0.0	20
Silicon						
Silver	0.0011	0.23	0.25	91.6	0.0	20
Strontium						
Sulfur						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc	anr					
Zirconium						

Associated samples MP29010: JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18

10.4.2
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

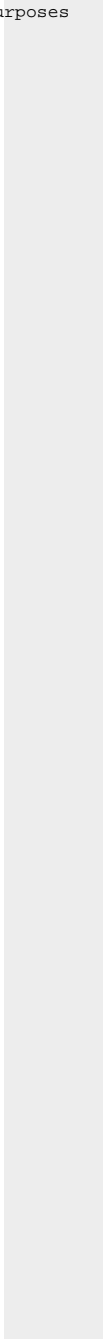
QC Batch ID: MP29010
 Matrix Type: LEACHATE

Methods: SW846 6010D
 Units: mg/l

Prep Date: 10/05/21

Metal	JD32226-1A Original MSD	SpikeLot MPSPK2	% Rec	MSD RPD	QC Limit
-------	----------------------------	--------------------	-------	------------	-------------

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested



10.4.2
 10

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29010
 Matrix Type: LEACHATE

Methods: SW846 6010D
 Units: mg/l

Prep Date: 10/05/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	1.8	2.0	90.0	80-120
Barium	1.8	2.0	90.0	80-120
Beryllium	anr			
Bismuth				
Boron				
Cadmium	1.8	2.0	90.0	80-120
Calcium				
Chromium	1.8	2.0	90.0	80-120
Cobalt				
Copper	anr			
Iron				
Lead	1.9	2.0	95.0	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium	2.0	2.0	100.0	80-120
Silicon				
Silver	0.23	0.25	92.0	80-120
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc	anr			
Zirconium				

10.4.3
10

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD32315
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29010
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: mg/l

Prep Date: 10/05/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
-------	---------------	--------------------	-------	--------------

Associated samples MP29010: JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

10.4.3
10

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29010
 Matrix Type: LEACHATE

Methods: SW846 6010D
 Units: ug/l

Prep Date: 10/05/21

Metal	JD32226-1A Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	0.00	0.00	NC	0-10
Barium	32.0	30.5	4.7	0-10
Beryllium	anr			
Bismuth				
Boron				
Cadmium	0.900	1.60	77.8 (a)	0-10
Calcium				
Chromium	2770	3030	9.5	0-10
Cobalt				
Copper	anr			
Iron				
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium	3.30	0.00	100.0(a)	0-10
Silicon				
Silver	1.10	0.00	100.0(a)	0-10
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc	anr			
Zirconium				

10.4.4
10

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD32315
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29010
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/05/21

	JD32226-1A	QC
Metal	Original SDL 1:5 %DIF	Limits

Associated samples MP29010: JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD32315
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29028
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: mg/l

Prep Date: 10/06/21

Metal	RL	IDL	MDL	MB raw	final
Aluminum	0.20	.017	.046		
Antimony	0.10	.0017	.0047		
Arsenic	0.10	.0021	.0028	0.0012	<0.10
Barium	0.20	.0008	.013	0.014	<0.20
Beryllium	0.0020	.0003	.0005		
Bismuth	0.020	.0023	.004		
Boron	0.10	.0023	.063		
Cadmium	0.0040	.0003	.001	-0.00020	<0.0040
Calcium	5.0	.0066	.099		
Chromium	0.010	.0003	.002	0.0016	<0.010
Cobalt	0.050	.0004	.0026		
Copper	0.010	.0008	.0059		
Iron	0.10	.0053	.032		
Lead	0.10	.0011	.0018	0.0045	<0.10
Lithium	0.050	.0048	.0073		
Magnesium	5.0	.032	.14		
Manganese	0.015	.0001	.0014		
Molybdenum	0.020	.0006	.0036		
Nickel	0.010	.0004	.0017		
Phosphorus	0.050	.0012	.018		
Potassium	10	.077	.2		
Selenium	0.10	.0032	.0049	0.00010	<0.10
Silicon	0.20	.0017	.1		
Silver	0.010	.001	.0019	-0.0010	<0.010
Strontium	0.010	.0003	.001		
Sulfur	0.050	.003	.045		
Thallium	0.10	.0018	.0018		
Tin	0.010	.0008	.0037		
Titanium	0.010	.0005	.0025		
Tungsten	0.050	.0026	.04		
Vanadium	0.050	.0006	.0018		
Zinc	0.020	.0001	.0069		
Zirconium	0.010	.0003	.0041		

10.5.1
10

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD32315
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29028
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: mg/l

Prep Date: 10/06/21

Metal	RL	IDL	MDL	MB raw	final
-------	----	-----	-----	-----------	-------

Associated samples MP29028: JD32315-21, JD32315-24, JD32315-27

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29028
 Matrix Type: LEACHATE

Methods: SW846 6010D
 Units: mg/l

Prep Date: 10/06/21

Metal	JD32315-21 Original MS		SpikeLot MPSPK2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	0.0029	1.8	2.0	89.9	75-125
Barium	0.22	2.1	2.0	94.0	75-125
Beryllium					
Bismuth					
Boron					
Cadmium	0.0033	1.9	2.0	94.8	75-125
Chromium	0.0091	1.8	2.0	89.5	75-125
Cobalt					
Copper					
Iron					
Lead	0.034	2.0	2.0	98.3	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium	0.0	2.0	2.0	100.0	75-125
Silicon					
Silver	0.0032	0.24	0.25	94.7	75-125
Strontium					
Sulfur					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc					
Zirconium					

Associated samples MP29028: JD32315-21, JD32315-24, JD32315-27

10.5.2
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32315
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29028
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: mg/l

Prep Date: 10/06/21

Metal	JD32315-21 Original MS	SpikeLot MPSPK2	% Rec	QC Limits
-------	---------------------------	--------------------	-------	--------------

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

10.5.2
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29028
 Matrix Type: LEACHATE

Methods: SW846 6010D
 Units: mg/l

Prep Date: 10/06/21

Metal	JD32315-21 Original MSD		SpikeLot MPSPK2 % Rec		MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	0.0029	1.8	2.0	89.9	0.0	20
Barium	0.22	2.1	2.0	94.0	0.0	20
Beryllium						
Bismuth						
Boron						
Cadmium	0.0033	2.0	2.0	99.8	5.1	20
Chromium	0.0091	1.9	2.0	94.5	5.4	20
Cobalt						
Copper						
Iron						
Lead	0.034	2.0	2.0	98.3	0.0	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium	0.0	2.1	2.0	105.0	4.9	20
Silicon						
Silver	0.0032	0.25	0.25	98.7	4.1	20
Strontium						
Sulfur						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc						
Zirconium						

Associated samples MP29028: JD32315-21, JD32315-24, JD32315-27

10.5.2
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

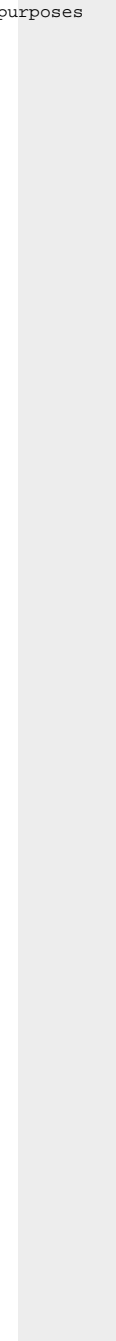
QC Batch ID: MP29028
 Matrix Type: LEACHATE

Methods: SW846 6010D
 Units: mg/l

Prep Date: 10/06/21

Metal	JD32315-21 Original MSD	SpikeLot MPSPK2	% Rec	MSD RPD	QC Limit
-------	----------------------------	--------------------	-------	------------	-------------

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested



10.5.2
 10

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29028
 Matrix Type: LEACHATE

Methods: SW846 6010D
 Units: mg/l

Prep Date: 10/06/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	1.8	2.0	90.0	80-120
Barium	1.9	2.0	95.0	80-120
Beryllium				
Bismuth				
Boron				
Cadmium	1.9	2.0	95.0	80-120
Calcium				
Chromium	1.9	2.0	95.0	80-120
Cobalt				
Copper				
Iron				
Lead	2.0	2.0	100.0	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium	2.1	2.0	105.0	80-120
Silicon				
Silver	0.24	0.25	96.0	80-120
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				
Zirconium				

10.5.3
10

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD32315
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29028
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: mg/l

Prep Date: 10/06/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
-------	---------------	--------------------	-------	--------------

Associated samples MP29028: JD32315-21, JD32315-24, JD32315-27

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

10.5.3
10

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29028
 Matrix Type: LEACHATE

Methods: SW846 6010D
 Units: ug/l

Prep Date: 10/06/21

Metal	JD32315-21 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	2.90	0.00	100.0 (a)	0-10
Barium	219	227	3.6	0-10
Beryllium				
Bismuth				
Boron				
Cadmium	3.30	2.70	18.2 (a)	0-10
Calcium				
Chromium	9.10	9.50	4.4	0-10
Cobalt				
Copper				
Iron				
Lead	33.8	36.4	7.7	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	3.20	0.00	100.0 (a)	0-10
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				
Zirconium				

10.5.4
10

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD32315
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29028
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/06/21

Metal	JD32315-21	QC
	Original SDL 1:5 %DIF	Limits

Associated samples MP29028: JD32315-21, JD32315-24, JD32315-27

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD32315
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29030
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: mg/l

Prep Date: 10/06/21

Metal	RL	IDL	MDL	MB raw	final
-------	----	-----	-----	-----------	-------

Mercury 0.00020 .000034 .000095 -0.000037<0.00020

Associated samples MP29030: JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29030
 Matrix Type: LEACHATE

Methods: SW846 7470A
 Units: mg/l

Prep Date: 10/06/21

Metal	JD32226-1A Original MS	Spike HGPW3	lot % Rec	QC Limits
-------	---------------------------	----------------	--------------	--------------

Mercury 0.0 0.0024 0.0020 120.0 75-125

Associated samples MP29030: JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

10.6.2
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29030
 Matrix Type: LEACHATE

Methods: SW846 7470A
 Units: mg/l

Prep Date: 10/06/21

Metal	JD32226-1A Original MSD	Spike lot HGPW3	% Rec	MSD RPD	QC Limit
-------	----------------------------	-----------------------	-------	------------	-------------

Mercury	0.0	0.0023	0.0020	115.0	4.3	20
---------	-----	--------	--------	-------	-----	----

Associated samples MP29030: JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

10.6.2
10

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29030
 Matrix Type: LEACHATE

Methods: SW846 7470A
 Units: mg/l

Prep Date: 10/06/21

Metal	BSP Result	Spikelot HGPW3	% Rec	QC Limits
Mercury	0.0019	0.0020	95.0	80-120

Associated samples MP29030: JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

10.6.3
 10

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD32315
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29059
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: mg/l

Prep Date: 10/07/21

Metal	RL	IDL	MDL	MB	
				raw	final
Mercury	0.00020	.000034	.000095	0.0000068	<0.00020

Associated samples MP29059: JD32315-21, JD32315-24, JD32315-27

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

10.7.1
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29059
 Matrix Type: LEACHATE

Methods: SW846 7470A
 Units: mg/l

Prep Date: 10/07/21

Metal	JD32315-21 Original MS	SpikeLot HGPW3	% Rec	QC Limits
-------	---------------------------	-------------------	-------	--------------

Mercury 0.0 0.0024 0.0020 120.0 75-125

Associated samples MP29059: JD32315-21, JD32315-24, JD32315-27

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

10.7.2
 10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32315
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29059
 Matrix Type: LEACHATE

Methods: SW846 7470A
 Units: mg/l

Prep Date: 10/07/21

Metal	JD32315-21 Original MSD	SpikeLot HGPW3	% Rec	MSD RPD	QC Limit
-------	----------------------------	-------------------	-------	------------	-------------

Mercury	0.0	0.0024	0.0020	120.0	0.0	20
---------	-----	--------	--------	-------	-----	----

Associated samples MP29059: JD32315-21, JD32315-24, JD32315-27

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

10.7.2
 10

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD32315
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29059
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: mg/l

Prep Date: 10/07/21

Metal	BSP Result	Spikelot HGPW3	% Rec	QC Limits
Mercury	0.0022	0.0020	110.0	80-120

Associated samples MP29059: JD32315-21, JD32315-24, JD32315-27

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

10.7.3
10

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JD32315
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Cyanide Reactivity	GP36268/GN22654	10	0.0	mg/kg	100	1.29	1.3	.25-27%
Cyanide Reactivity	GP36379/GN22833	10	0.0	mg/kg	100	4.93	4.9	.25-27%
Sulfide Reactivity	GP36267/GN22640	100	0.0	mg/kg	504	403	80.0	42-107%

Associated Samples:

Batch GP36267: JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

Batch GP36268: JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-24, JD32315-27

Batch GP36379: JD32315-21

(*) Outside of QC limits

11.1
11

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JD32315
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Corrosivity as pH	GN22399	JD32226-1A	su	11.21	11.43	1.9	0-5%
Cyanide Reactivity	GP36268/GN22654	JD32315-3	mg/kg	0.0	0.0	0.0	0-20%
Cyanide Reactivity	GP36379/GN22833	JD33148-3	mg/kg	0.0	0.0	0.0	0-20%
Ignitability (Flashpoint)	GN22455	JD32315-3	Deg. F	>200	>200	0.0	0-10%
Paint Filter Test	GN22409	JD32226-1	ml/100g	0.0	0.0	0.0	0-10%
Solids, Percent	GN22293	JD32434-7	%	83.8	84.8	1.2	0-5%
Solids, Percent	GN22296	JD32337-1	%	77.7	80.3	3.3	0-5%
Solids, Percent	GN22414	JD32673-9	%	82.6	84.9	2.7	0-5%
Sulfide Reactivity	GP36267/GN22640	JD32315-3	mg/kg	0.00	0.00	0.0	0-20%

Associated Samples:

Batch GN22293: JD32315-1, JD32315-2, JD32315-4, JD32315-5, JD32315-8, JD32315-9
 Batch GN22296: JD32315-10, JD32315-11, JD32315-13, JD32315-14, JD32315-16, JD32315-17, JD32315-19, JD32315-20, JD32315-22, JD32315-23, JD32315-25, JD32315-26
 Batch GN22399: JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27
 Batch GN22409: JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27
 Batch GN22414: JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27
 Batch GN22455: JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27
 Batch GP36267: JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27
 Batch GP36268: JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27
 Batch GP36379: JD32315-21
 (*) Outside of QC limits

11.2
11

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JD32315
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Sulfide Reactivity	GP36267/GN22640	JD32315-3	mg/kg	0.00	544	156	28.7	20-82%

Associated Samples:

Batch GP36267: JD32315-3, JD32315-6, JD32315-7, JD32315-12, JD32315-15, JD32315-18, JD32315-21, JD32315-24, JD32315-27

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Atlas Technical Consultants, LLC

Northfield Bridge, Route 12, VT

280BS02090

SGS Job Number: JD32749

Sampling Dates: 09/27/21 - 09/28/21



Report to:

Atlas Technical Consultants, LLC
51 Knight Lane
Williston, VT 05495
erik.urch@oneatlas.com

ATTN: Erik Urch

Total number of pages in report: 177



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Mike Earp
General Manager

Client Service contact: Marie Meidhof 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	4
Section 2: Case Narrative/Conformance Summary	5
Section 3: Summary of Hits	9
Section 4: Sample Results	11
4.1: JD32749-1: H-103-A	12
4.2: JD32749-2: H-103-B	14
4.3: JD32749-3: H-103-C	20
4.4: JD32749-3A: H-103-C	24
4.5: JD32749-4: B-101-A	29
4.6: JD32749-5: B-101-B	31
4.7: JD32749-6: B-101-C	37
4.8: JD32749-6A: B-101-C	41
Section 5: Misc. Forms	46
5.1: Certification Exceptions	47
5.2: Chain of Custody	48
Section 6: MS Volatiles - QC Data Summaries	51
6.1: Method Blank Summary	52
6.2: Leachate Blank Summary	56
6.3: Blank Spike Summary	58
6.4: Matrix Spike Summary	62
6.5: Matrix Spike/Matrix Spike Duplicate Summary	65
6.6: Leachate Spike Summary	66
6.7: Duplicate Summary	67
6.8: Instrument Performance Checks (BFB)	70
6.9: Surrogate Recovery Summaries	76
Section 7: MS Semi-volatiles - QC Data Summaries	78
7.1: Method Blank Summary	79
7.2: Leachate Blank Summary	82
7.3: Blank Spike Summary	83
7.4: Blank Spike/Blank Spike Duplicate Summary	85
7.5: Matrix Spike/Matrix Spike Duplicate Summary	86
7.6: Leachate Spike Summary	89
7.7: Instrument Performance Checks (DFTPP)	90
7.8: Surrogate Recovery Summaries	104
Section 8: GC Volatiles - QC Data Summaries	106
8.1: Method Blank Summary	107
8.2: Blank Spike Summary	108
8.3: Matrix Spike/Matrix Spike Duplicate Summary	109
8.4: Surrogate Recovery Summaries	110
Section 9: GC/LC Semi-volatiles - QC Data Summaries	111
9.1: Method Blank Summary	112
9.2: Leachate Blank Summary	119

Table of Contents

-2-

9.3: Blank Spike Summary	121
9.4: Blank Spike/Blank Spike Duplicate Summary	125
9.5: Matrix Spike/Matrix Spike Duplicate Summary	127
9.6: Leachate Spike Summary	132
9.7: Surrogate Recovery Summaries	134
Section 10: Metals Analysis - QC Data Summaries	138
10.1: Prep QC MP29085: Hg	139
10.2: Prep QC MP29086: Hg	143
10.3: Prep QC MP29112: As,Ba,Cd,Cr,Pb,Se,Ag	148
10.4: Prep QC MP29118: As,Ba,Cd,Cr,Pb,Se,Ag	160
10.5: Prep QC MP29158: Hg	170
Section 11: General Chemistry - QC Data Summaries	174
11.1: Method Blank and Spike Results Summary	175
11.2: Duplicate Results Summary	176
11.3: Matrix Spike Results Summary	177

1

2

3

4

5

6

7

8

9

10

11



Sample Summary

Atlas Technical Consultants, LLC

Job No: JD32749

**Northfield Bridge, Route 12, VT
Project No: 280BS02090**

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
---------------	----------------	---------	----------	-------------	------	------------------

**This report contains results reported as ND = Not detected. The following applies:
Organics ND = Not detected above the MDL**

JD32749-1	09/27/21	12:40 JP	10/01/21	SO	Soil	H-103-A
JD32749-2	09/27/21	15:00 JP	10/01/21	SO	Soil	H-103-B
JD32749-3	09/27/21	15:30 JP	10/01/21	SO	Soil	H-103-C
JD32749-3A	09/27/21	15:30 JP	10/01/21	SO	Soil	H-103-C
JD32749-4	09/28/21	08:45 JP	10/01/21	SO	Soil	B-101-A
JD32749-5	09/28/21	14:50 JP	10/01/21	SO	Soil	B-101-B
JD32749-6	09/28/21	14:55 JP	10/01/21	SO	Soil	B-101-C
JD32749-6A	09/28/21	14:55 JP	10/01/21	SO	Soil	B-101-C

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Atlas Technical Consultants, LLC

Job No: JD32749

Site: Northfield Bridge, Route 12, VT

Report Date 10/26/2021 3:59:48 P

On 10/01/2021, 6 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 3.5 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JD32749 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

MS Volatiles By Method SW846 8260D

Matrix: LEACHATE **Batch ID:** VIA9288

- Sample(s) JD32749-3ALS, JD32749-3AMS, JD32749-3AMSD were used as the QC samples indicated.
- The following samples were run outside of holding time for method SW846 8260D: JD32749-3A, JD32749-6A
- Sample(s) JD32749-3A, JD32749-6A have compound(s) reported with a "B" qualifier, indicating analyte is found in the associated method blank. Indicates analyte found in associated leachate blank.

Matrix: SO **Batch ID:** V3C7511

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32675-1MS, JD32675-7DUP were used as the QC samples indicated.

MS Semi-volatiles By Method SW846 8270E

Matrix: LEACHATE **Batch ID:** OP35997

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32818-1ALS, JD32818-1AMS, JD32818-1AMSD were used as the QC samples indicated.
- RPD(s) for MSD for Pyridine are outside control limits for sample OP35997-MSD. Probable cause due to sample homogeneity.

Matrix: SO **Batch ID:** OP35863

- All samples were extracted within the recommended method holding time.
- Sample(s) JD32716-2MS, JD32716-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JD32749-5 for Acenaphthylene: Associated CCV outside of control limits high, sample was ND.
- JD32749-1 for Acenaphthylene: Associated CCV outside of control limits high, sample was ND.
- JD32749-2 for Acenaphthylene: Associated CCV outside of control limits high, sample was ND.

Matrix: SO **Batch ID:** OP35916

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32593-45MS, JD32593-45MSD were used as the QC samples indicated.

GC Volatiles By Method SW846 8015D

Matrix: SO**Batch ID:** GLM4720

- All samples were analyzed within the recommended method holding time.
- Sample(s) JD32749-3MS, JD32749-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- RPD(s) for MSD for TPH-GRO (C6-C10) are outside control limits for sample JD32749-3MSD. Probable cause due to sample homogeneity.
- JD32749-3MS for aaa-Trifluorotoluene: Outside of in house control limits, but within reasonable method recovery limits.

GC/LC Semi-volatiles By Method SW846 8015D

Matrix: SO**Batch ID:** OP35889

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32867-1MS, JD32867-1MSD were used as the QC samples indicated.

GC/LC Semi-volatiles By Method SW846 8081B

Matrix: LEACHATE**Batch ID:** OP35998

- All samples were extracted within the recommended method holding time.
- Sample(s) JD32818-1ALS, JD32818-1AMS, JD32818-1AMSD, OP35998-MSMSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- OP35998-BS1 for Heptachlor epoxide: Reported from the 2nd signal. The %D of the CCV on the 1st signal exceeds the method criteria of 20%, so it being used for confirmation only.

GC/LC Semi-volatiles By Method SW846 8082A

Matrix: SO**Batch ID:** OP35560

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) FA88588-60MS, FA88588-60MSD, OP35560-MSMSD were used as the QC samples indicated.
- OP35560-MB1 for Tetrachloro-m-xylene: Outside program requirements.
- OP35560-BS1 for Aroclor 1260: Reported from the 2nd signal. The %D of the CCV on the 1st signal exceeds the method criteria of 20%, so it being used for confirmation only.

Matrix: SO**Batch ID:** OP35840

- All samples were extracted within the recommended method holding time.
- Sample(s) JD32716-1MS, JD32716-1MSD, OP35840-MSMSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- OP35840-MB1: Had TBA cleanup.
- JD32749-6 for Aroclor 1248: More than 40 % RPD for detected concentrations between the two GC columns.
- OP35840-BS1 for Aroclor 1016: Reported from the 2nd signal. The %D of the CCV on the 1st signal exceeds the method criteria of 20%, so it being used for confirmation only.

GC/LC Semi-volatiles By Method SW846 8151A

Matrix: LEACHATE **Batch ID:** OP35999

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32818-1ALS, JD32818-1AMS, JD32818-1AMSD were used as the QC samples indicated.
- OP35999-BS1 for 2,4,5-TP (Silvex): Reported from 1st signal. 2nd signal used for confirmation.
- OP35999-BS1 for 2,4-DCAA: Outside of in house control limits.
- OP35999-MB1 for 2,4-DCAA: Outside of in house control limits.

Metals Analysis By Method SW846 6010D

Matrix: LEACHATE **Batch ID:** MP29118

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32818-1AMS, JD32818-1AMSD, JD32818-1ASDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic, Cadmium, Lead, Silver are outside control limits for sample MP29118-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Matrix: SO **Batch ID:** MP29112

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32675-7SDL, JD32675-7MS, JD32675-7MSD, JD32675-7SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Selenium, Silver are outside control limits for sample MP29112-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Metals Analysis By Method SW846 7470A

Matrix: LEACHATE **Batch ID:** MP29158

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32818-1AMS, JD32818-1AMSD were used as the QC samples for metals.

Metals Analysis By Method SW846 7471B

Matrix: SO **Batch ID:** MP29085

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32675-31MS, JD32675-31MSD were used as the QC samples for metals.
- Matrix Spike Duplicate Recovery(s) for Mercury are outside control limits. Probable cause due to matrix interference.

Matrix: SO **Batch ID:** MP29086

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32691-5MS, JD32691-5MSD were used as the QC samples for metals.

General Chemistry By Method SM2540 G 18TH ED MOD

Matrix: SO **Batch ID:** GN22504

- Sample(s) JD32749-IDUP were used as the QC samples for Solids, Percent.

General Chemistry By Method SW846 1010A/ASTM D93

Matrix: SO **Batch ID:** GN22715

- Sample(s) JD32749-3DUP were used as the QC samples for Ignitability (Flashpoint).

General Chemistry By Method SW846 9045D

Matrix: SO **Batch ID:** GN22716

- Sample(s) JD32987-1ADUP were used as the QC samples for Corrosivity as pH.

General Chemistry By Method SW846 9095/9095B

Matrix: SO **Batch ID:** GN22713

- Sample(s) JD32749-3DUP were used as the QC samples for Paint Filter Test.
- JD32749-3 for Paint Filter Test: No free liquids.
- JD32749-6 for Paint Filter Test: Free liquids present.

General Chemistry By Method SW846 CHAP7/9012 B

Matrix: SO **Batch ID:** GP36382

- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32997-1DUP were used as the QC samples for Cyanide Reactivity.
- The following samples were prepared outside of holding time for method SW846 CHAP7/9012 B: JD32749-3, JD32749-6 Analyzed outside the 14 day holding time applied by laboratory SOP. No regulatory holding time published for this method.

General Chemistry By Method SW846 CHAP7/9034

Matrix: SO **Batch ID:** GP36380

- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32997-1DUP, JD32997-1MS were used as the QC samples for Sulfide Reactivity.
- The following samples were prepared outside of holding time for method SW846 CHAP7/9034: JD32749-3, JD32749-6 Analyzed outside the 14 day holding time applied by laboratory SOP. No regulatory holding time published for this method.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Summary of Hits

Job Number: JD32749
 Account: Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT
 Collected: 09/27/21 thru 09/28/21



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JD32749-1	H-103-A					
Benzo(a)anthracene		11.6 J	34	9.7	ug/kg	SW846 8270E
Arsenic		10.4	2.1		mg/kg	SW846 6010D
Chromium		12.5	1.0		mg/kg	SW846 6010D
Lead		16.1	2.1		mg/kg	SW846 6010D
JD32749-2	H-103-B					
Acetone		628	16	6.6	ug/kg	SW846 8260D
2-Butanone (MEK)		140	16	3.8	ug/kg	SW846 8260D
Carbon disulfide		2.9 J	3.2	0.85	ug/kg	SW846 8260D
Anthracene		54.8	51	31	ug/kg	SW846 8270E
Benzo(a)anthracene		167	51	14	ug/kg	SW846 8270E
Benzo(a)pyrene		137	51	23	ug/kg	SW846 8270E
Benzo(b)fluoranthene		164	51	22	ug/kg	SW846 8270E
Benzo(g,h,i)perylene		74.6	51	25	ug/kg	SW846 8270E
Benzo(k)fluoranthene		70.9	51	24	ug/kg	SW846 8270E
Chrysene		175	51	16	ug/kg	SW846 8270E
Fluoranthene		366	51	23	ug/kg	SW846 8270E
Fluorene		27.8 J	51	23	ug/kg	SW846 8270E
Indeno(1,2,3-cd)pyrene		87.3	51	24	ug/kg	SW846 8270E
Naphthalene		31.8 J	51	14	ug/kg	SW846 8270E
Phenanthrene		244	51	17	ug/kg	SW846 8270E
Pyrene		331	51	16	ug/kg	SW846 8270E
Arsenic		12.6	3.1		mg/kg	SW846 6010D
Barium		37.0	31		mg/kg	SW846 6010D
Chromium		19.0	1.6		mg/kg	SW846 6010D
Lead		35.4	3.1		mg/kg	SW846 6010D
Mercury		0.25	0.048		mg/kg	SW846 7471B
JD32749-3	H-103-C					
TPH-DRO (C10-C28)		103	11	3.8	mg/kg	SW846 8015D
Corrosivity as pH		8.60 NC			su	SW846 9045D
Ignitability (Flashpoint)		> 200			Deg. F	SW846 1010A/ASTM D93
JD32749-3A	H-103-C					
Chloroform ^a		0.0108 B	0.0050	0.0025	mg/l	SW846 8260D
Barium		0.26	0.20		mg/l	SW846 6010D
Chromium		0.021	0.010		mg/l	SW846 6010D

Summary of Hits

Job Number: JD32749
 Account: Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT
 Collected: 09/27/21 thru 09/28/21



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

JD32749-4 B-101-A

Benzo(a)anthracene	18.0 J	35	9.9	ug/kg	SW846 8270E
Benzo(b)fluoranthene	16.2 J	35	16	ug/kg	SW846 8270E
Chrysene	14.2 J	35	11	ug/kg	SW846 8270E
Fluoranthene	30.9 J	35	16	ug/kg	SW846 8270E
Phenanthrene	12.3 J	35	12	ug/kg	SW846 8270E
Pyrene	29.9 J	35	11	ug/kg	SW846 8270E
Arsenic	10	2.2		mg/kg	SW846 6010D
Barium	58.2	22		mg/kg	SW846 6010D
Chromium	22.7	1.1		mg/kg	SW846 6010D
Lead	10.6	2.2		mg/kg	SW846 6010D

JD32749-5 B-101-B

Acetone	334	19	7.9	ug/kg	SW846 8260D
2-Butanone (MEK)	71.0	19	4.6	ug/kg	SW846 8260D
Carbon disulfide	2.4 J	3.8	1.0	ug/kg	SW846 8260D
Benzo(a)anthracene	22.7 J	59	17	ug/kg	SW846 8270E
Fluoranthene	34.7 J	59	26	ug/kg	SW846 8270E
Pyrene	29.6 J	59	19	ug/kg	SW846 8270E
Arsenic	5.7	3.6		mg/kg	SW846 6010D
Chromium	15.4	1.8		mg/kg	SW846 6010D
Lead	8.9	3.6		mg/kg	SW846 6010D

JD32749-6 B-101-C

TPH-DRO (C10-C28)	79.9	11	3.9	mg/kg	SW846 8015D
Aroclor 1248 ^b	123	41	37	ug/kg	SW846 8082A
Corrosivity as pH	11.75 NC			su	SW846 9045D
Ignitability (Flashpoint)	> 200			Deg. F	SW846 1010A/ASTM D93
Paint Filter Test ^c	1.0	0.50		ml/100g	SW846 9095/9095B

JD32749-6A B-101-C

Chloroform ^a	0.010 B	0.0050	0.0025	mg/l	SW846 8260D
Barium	0.39	0.20		mg/l	SW846 6010D

- (a) Indicates analyte found in associated leachate blank.
- (b) More than 40 % RPD for detected concentrations between the two GC columns.
- (c) Free liquids present.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: H-103-A Lab Sample ID: JD32749-1 Matrix: SO - Soil Method: SW846 8270E SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/27/21 Date Received: 10/01/21 Percent Solids: 94.9
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z152149.D	1	10/10/21 19:17	CS	10/09/21 11:15	OP35863	EZ7568
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.6 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	34	12	ug/kg	
208-96-8	Acenaphthylene ^a	ND	34	17	ug/kg	
120-12-7	Anthracene	ND	34	21	ug/kg	
56-55-3	Benzo(a)anthracene	11.6	34	9.7	ug/kg	J
50-32-8	Benzo(a)pyrene	ND	34	16	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	34	15	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	34	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	34	16	ug/kg	
218-01-9	Chrysene	ND	34	11	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	34	15	ug/kg	
206-44-0	Fluoranthene	ND	34	15	ug/kg	
86-73-7	Fluorene	ND	34	16	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	34	16	ug/kg	
91-20-3	Naphthalene	ND	34	9.7	ug/kg	
85-01-8	Phenanthrene	ND	34	12	ug/kg	
129-00-0	Pyrene	ND	34	11	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	28%		15-114%
321-60-8	2-Fluorobiphenyl	26%		22-104%
1718-51-0	Terphenyl-d14	27%		23-121%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: H-103-A	Date Sampled: 09/27/21
Lab Sample ID: JD32749-1	Date Received: 10/01/21
Matrix: SO - Soil	Percent Solids: 94.9
Project: Northfield Bridge, Route 12, VT	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	10.4	2.1	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Barium	< 21	21	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Cadmium	< 0.52	0.52	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Chromium	12.5	1.0	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Lead	16.1	2.1	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Mercury	< 0.035	0.035	mg/kg	1	10/08/21	10/08/21	LM SW846 7471B ¹	SW846 7471B ³
Selenium	< 2.1	2.1	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Silver	< 0.52	0.52	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴

- (1) Instrument QC Batch: MA51244
- (2) Instrument QC Batch: MA51260
- (3) Prep QC Batch: MP29085
- (4) Prep QC Batch: MP29112

RL = Reporting Limit

4.1
4

Report of Analysis

Client Sample ID: H-103-B Lab Sample ID: JD32749-2 Matrix: SO - Soil Method: SW846 8260D Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/27/21 Date Received: 10/01/21 Percent Solids: 61.9
--	--

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	3C170055.D	1	10/11/21 17:49	PS	n/a	n/a	V3C7511

Run #1	Initial Weight
Run #2	5.1 g

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	628	16	6.6	ug/kg	
71-43-2	Benzene	ND	0.79	0.72	ug/kg	
108-86-1	Bromobenzene	ND	7.9	0.88	ug/kg	
74-97-5	Bromochloromethane	ND	7.9	0.89	ug/kg	
75-27-4	Bromodichloromethane	ND	3.2	0.68	ug/kg	
75-25-2	Bromoform	ND	7.9	2.2	ug/kg	
74-83-9	Bromomethane	ND	7.9	1.2	ug/kg	
78-93-3	2-Butanone (MEK)	140	16	3.8	ug/kg	
104-51-8	n-Butylbenzene	ND	3.2	0.64	ug/kg	
135-98-8	sec-Butylbenzene	ND	3.2	0.68	ug/kg	
98-06-6	tert-Butylbenzene	ND	3.2	0.79	ug/kg	
75-15-0	Carbon disulfide	2.9	3.2	0.85	ug/kg	J
56-23-5	Carbon tetrachloride	ND	3.2	0.98	ug/kg	
108-90-7	Chlorobenzene	ND	3.2	0.73	ug/kg	
75-00-3	Chloroethane	ND	7.9	0.94	ug/kg	
67-66-3	Chloroform	ND	3.2	0.82	ug/kg	
74-87-3	Chloromethane	ND	7.9	3.1	ug/kg	
95-49-8	o-Chlorotoluene	ND	3.2	0.86	ug/kg	
106-43-4	p-Chlorotoluene	ND	3.2	0.70	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	3.2	1.1	ug/kg	
124-48-1	Dibromochloromethane	ND	3.2	0.89	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.6	0.67	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.6	0.86	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.6	0.79	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.6	0.78	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	7.9	1.2	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.6	0.78	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.6	0.74	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.6	1.0	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.6	1.3	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.6	0.97	ug/kg	
78-87-5	1,2-Dichloropropane	ND	3.2	0.75	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.2
4

Report of Analysis

Client Sample ID:	H-103-B	Date Sampled:	09/27/21
Lab Sample ID:	JD32749-2	Date Received:	10/01/21
Matrix:	SO - Soil	Percent Solids:	61.9
Method:	SW846 8260D		
Project:	Northfield Bridge, Route 12, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	3.2	0.83	ug/kg	
594-20-7	2,2-Dichloropropane	ND	3.2	0.68	ug/kg	
563-58-6	1,1-Dichloropropene	ND	3.2	0.74	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	3.2	0.75	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	3.2	0.72	ug/kg	
100-41-4	Ethylbenzene	ND	1.6	0.72	ug/kg	
87-68-3	Hexachlorobutadiene	ND	7.9	1.0	ug/kg	
591-78-6	2-Hexanone	ND	7.9	3.4	ug/kg	
74-88-4	Iodomethane	ND	7.9	3.7	ug/kg	
98-82-8	Isopropylbenzene	ND	3.2	2.2	ug/kg	
99-87-6	p-Isopropyltoluene	ND	3.2	0.63	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.6	0.74	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	7.9	3.6	ug/kg	
74-95-3	Methylene bromide	ND	7.9	0.83	ug/kg	
75-09-2	Methylene chloride	ND	7.9	4.1	ug/kg	
91-20-3	Naphthalene	ND	7.9	4.0	ug/kg	
103-65-1	n-Propylbenzene	ND	3.2	0.74	ug/kg	
100-42-5	Styrene	ND	3.2	0.64	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	3.2	0.67	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	3.2	0.95	ug/kg	
127-18-4	Tetrachloroethene	ND	3.2	0.92	ug/kg	
108-88-3	Toluene	ND	1.6	0.83	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	7.9	4.0	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	7.9	4.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	3.2	0.76	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	3.2	0.88	ug/kg	
79-01-6	Trichloroethene	ND	1.6	1.2	ug/kg	
75-69-4	Trichlorofluoromethane	ND	7.9	1.1	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	7.9	0.88	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	3.2	0.79	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	3.2	0.68	ug/kg	
108-05-4	Vinyl Acetate	ND	16	3.2	ug/kg	
75-01-4	Vinyl chloride	ND	3.2	0.76	ug/kg	
	m,p-Xylene	ND	1.6	1.4	ug/kg	
95-47-6	o-Xylene	ND	1.6	0.73	ug/kg	
1330-20-7	Xylene (total)	ND	1.6	0.73	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		72-130%

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: H-103-B	
Lab Sample ID: JD32749-2	Date Sampled: 09/27/21
Matrix: SO - Soil	Date Received: 10/01/21
Method: SW846 8260D	Percent Solids: 61.9
Project: Northfield Bridge, Route 12, VT	

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	112%		75-131%
2037-26-5	Toluene-D8	98%		81-121%
460-00-4	4-Bromofluorobenzene	103%		60-141%

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

4.2
4

Report of Analysis

Client Sample ID: H-103-B Lab Sample ID: JD32749-2 Matrix: SO - Soil Method: SW846 8270E SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/27/21 Date Received: 10/01/21 Percent Solids: 61.9
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z152161.D	1	10/11/21 00:26	CS	10/09/21 11:15	OP35863	EZ7568
Run #2							

Run #	Initial Weight	Final Volume
Run #1	31.9 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	51	17	ug/kg	
208-96-8	Acenaphthylene ^a	ND	51	26	ug/kg	
120-12-7	Anthracene	54.8	51	31	ug/kg	
56-55-3	Benzo(a)anthracene	167	51	14	ug/kg	
50-32-8	Benzo(a)pyrene	137	51	23	ug/kg	
205-99-2	Benzo(b)fluoranthene	164	51	22	ug/kg	
191-24-2	Benzo(g,h,i)perylene	74.6	51	25	ug/kg	
207-08-9	Benzo(k)fluoranthene	70.9	51	24	ug/kg	
218-01-9	Chrysene	175	51	16	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	51	22	ug/kg	
206-44-0	Fluoranthene	366	51	23	ug/kg	
86-73-7	Fluorene	27.8	51	23	ug/kg	J
193-39-5	Indeno(1,2,3-cd)pyrene	87.3	51	24	ug/kg	
91-20-3	Naphthalene	31.8	51	14	ug/kg	J
85-01-8	Phenanthrene	244	51	17	ug/kg	
129-00-0	Pyrene	331	51	16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	44%		15-114%
321-60-8	2-Fluorobiphenyl	47%		22-104%
1718-51-0	Terphenyl-d14	48%		23-121%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.2
4

Report of Analysis

Client Sample ID: H-103-B Lab Sample ID: JD32749-2 Matrix: SO - Soil Method: SW846 8082A SW846 3540C Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/27/21 Date Received: 10/01/21 Percent Solids: 61.9
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX2472515A.D	1	10/17/21 20:24	TL	10/15/21 16:30	OP35560	GXX7617
Run #2							

Run #	Initial Weight	Final Volume
Run #1	10.2 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	79	37	ug/kg	
11104-28-2	Aroclor 1221	ND	79	49	ug/kg	
11141-16-5	Aroclor 1232	ND	79	51	ug/kg	
53469-21-9	Aroclor 1242	ND	79	32	ug/kg	
12672-29-6	Aroclor 1248	ND	79	71	ug/kg	
11097-69-1	Aroclor 1254	ND	79	43	ug/kg	
11096-82-5	Aroclor 1260	ND	79	34	ug/kg	
11100-14-4	Aroclor 1268	ND	79	33	ug/kg	
37324-23-5	Aroclor 1262	ND	79	52	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	100%		24-152%
877-09-8	Tetrachloro-m-xylene	104%		24-152%
2051-24-3	Decachlorobiphenyl	103%		10-172%
2051-24-3	Decachlorobiphenyl	114%		10-172%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.2
4

Report of Analysis

Client Sample ID: H-103-B	Date Sampled: 09/27/21
Lab Sample ID: JD32749-2	Date Received: 10/01/21
Matrix: SO - Soil	Percent Solids: 61.9
Project: Northfield Bridge, Route 12, VT	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	12.6	3.1	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Barium	37.0	31	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Cadmium	< 0.78	0.78	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Chromium	19.0	1.6	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Lead	35.4	3.1	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Mercury	0.25	0.048	mg/kg	1	10/08/21	10/08/21	LM SW846 7471B ¹	SW846 7471B ³
Selenium	< 3.1	3.1	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Silver	< 0.78	0.78	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴

- (1) Instrument QC Batch: MA51244
- (2) Instrument QC Batch: MA51260
- (3) Prep QC Batch: MP29085
- (4) Prep QC Batch: MP29112

RL = Reporting Limit

4.2
4

Report of Analysis

Client Sample ID: H-103-C Lab Sample ID: JD32749-3 Matrix: SO - Soil Method: SW846 8015D Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/27/21 Date Received: 10/01/21 Percent Solids: 87.7
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM112485.D	1	10/09/21 00:32	DFT	n/a	n/a	GLM4720
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	10.9 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	12	5.9	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	92%		70-116%		

ND = Not detected RL = Reporting Limit E = Indicates value exceeds calibration range	MDL = Method Detection Limit J = Indicates an estimated value B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound
--	--

4.3
4

Report of Analysis

Client Sample ID: H-103-C Lab Sample ID: JD32749-3 Matrix: SO - Soil Method: SW846 8082A SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/27/21 Date Received: 10/01/21 Percent Solids: 87.7
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	RK4936.D	1	10/23/21 15:44	TC	10/22/21 16:00	OP35840	GRK135
Run #2							

Run #	Initial Weight	Final Volume
Run #1	16.1 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	35	17	ug/kg	
11104-28-2	Aroclor 1221	ND	35	22	ug/kg	
11141-16-5	Aroclor 1232	ND	35	23	ug/kg	
53469-21-9	Aroclor 1242	ND	35	15	ug/kg	
12672-29-6	Aroclor 1248	ND	35	32	ug/kg	
11097-69-1	Aroclor 1254	ND	35	19	ug/kg	
11096-82-5	Aroclor 1260	ND	35	15	ug/kg	
11100-14-4	Aroclor 1268	ND	35	15	ug/kg	
37324-23-5	Aroclor 1262	ND	35	23	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	76%		24-152%
877-09-8	Tetrachloro-m-xylene	81%		24-152%
2051-24-3	Decachlorobiphenyl	58%		10-172%
2051-24-3	Decachlorobiphenyl	147%		10-172%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.3
4

Report of Analysis

Client Sample ID: H-103-C Lab Sample ID: JD32749-3 Matrix: SO - Soil Method: SW846 8015D SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/27/21 Date Received: 10/01/21 Percent Solids: 87.7
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ101167.D	1	10/10/21 19:45	TL	10/09/21 10:18	OP35889	GZZ3733
Run #2							

Run #	Initial Weight	Final Volume
Run #1	10.3 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	103	11	3.8	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	63%		18-132%		
438-22-2	5a-Androstane	61%		22-134%		

ND = Not detected RL = Reporting Limit E = Indicates value exceeds calibration range	MDL = Method Detection Limit J = Indicates an estimated value B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound
--	--

4.3
4

Report of Analysis

Client Sample ID: H-103-C	Date Sampled: 09/27/21
Lab Sample ID: JD32749-3	Date Received: 10/01/21
Matrix: SO - Soil	Percent Solids: 87.7
Project: Northfield Bridge, Route 12, VT	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	8.60 NC		su	1	10/12/21 15:59	MM	SW846 9045D
Cyanide Reactivity ^a	< 11	11	mg/kg	1	10/14/21 20:36	JJ	SW846 CHAP7/9012 B
Ignitability (Flashpoint)	> 200		Deg. F	1	10/12/21 09:30	MM	SW846 1010A/ASTM D93
Paint Filter Test ^b	< 0.50	0.50	ml/100g	1	10/12/21 12:15	MM	SW846 9095/9095B
Solids, Percent	87.7		%	1	10/11/21 16:40	BG	SM2540 G 18TH ED MOD
Sulfide Reactivity ^a	< 110	110	mg/kg	1	10/15/21 10:43	JOO	SW846 CHAP7/9034

(a) Analyzed outside the 14 day holding time applied by laboratory SOP. No regulatory holding time published for this method.

(b) No free liquids.

RL = Reporting Limit

4.3
4

Report of Analysis

Client Sample ID: H-103-C		
Lab Sample ID: JD32749-3A		Date Sampled: 09/27/21
Matrix: SO - Soil		Date Received: 10/01/21
Method: SW846 8260D SW846 1311		Percent Solids: 87.7
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A215237.D	5	10/13/21 20:24	ED	10/11/21 16:00	GP36344	V1A9288
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
71-43-2	Benzene	ND	D018	0.50	0.0025	0.0021	mg/l	
78-93-3	2-Butanone (MEK)	ND	D035	200	0.10	0.034	mg/l	
56-23-5	Carbon tetrachloride	ND	D019	0.50	0.0050	0.0028	mg/l	
108-90-7	Chlorobenzene	ND	D021	100	0.0050	0.0028	mg/l	
67-66-3	Chloroform ^a	0.0108	D022	6.0	0.0050	0.0025	mg/l	B
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.0050	0.0025	mg/l	
107-06-2	1,2-Dichloroethane	ND	D028	0.50	0.0050	0.0030	mg/l	
75-35-4	1,1-Dichloroethene	ND	D029	0.70	0.0050	0.0030	mg/l	
127-18-4	Tetrachloroethene	ND	D039	0.70	0.0050	0.0045	mg/l	
79-01-6	Trichloroethene	ND	D040	0.50	0.0050	0.0026	mg/l	
75-01-4	Vinyl chloride	ND	D043	0.20	0.0050	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		76-120%
17060-07-0	1,2-Dichloroethane-D4	103%		64-135%
2037-26-5	Toluene-D8	102%		76-117%
460-00-4	4-Bromofluorobenzene	98%		72-122%

(a) Indicates analyte found in associated leachate blank.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: H-103-C		
Lab Sample ID: JD32749-3A		Date Sampled: 09/27/21
Matrix: SO - Soil		Date Received: 10/01/21
Method: SW846 8270E SW846 3510C		Percent Solids: 87.7
Project: Northfield Bridge, Route 12, VT		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	6P502271.D	1	10/17/21 02:14	CS	10/15/21 09:30	OP35997	E6P3533

Run #1	Initial Volume	Final Volume
Run #2	100 ml	1.0 ml

ABN TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	D023	200	0.020	0.0089	mg/l	
	3&4-Methylphenol	ND	D024	200	0.020	0.0088	mg/l	
87-86-5	Pentachlorophenol	ND	D037	100	0.10	0.014	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	D041	400	0.050	0.013	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	D042	2.0	0.050	0.0092	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.020	0.0017	mg/l	
121-14-2	2,4-Dinitrotoluene	ND	D030	0.13	0.020	0.0055	mg/l	
118-74-1	Hexachlorobenzene	ND	D032	0.13	0.020	0.0033	mg/l	
87-68-3	Hexachlorobutadiene	ND	D033	0.50	0.010	0.0049	mg/l	
67-72-1	Hexachloroethane	ND	D034	3.0	0.050	0.0039	mg/l	
98-95-3	Nitrobenzene	ND	D036	2.0	0.020	0.0064	mg/l	
110-86-1	Pyridine	ND	D038	5.0	0.020	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	41%		10-73%
4165-62-2	Phenol-d5	28%		10-64%
118-79-6	2,4,6-Tribromophenol	98%		31-130%
4165-60-0	Nitrobenzene-d5	69%		28-126%
321-60-8	2-Fluorobiphenyl	74%		26-114%
1718-51-0	Terphenyl-d14	95%		16-122%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.4
4

Report of Analysis

Client Sample ID: H-103-C Lab Sample ID: JD32749-3A Matrix: SO - Soil Method: SW846 8151A SW846 3510C Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/27/21 Date Received: 10/01/21 Percent Solids: 87.7
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G133614.D	1	10/21/21 10:13	RK	10/15/21 15:10	OP35999	G3G4870
Run #2							

Run #	Initial Volume	Final Volume
Run #1	30.0 ml	2.0 ml
Run #2		

Herbicide TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
94-75-7	2,4-D	ND	D016	10	0.0033	0.00098	mg/l	
93-72-1	2,4,5-TP (Silvex)	ND	D017	1.0	0.0010	0.00020	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	104%		13-169%
19719-28-9	2,4-DCAA	58%		13-169%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.4
4

Report of Analysis

Client Sample ID: H-103-C Lab Sample ID: JD32749-3A Matrix: SO - Soil Method: SW846 8081B SW846 3510C Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/27/21 Date Received: 10/01/21 Percent Solids: 87.7
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6G79694.D	1	10/18/21 06:04	CP	10/15/21 15:00	OP35998	G6G2810
Run #2							

Run #	Initial Volume	Final Volume
Run #1	30.0 ml	2.0 ml
Run #2		

Pesticide TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
58-89-9	gamma-BHC (Lindane)	ND	D013	0.40	0.000067	0.000040	mg/l	
12789-03-6	Chlordane	ND	D020	0.030	0.0033	0.0014	mg/l	
72-20-8	Endrin	ND	D012	0.020	0.000067	0.000040	mg/l	
76-44-8	Heptachlor	ND	D031	0.0080	0.000067	0.000030	mg/l	
1024-57-3	Heptachlor epoxide	ND	D031	0.0080	0.000067	0.000040	mg/l	
72-43-5	Methoxychlor	ND	D014	10	0.00013	0.000045	mg/l	
8001-35-2	Toxaphene	ND	D015	0.50	0.0017	0.0011	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	94%		30-137%
877-09-8	Tetrachloro-m-xylene	89%		30-137%
2051-24-3	Decachlorobiphenyl	69%		10-137%
2051-24-3	Decachlorobiphenyl	99%		10-137%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.4
4

Report of Analysis

Client Sample ID: H-103-C	Date Sampled: 09/27/21
Lab Sample ID: JD32749-3A	Date Received: 10/01/21
Matrix: SO - Soil	Percent Solids: 87.7
Project: Northfield Bridge, Route 12, VT	

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 0.10	D004	5.0	0.10	mg/l	1	10/10/21	10/12/21	ND	SW846 6010D ² SW846 3010A ³
Barium	0.26	D005	100	0.20	mg/l	1	10/10/21	10/12/21	ND	SW846 6010D ² SW846 3010A ³
Cadmium	< 0.0040	D006	1.0	0.0040	mg/l	1	10/10/21	10/12/21	ND	SW846 6010D ² SW846 3010A ³
Chromium	0.021	D007	5.0	0.010	mg/l	1	10/10/21	10/12/21	ND	SW846 6010D ² SW846 3010A ³
Lead	< 0.10	D008	5.0	0.10	mg/l	1	10/10/21	10/12/21	ND	SW846 6010D ² SW846 3010A ³
Mercury	< 0.00020	D009	0.20	0.00020	mg/l	1	10/11/21	10/11/21	LM	SW846 7470A ¹ SW846 7470A ⁴
Selenium	< 0.10	D010	1.0	0.10	mg/l	1	10/10/21	10/12/21	ND	SW846 6010D ² SW846 3010A ³
Silver	< 0.010	D011	5.0	0.010	mg/l	1	10/10/21	10/12/21	ND	SW846 6010D ² SW846 3010A ³

- (1) Instrument QC Batch: MA51248
- (2) Instrument QC Batch: MA51264
- (3) Prep QC Batch: MP29118
- (4) Prep QC Batch: MP29158

RL = Reporting Limit
MCL = Maximum Contamination Level (40 CFR 261 7/1/11)

4.4
4

Report of Analysis

Client Sample ID: B-101-A		Date Sampled: 09/28/21
Lab Sample ID: JD32749-4		Date Received: 10/01/21
Matrix: SO - Soil		Percent Solids: 94.4
Method: SW846 8270E SW846 3546		
Project: Northfield Bridge, Route 12, VT		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	M175673.D	1	10/12/21 16:41	KLS	10/12/21 10:00	OP35916	EM7551

Run #1	Initial Weight	Final Volume
Run #2	30.2 g	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	35	12	ug/kg	
208-96-8	Acenaphthylene	ND	35	18	ug/kg	
120-12-7	Anthracene	ND	35	22	ug/kg	
56-55-3	Benzo(a)anthracene	18.0	35	9.9	ug/kg	J
50-32-8	Benzo(a)pyrene	ND	35	16	ug/kg	
205-99-2	Benzo(b)fluoranthene	16.2	35	16	ug/kg	J
191-24-2	Benzo(g,h,i)perylene	ND	35	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	35	16	ug/kg	
218-01-9	Chrysene	14.2	35	11	ug/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	35	16	ug/kg	
206-44-0	Fluoranthene	30.9	35	16	ug/kg	J
86-73-7	Fluorene	ND	35	16	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	35	16	ug/kg	
91-20-3	Naphthalene	ND	35	9.9	ug/kg	
85-01-8	Phenanthrene	12.3	35	12	ug/kg	J
129-00-0	Pyrene	29.9	35	11	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	48%		15-114%
321-60-8	2-Fluorobiphenyl	54%		22-104%
1718-51-0	Terphenyl-d14	59%		23-121%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.5
4

Report of Analysis

Client Sample ID: B-101-A	Date Sampled: 09/28/21
Lab Sample ID: JD32749-4	Date Received: 10/01/21
Matrix: SO - Soil	Percent Solids: 94.4
Project: Northfield Bridge, Route 12, VT	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	10	2.2	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Barium	58.2	22	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Cadmium	< 0.54	0.54	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Chromium	22.7	1.1	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Lead	10.6	2.2	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Mercury	< 0.032	0.032	mg/kg	1	10/08/21	10/08/21	LM SW846 7471B ¹	SW846 7471B ³
Selenium	< 2.2	2.2	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Silver	< 0.54	0.54	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴

- (1) Instrument QC Batch: MA51244
- (2) Instrument QC Batch: MA51260
- (3) Prep QC Batch: MP29086
- (4) Prep QC Batch: MP29112

RL = Reporting Limit

4.5
4

Report of Analysis

Client Sample ID: B-101-B		
Lab Sample ID: JD32749-5		Date Sampled: 09/28/21
Matrix: SO - Soil		Date Received: 10/01/21
Method: SW846 8260D		Percent Solids: 55.6
Project: Northfield Bridge, Route 12, VT		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	3C170056.D	1	10/11/21 18:15	PS	n/a	n/a	V3C7511

Run #1	Initial Weight
Run #2	4.7 g

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	334	19	7.9	ug/kg	
71-43-2	Benzene	ND	0.96	0.87	ug/kg	
108-86-1	Bromobenzene	ND	9.6	1.1	ug/kg	
74-97-5	Bromochloromethane	ND	9.6	1.1	ug/kg	
75-27-4	Bromodichloromethane	ND	3.8	0.82	ug/kg	
75-25-2	Bromoform	ND	9.6	2.6	ug/kg	
74-83-9	Bromomethane	ND	9.6	1.5	ug/kg	
78-93-3	2-Butanone (MEK)	71.0	19	4.6	ug/kg	
104-51-8	n-Butylbenzene	ND	3.8	0.78	ug/kg	
135-98-8	sec-Butylbenzene	ND	3.8	0.82	ug/kg	
98-06-6	tert-Butylbenzene	ND	3.8	0.96	ug/kg	
75-15-0	Carbon disulfide	2.4	3.8	1.0	ug/kg	J
56-23-5	Carbon tetrachloride	ND	3.8	1.2	ug/kg	
108-90-7	Chlorobenzene	ND	3.8	0.88	ug/kg	
75-00-3	Chloroethane	ND	9.6	1.1	ug/kg	
67-66-3	Chloroform	ND	3.8	0.99	ug/kg	
74-87-3	Chloromethane	ND	9.6	3.8	ug/kg	
95-49-8	o-Chlorotoluene	ND	3.8	1.0	ug/kg	
106-43-4	p-Chlorotoluene	ND	3.8	0.85	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	3.8	1.3	ug/kg	
124-48-1	Dibromochloromethane	ND	3.8	1.1	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.9	0.81	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.9	1.0	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.95	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.95	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	9.6	1.4	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.9	0.95	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.9	0.90	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.9	1.3	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.9	1.6	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.9	1.2	ug/kg	
78-87-5	1,2-Dichloropropane	ND	3.8	0.91	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.6
4

Report of Analysis

Client Sample ID:	B-101-B	Date Sampled:	09/28/21
Lab Sample ID:	JD32749-5	Date Received:	10/01/21
Matrix:	SO - Soil	Percent Solids:	55.6
Method:	SW846 8260D		
Project:	Northfield Bridge, Route 12, VT		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	3.8	1.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	3.8	0.82	ug/kg	
563-58-6	1,1-Dichloropropene	ND	3.8	0.89	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	3.8	0.91	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	3.8	0.87	ug/kg	
100-41-4	Ethylbenzene	ND	1.9	0.87	ug/kg	
87-68-3	Hexachlorobutadiene	ND	9.6	1.3	ug/kg	
591-78-6	2-Hexanone	ND	9.6	4.1	ug/kg	
74-88-4	Iodomethane	ND	9.6	4.5	ug/kg	
98-82-8	Isopropylbenzene	ND	3.8	2.7	ug/kg	
99-87-6	p-Isopropyltoluene	ND	3.8	0.76	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.9	0.90	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	9.6	4.3	ug/kg	
74-95-3	Methylene bromide	ND	9.6	1.0	ug/kg	
75-09-2	Methylene chloride	ND	9.6	5.0	ug/kg	
91-20-3	Naphthalene	ND	9.6	4.8	ug/kg	
103-65-1	n-Propylbenzene	ND	3.8	0.90	ug/kg	
100-42-5	Styrene	ND	3.8	0.77	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	3.8	0.81	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	3.8	1.1	ug/kg	
127-18-4	Tetrachloroethene	ND	3.8	1.1	ug/kg	
108-88-3	Toluene	ND	1.9	1.0	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	9.6	4.8	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	9.6	4.8	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	3.8	0.92	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	3.8	1.1	ug/kg	
79-01-6	Trichloroethene	ND	1.9	1.5	ug/kg	
75-69-4	Trichlorofluoromethane	ND	9.6	1.3	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	9.6	1.1	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	3.8	0.96	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	3.8	0.82	ug/kg	
108-05-4	Vinyl Acetate	ND	19	3.8	ug/kg	
75-01-4	Vinyl chloride	ND	3.8	0.92	ug/kg	
	m,p-Xylene	ND	1.9	1.7	ug/kg	
95-47-6	o-Xylene	ND	1.9	0.88	ug/kg	
1330-20-7	Xylene (total)	ND	1.9	0.88	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		72-130%

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: B-101-B	
Lab Sample ID: JD32749-5	Date Sampled: 09/28/21
Matrix: SO - Soil	Date Received: 10/01/21
Method: SW846 8260D	Percent Solids: 55.6
Project: Northfield Bridge, Route 12, VT	

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	115%		75-131%
2037-26-5	Toluene-D8	98%		81-121%
460-00-4	4-Bromofluorobenzene	104%		60-141%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.6
4

Report of Analysis

Client Sample ID: B-101-B Lab Sample ID: JD32749-5 Matrix: SO - Soil Method: SW846 8270E SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/28/21 Date Received: 10/01/21 Percent Solids: 55.6
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z152162.D	1	10/11/21 00:52	CS	10/09/21 11:15	OP35863	EZ7568
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.6 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	59	20	ug/kg	
208-96-8	Acenaphthylene ^a	ND	59	30	ug/kg	
120-12-7	Anthracene	ND	59	36	ug/kg	
56-55-3	Benzo(a)anthracene	22.7	59	17	ug/kg	J
50-32-8	Benzo(a)pyrene	ND	59	27	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	59	26	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	59	29	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	59	27	ug/kg	
218-01-9	Chrysene	ND	59	19	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	59	26	ug/kg	
206-44-0	Fluoranthene	34.7	59	26	ug/kg	J
86-73-7	Fluorene	ND	59	27	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	59	28	ug/kg	
91-20-3	Naphthalene	ND	59	17	ug/kg	
85-01-8	Phenanthrene	ND	59	20	ug/kg	
129-00-0	Pyrene	29.6	59	19	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	34%		15-114%
321-60-8	2-Fluorobiphenyl	28%		22-104%
1718-51-0	Terphenyl-d14	24%		23-121%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.6
4

Report of Analysis

Client Sample ID: B-101-B Lab Sample ID: JD32749-5 Matrix: SO - Soil Method: SW846 8082A SW846 3540C Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/28/21 Date Received: 10/01/21 Percent Solids: 55.6
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX2472515B.D	1	10/17/21 20:41	TL	10/15/21 16:30	OP35560	GXX7617
Run #2							

Run #	Initial Weight	Final Volume
Run #1	10.6 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	85	40	ug/kg	
11104-28-2	Aroclor 1221	ND	85	53	ug/kg	
11141-16-5	Aroclor 1232	ND	85	54	ug/kg	
53469-21-9	Aroclor 1242	ND	85	35	ug/kg	
12672-29-6	Aroclor 1248	ND	85	76	ug/kg	
11097-69-1	Aroclor 1254	ND	85	46	ug/kg	
11096-82-5	Aroclor 1260	ND	85	36	ug/kg	
11100-14-4	Aroclor 1268	ND	85	36	ug/kg	
37324-23-5	Aroclor 1262	ND	85	55	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	99%		24-152%
877-09-8	Tetrachloro-m-xylene	107%		24-152%
2051-24-3	Decachlorobiphenyl	96%		10-172%
2051-24-3	Decachlorobiphenyl	108%		10-172%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.6
4

Report of Analysis

Client Sample ID: B-101-B	Date Sampled: 09/28/21
Lab Sample ID: JD32749-5	Date Received: 10/01/21
Matrix: SO - Soil	Percent Solids: 55.6
Project: Northfield Bridge, Route 12, VT	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.7	3.6	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Barium	< 36	36	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Cadmium	< 0.89	0.89	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Chromium	15.4	1.8	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Lead	8.9	3.6	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Mercury	< 0.039	0.039	mg/kg	1	10/08/21	10/08/21	LM SW846 7471B ¹	SW846 7471B ³
Selenium	< 3.6	3.6	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴
Silver	< 0.89	0.89	mg/kg	1	10/09/21	10/11/21	ND SW846 6010D ²	SW846 3050B ⁴

- (1) Instrument QC Batch: MA51244
- (2) Instrument QC Batch: MA51260
- (3) Prep QC Batch: MP29086
- (4) Prep QC Batch: MP29112

RL = Reporting Limit

4.6
4

Report of Analysis

Client Sample ID: B-101-C Lab Sample ID: JD32749-6 Matrix: SO - Soil Method: SW846 8015D Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/28/21 Date Received: 10/01/21 Percent Solids: 78.5
--	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM112484.D	1	10/09/21 00:07	DFT	n/a	n/a	GLM4720
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	11.8 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	6.7	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	88%		70-116%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.7
4

Report of Analysis

Client Sample ID: B-101-C Lab Sample ID: JD32749-6 Matrix: SO - Soil Method: SW846 8082A SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/28/21 Date Received: 10/01/21 Percent Solids: 78.5
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	RK4997.D	1	10/25/21 01:58	TL	10/22/21 16:00	OP35840	GRK136
Run #2							

Run #	Initial Weight	Final Volume
Run #1	15.5 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	41	19	ug/kg	
11104-28-2	Aroclor 1221	ND	41	25	ug/kg	
11141-16-5	Aroclor 1232	ND	41	26	ug/kg	
53469-21-9	Aroclor 1242	ND	41	17	ug/kg	
12672-29-6	Aroclor 1248 ^a	123	41	37	ug/kg	
11097-69-1	Aroclor 1254	ND	41	22	ug/kg	
11096-82-5	Aroclor 1260	ND	41	18	ug/kg	
11100-14-4	Aroclor 1268	ND	41	17	ug/kg	
37324-23-5	Aroclor 1262	ND	41	27	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	89%		24-152%
877-09-8	Tetrachloro-m-xylene	96%		24-152%
2051-24-3	Decachlorobiphenyl	79%		10-172%
2051-24-3	Decachlorobiphenyl	142%		10-172%

(a) More than 40 % RPD for detected concentrations between the two GC columns.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.7
4

Report of Analysis

Client Sample ID: B-101-C Lab Sample ID: JD32749-6 Matrix: SO - Soil Method: SW846 8015D SW846 3546 Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/28/21 Date Received: 10/01/21 Percent Solids: 78.5
---	--

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ101166.D	1	10/10/21 19:11	TL	10/09/21 10:18	OP35889	GZZ3733
Run #2							

Run #	Initial Weight	Final Volume
Run #1	11.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	79.9	11	3.9	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	78%		18-132%		
438-22-2	5a-Androstane	76%		22-134%		

ND = Not detected RL = Reporting Limit E = Indicates value exceeds calibration range	MDL = Method Detection Limit J = Indicates an estimated value B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound
--	--

4.7
4

Report of Analysis

Client Sample ID: B-101-C	Date Sampled: 09/28/21
Lab Sample ID: JD32749-6	Date Received: 10/01/21
Matrix: SO - Soil	Percent Solids: 78.5
Project: Northfield Bridge, Route 12, VT	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	11.75 NC		su	1	10/12/21 16:02	MM	SW846 9045D
Cyanide Reactivity ^a	< 13	13	mg/kg	1	10/14/21 20:38	JJ	SW846 CHAP7/9012 B
Ignitability (Flashpoint)	> 200		Deg. F	1	10/12/21 09:30	MM	SW846 1010A/ASTM D93
Paint Filter Test ^b	1.0	0.50	ml/100g	1	10/12/21 12:15	MM	SW846 9095/9095B
Solids, Percent	78.5		%	1	10/11/21 16:40	BG	SM2540 G 18TH ED MOD
Sulfide Reactivity ^a	< 130	130	mg/kg	1	10/15/21 10:43	JOO	SW846 CHAP7/9034

(a) Analyzed outside the 14 day holding time applied by laboratory SOP. No regulatory holding time published for this method.

(b) Free liquids present.

RL = Reporting Limit

4.7
4

Report of Analysis

Client Sample ID: B-101-C		
Lab Sample ID: JD32749-6A		Date Sampled: 09/28/21
Matrix: SO - Soil		Date Received: 10/01/21
Method: SW846 8260D SW846 1311		Percent Solids: 78.5
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A215249.D	5	10/14/21 00:23	ED	10/11/21 16:00	GP36344	V1A9288
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
71-43-2	Benzene	ND	D018	0.50	0.0025	0.0021	mg/l	
78-93-3	2-Butanone (MEK)	ND	D035	200	0.10	0.034	mg/l	
56-23-5	Carbon tetrachloride	ND	D019	0.50	0.0050	0.0028	mg/l	
108-90-7	Chlorobenzene	ND	D021	100	0.0050	0.0028	mg/l	
67-66-3	Chloroform ^a	0.010	D022	6.0	0.0050	0.0025	mg/l	B
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.0050	0.0025	mg/l	
107-06-2	1,2-Dichloroethane	ND	D028	0.50	0.0050	0.0030	mg/l	
75-35-4	1,1-Dichloroethene	ND	D029	0.70	0.0050	0.0030	mg/l	
127-18-4	Tetrachloroethene	ND	D039	0.70	0.0050	0.0045	mg/l	
79-01-6	Trichloroethene	ND	D040	0.50	0.0050	0.0026	mg/l	
75-01-4	Vinyl chloride	ND	D043	0.20	0.0050	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		76-120%
17060-07-0	1,2-Dichloroethane-D4	100%		64-135%
2037-26-5	Toluene-D8	104%		76-117%
460-00-4	4-Bromofluorobenzene	100%		72-122%

(a) Indicates analyte found in associated leachate blank.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.8
4

Report of Analysis

Client Sample ID: B-101-C		Date Sampled: 09/28/21
Lab Sample ID: JD32749-6A		Date Received: 10/01/21
Matrix: SO - Soil		Percent Solids: 78.5
Method: SW846 8270E SW846 3510C		
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6P502272.D	1	10/17/21 02:36	CS	10/15/21 09:30	OP35997	E6P3533
Run #2							

Run #	Initial Volume	Final Volume
Run #1	100 ml	1.0 ml
Run #2		

ABN TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	D023	200	0.020	0.0089	mg/l	
	3&4-Methylphenol	ND	D024	200	0.020	0.0088	mg/l	
87-86-5	Pentachlorophenol	ND	D037	100	0.10	0.014	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	D041	400	0.050	0.013	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	D042	2.0	0.050	0.0092	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.020	0.0017	mg/l	
121-14-2	2,4-Dinitrotoluene	ND	D030	0.13	0.020	0.0055	mg/l	
118-74-1	Hexachlorobenzene	ND	D032	0.13	0.020	0.0033	mg/l	
87-68-3	Hexachlorobutadiene	ND	D033	0.50	0.010	0.0049	mg/l	
67-72-1	Hexachloroethane	ND	D034	3.0	0.050	0.0039	mg/l	
98-95-3	Nitrobenzene	ND	D036	2.0	0.020	0.0064	mg/l	
110-86-1	Pyridine	ND	D038	5.0	0.020	0.0039	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	42%		10-73%
4165-62-2	Phenol-d5	29%		10-64%
118-79-6	2,4,6-Tribromophenol	94%		31-130%
4165-60-0	Nitrobenzene-d5	65%		28-126%
321-60-8	2-Fluorobiphenyl	74%		26-114%
1718-51-0	Terphenyl-d14	92%		16-122%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.8 4

Report of Analysis

Client Sample ID: B-101-C	Date Sampled: 09/28/21
Lab Sample ID: JD32749-6A	Date Received: 10/01/21
Matrix: SO - Soil	Percent Solids: 78.5
Method: SW846 8151A SW846 3510C	
Project: Northfield Bridge, Route 12, VT	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G133615.D	1	10/21/21 10:41	RK	10/15/21 15:10	OP35999	G3G4870
Run #2							

Run #	Initial Volume	Final Volume
Run #1	30.0 ml	2.0 ml
Run #2		

Herbicide TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
94-75-7	2,4-D	ND	D016	10	0.0033	0.00098	mg/l	
93-72-1	2,4,5-TP (Silvex)	ND	D017	1.0	0.0010	0.00020	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	110%		13-169%
19719-28-9	2,4-DCAA	62%		13-169%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.8
4

Report of Analysis

Client Sample ID: B-101-C		
Lab Sample ID: JD32749-6A		Date Sampled: 09/28/21
Matrix: SO - Soil		Date Received: 10/01/21
Method: SW846 8081B SW846 3510C		Percent Solids: 78.5
Project: Northfield Bridge, Route 12, VT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6G79695.D	1	10/18/21 06:22	CP	10/15/21 15:00	OP35998	G6G2810
Run #2							

Run #	Initial Volume	Final Volume
Run #1	30.0 ml	2.0 ml
Run #2		

Pesticide TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
58-89-9	gamma-BHC (Lindane)	ND	D013	0.40	0.000067	0.000040	mg/l	
12789-03-6	Chlordane	ND	D020	0.030	0.0033	0.0014	mg/l	
72-20-8	Endrin	ND	D012	0.020	0.000067	0.000040	mg/l	
76-44-8	Heptachlor	ND	D031	0.0080	0.000067	0.000030	mg/l	
1024-57-3	Heptachlor epoxide	ND	D031	0.0080	0.000067	0.000040	mg/l	
72-43-5	Methoxychlor	ND	D014	10	0.00013	0.000045	mg/l	
8001-35-2	Toxaphene	ND	D015	0.50	0.0017	0.0011	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	111%		30-137%
877-09-8	Tetrachloro-m-xylene	104%		30-137%
2051-24-3	Decachlorobiphenyl	94%		10-137%
2051-24-3	Decachlorobiphenyl	115%		10-137%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.8
4

Report of Analysis

Client Sample ID: B-101-C Lab Sample ID: JD32749-6A Matrix: SO - Soil Project: Northfield Bridge, Route 12, VT	Date Sampled: 09/28/21 Date Received: 10/01/21 Percent Solids: 78.5
---	--

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 0.10	D004	5.0	0.10	mg/l	1	10/10/21	10/12/21	ND	SW846 6010D ² SW846 3010A ³
Barium	0.39	D005	100	0.20	mg/l	1	10/10/21	10/12/21	ND	SW846 6010D ² SW846 3010A ³
Cadmium	< 0.0040	D006	1.0	0.0040	mg/l	1	10/10/21	10/12/21	ND	SW846 6010D ² SW846 3010A ³
Chromium	< 0.010	D007	5.0	0.010	mg/l	1	10/10/21	10/12/21	ND	SW846 6010D ² SW846 3010A ³
Lead	< 0.10	D008	5.0	0.10	mg/l	1	10/10/21	10/12/21	ND	SW846 6010D ² SW846 3010A ³
Mercury	< 0.00020	D009	0.20	0.00020	mg/l	1	10/11/21	10/11/21	LM	SW846 7470A ¹ SW846 7470A ⁴
Selenium	< 0.10	D010	1.0	0.10	mg/l	1	10/10/21	10/12/21	ND	SW846 6010D ² SW846 3010A ³
Silver	< 0.010	D011	5.0	0.010	mg/l	1	10/10/21	10/12/21	ND	SW846 6010D ² SW846 3010A ³

- (1) Instrument QC Batch: MA51248
- (2) Instrument QC Batch: MA51264
- (3) Prep QC Batch: MP29118
- (4) Prep QC Batch: MP29158

RL = Reporting Limit
 MCL = Maximum Contamination Level (40 CFR 261 7/1/11)

4.8
4

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- **Certification Exceptions**
- **Chain of Custody**

Parameter Certification Exceptions

Job Number: JD32749
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

The following parameters included in this report are exceptions to NELAC certification. The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
Cyanide Reactivity		SW846 CHAP7/9012 B	SO	SGS is not certified for this parameter. ^a
Sulfide Reactivity		SW846 CHAP7/9034	SO	SGS is not certified for this parameter. ^a

(a) Reactivity analyzed following SW846 Chapter 7 is no longer recognized by regulatory agencies. Use of results should be verified through the program to which the data is being submitted.

Certification exceptions shown are based on the New Jersey DEP certifications. Applicability in other states may vary. Please contact your laboratory representative if additional information is required for a specific regulatory program.

5.1
5



50
511

CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

JD32749

EHS-A-QAC-0023-04-FORM-Standard COC

FED-EX Tracking # 9257 0906 1880
SGS Quote #
Bottle Order Control # PREM-KR-09291-62
SGS Job # JD32749 1500 112

Client / Reporting Information		Project Information		Requested Analysis												Matrix Codes		
Company Name: Atlas		Project Name: Northfield Bridge		8270 PAH PCRA 8 8360 MSTD 8082 PCB Sediment TCLP Full PCRA Class PMTEK 8015 DLO 8015 GLO 8082 PCB 11												DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIO - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank		
Street Address: 51 Knight Lane		Street: Rt 12																
City: Williston VT 05495		City: VT																
Project Contact: Erik Urch		Project #: 280BSO2090																
Phone #: 802-862-1980		Client Purchase Order #:																
Sample Name(s): Jo Palmer		Project Manager: E. Urch																
SGS Sample #	Field ID / Point of Collection	MECH/ID Vial #	2021 Date	Time	Sampled by	Grab (G) Comp (C)	Source Chromat (N)	Matrix	# of bottles	HCl	MeOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	LAB USE ONLY
1	H-103-A		9/27	1240	AP	G	N	So	1									X X
2	H-103-B			1500		G			6									X X X X
3	H-103-C			1530		C			4									X X X X X X
4	B-101-A		9/28	0845		G			1									X X
5	B-101-B			1450		G			6									X X X X
6	B-101-C			1455		C			4									X X X X X X

Turn Around Time (Business Days) <input type="checkbox"/> 10 Business Days <input type="checkbox"/> 5 Business Days <input type="checkbox"/> 3 Business Days* <input type="checkbox"/> 2 Business Days* <input type="checkbox"/> 1 Business Day* <input type="checkbox"/> Other <small>All data available via Lablink</small>		Approved By (SGS PM) / Date: <u>Normal Atlas</u> Initial Assessment: <u>7/28</u> Label Verification: _____ <small>* Approval needed for 1-3 Business Day TAT</small>		Deliverable <input type="checkbox"/> Commercial "A" (Level 1) <input checked="" type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> NJ Reduced (Level 3) <input type="checkbox"/> Full Tier 1 (Level 4) <input type="checkbox"/> Commercial "C" <input type="checkbox"/> NJ DKQP <small>Commercial "A" = Results only; Commercial "B" = Results + QC Summary Commercial "C" = Results + QC Summary + Partial Raw data</small>				<input type="checkbox"/> NYASP Category A <input type="checkbox"/> NYASP Category B <input type="checkbox"/> MA MCP Criteria <input type="checkbox"/> CT RCP Criteria <input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format <input type="checkbox"/> DOD-QSMS		Comments / Special Instructions Held all "C" samples DI vials frozen w/m 12 hrs of sample collection http://www.sgs.com/en/terms-and-conditions	
--	--	---	--	--	--	--	--	--	--	---	--

Relinquished by: <u>Jo Palmer</u> Date / Time: <u>9/30/21 1500</u>				Received By: <u>FedEx</u>			
Relinquished by: _____ Date / Time: _____				Received By: _____			
Relinquished by: _____ Date / Time: _____				Received By: _____			
Relinquished by: _____ Date / Time: _____				Received By: _____			
Relinquished by: _____ Date / Time: _____				Received By: _____			

Custody Seal # Intact Not intact Absent
 Therm ID: _____ On Ice Cooler Temp. °C: 3.5°C



5.2
5

SGS Sample Receipt Summary

Job Number: JD32749

Client: ATLAS TECHNICAL CONSULTANTS, LLC

Project: NORTHFIELD BRIDGE PROJECT, VT

Date / Time Received: 10/1/2021 10:00:00 AM

Delivery Method: _____

Airbill #s: _____

Cooler Temps (Raw Measured) °C: Cooler 1: (3.5);

Cooler Temps (Corrected) °C: Cooler 1: (3.5);

<u>Cooler Security</u>	<u>Y or N</u>		<u>Y or N</u>	
1. Custody Seals Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/> <input type="checkbox"/>

<u>Cooler Temperature</u>	<u>Y or N</u>	
1. Temp criteria achieved:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Cooler temp verification:	_____	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:	Intact		

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Test Strip Lot #s:	pH 1-12: 231619	pH 12+: 203117A	Other: (Specify) _____
--------------------	-----------------	-----------------	------------------------

Comments

SM089-03
Rev. Date 12/7/17

5.2
5

Job Change Order: JD32749

Requested Date: 10/7/2021 **Received Date:** 10/1/2021
Account Name: Atlas Technical Consultants, LLC **Due Date:** 10/7/2021
Project Description: Northfield Bridge Project, VT **Deliverable:** COMMBN
C/O Initiated By: KELLY.RAM **PM:** KR **TAT (Days):** 7

Sample #: JD32749-3, -6 **Change:**
Please remove from hold and run for TCLPFULL, B8015DRO, V8015D
PNTFIL, RCRACLAS, P8082PCB11
Dept:
TAT: 7

=====

JD32749: Chain of Custody
Page 3 of 3

Above Changes Per: Erik Urch **Date/Time:** 10/7/2021

To Client: This Change Order is confirmation of the revisions, previously discussed with the Client Service Representative.

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3C7511-MB	3C170041.D	1	10/11/21	PS	n/a	n/a	V3C7511

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32749-2, JD32749-5

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	4.1	ug/kg	
71-43-2	Benzene	ND	0.50	0.46	ug/kg	
108-86-1	Bromobenzene	ND	5.0	0.55	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	0.56	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	0.43	ug/kg	
75-25-2	Bromoform	ND	5.0	1.4	ug/kg	
74-83-9	Bromomethane	ND	5.0	0.76	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	2.4	ug/kg	
104-51-8	n-Butylbenzene	ND	2.0	0.41	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.0	0.43	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.0	0.50	ug/kg	
75-15-0	Carbon disulfide	ND	2.0	0.54	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	0.62	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	0.46	ug/kg	
75-00-3	Chloroethane	ND	5.0	0.59	ug/kg	
67-66-3	Chloroform	ND	2.0	0.52	ug/kg	
74-87-3	Chloromethane	ND	5.0	2.0	ug/kg	
95-49-8	o-Chlorotoluene	ND	2.0	0.54	ug/kg	
106-43-4	p-Chlorotoluene	ND	2.0	0.44	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.69	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	0.56	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.42	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.55	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.49	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	0.73	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.47	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.0	0.66	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.84	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.61	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	0.47	ug/kg	
142-28-9	1,3-Dichloropropane	ND	2.0	0.52	ug/kg	
594-20-7	2,2-Dichloropropane	ND	2.0	0.43	ug/kg	
563-58-6	1,1-Dichloropropene	ND	2.0	0.47	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.48	ug/kg	

Method Blank Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3C7511-MB	3C170041.D	1	10/11/21	PS	n/a	n/a	V3C7511

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32749-2, JD32749-5

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.46	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.45	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	0.66	ug/kg	
591-78-6	2-Hexanone	ND	5.0	2.1	ug/kg	
74-88-4	Iodomethane	ND	5.0	2.3	ug/kg	
98-82-8	Isopropylbenzene	ND	2.0	1.4	ug/kg	
99-87-6	p-Isopropyltoluene	ND	2.0	0.40	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.47	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	2.3	ug/kg	
74-95-3	Methylene bromide	ND	5.0	0.53	ug/kg	
75-09-2	Methylene chloride	ND	5.0	2.6	ug/kg	
91-20-3	Naphthalene	ND	5.0	2.5	ug/kg	
103-65-1	n-Propylbenzene	ND	2.0	0.47	ug/kg	
100-42-5	Styrene	ND	2.0	0.40	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.0	0.42	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.60	ug/kg	
127-18-4	Tetrachloroethene	ND	2.0	0.58	ug/kg	
108-88-3	Toluene	ND	1.0	0.53	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	2.5	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	2.5	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.48	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.55	ug/kg	
79-01-6	Trichloroethene	ND	1.0	0.76	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	0.68	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.56	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.50	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.43	ug/kg	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/kg	
75-01-4	Vinyl chloride	ND	2.0	0.48	ug/kg	
	m,p-Xylene	ND	1.0	0.90	ug/kg	
95-47-6	o-Xylene	ND	1.0	0.46	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.46	ug/kg	

Method Blank Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3C7511-MB	3C170041.D	1	10/11/21	PS	n/a	n/a	V3C7511

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32749-2, JD32749-5

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	100% 72-130%
17060-07-0	1,2-Dichloroethane-D4	105% 75-131%
2037-26-5	Toluene-D8	99% 81-121%
460-00-4	4-Bromofluorobenzene	101% 60-141%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	1.49	6.6	ug/kg	J
	Total TIC, Volatile		0	ug/kg	

Method Blank Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A9288-MB	1A215232.D	1	10/13/21	ED	n/a	n/a	V1A9288

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32749-3A, JD32749-6A

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.43	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	6.9	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.55	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.56	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.51	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.60	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.59	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.90	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.53	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.79	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	96% 76-120%
17060-07-0	1,2-Dichloroethane-D4	100% 64-135%
2037-26-5	Toluene-D8	104% 76-117%
460-00-4	4-Bromofluorobenzene	103% 72-122%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

6.12
6

Leachate Blank Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GP36344-LB2	1A215233.D	5	10/13/21	ED	10/11/21	GP36344	V1A9288

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32749-3A, JD32749-6A

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	2.5	2.1	ug/l	
78-93-3	2-Butanone (MEK)	ND	50	34	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	2.8	ug/l	
108-90-7	Chlorobenzene	ND	5.0	2.8	ug/l	
67-66-3	Chloroform	10.8	5.0	2.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	2.5	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	3.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	5.0	3.0	ug/l	
127-18-4	Tetrachloroethene	ND	5.0	4.5	ug/l	
79-01-6	Trichloroethene	ND	5.0	2.6	ug/l	
75-01-4	Vinyl chloride	ND	5.0	3.9	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	96%	76-120%
17060-07-0	1,2-Dichloroethane-D4	101%	64-135%
2037-26-5	Toluene-D8	102%	76-117%
460-00-4	4-Bromofluorobenzene	99%	72-122%

Leachate Blank Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GP36344-LB3	1A215234.D	5	10/13/21	ED	10/11/21	GP36344	V1A9288

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32749-3A, JD32749-6A

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	2.5	2.1	ug/l	
78-93-3	2-Butanone (MEK)	ND	50	34	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	2.8	ug/l	
108-90-7	Chlorobenzene	ND	5.0	2.8	ug/l	
67-66-3	Chloroform	12.1	5.0	2.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	2.5	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	3.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	5.0	3.0	ug/l	
127-18-4	Tetrachloroethene	ND	5.0	4.5	ug/l	
79-01-6	Trichloroethene	ND	5.0	2.6	ug/l	
75-01-4	Vinyl chloride	ND	5.0	3.9	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	96%	76-120%
17060-07-0	1,2-Dichloroethane-D4	100%	64-135%
2037-26-5	Toluene-D8	103%	76-117%
460-00-4	4-Bromofluorobenzene	97%	72-122%

Blank Spike Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3C7511-BS	3C170039.D	1	10/11/21	PS	n/a	n/a	V3C7511

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32749-2, JD32749-5

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	200	204	102	67-130
71-43-2	Benzene	50	50.5	101	80-115
108-86-1	Bromobenzene	50	52.1	104	80-116
74-97-5	Bromochloromethane	50	52.2	104	82-121
75-27-4	Bromodichloromethane	50	50.9	102	83-121
75-25-2	Bromoform	50	51.0	102	80-141
74-83-9	Bromomethane	50	52.2	104	56-146
78-93-3	2-Butanone (MEK)	200	179	90	72-134
104-51-8	n-Butylbenzene	50	54.5	109	73-124
135-98-8	sec-Butylbenzene	50	53.2	106	73-121
98-06-6	tert-Butylbenzene	50	51.4	103	74-122
75-15-0	Carbon disulfide	50	47.2	94	65-125
56-23-5	Carbon tetrachloride	50	50.3	101	75-126
108-90-7	Chlorobenzene	50	51.4	103	81-115
75-00-3	Chloroethane	50	56.3	113	72-133
67-66-3	Chloroform	50	51.3	103	75-114
74-87-3	Chloromethane	50	54.0	108	57-135
95-49-8	o-Chlorotoluene	50	52.4	105	78-117
106-43-4	p-Chlorotoluene	50	52.4	105	77-114
96-12-8	1,2-Dibromo-3-chloropropane	50	52.2	104	72-129
124-48-1	Dibromochloromethane	50	51.0	102	82-133
106-93-4	1,2-Dibromoethane	50	52.4	105	81-126
95-50-1	1,2-Dichlorobenzene	50	53.5	107	83-114
541-73-1	1,3-Dichlorobenzene	50	52.8	106	81-112
106-46-7	1,4-Dichlorobenzene	50	53.2	106	79-113
75-71-8	Dichlorodifluoromethane	50	54.7	109	50-150
75-34-3	1,1-Dichloroethane	50	51.6	103	75-120
107-06-2	1,2-Dichloroethane	50	53.5	107	72-117
75-35-4	1,1-Dichloroethene	50	47.4	95	69-124
156-59-2	cis-1,2-Dichloroethene	50	51.3	103	73-119
156-60-5	trans-1,2-Dichloroethene	50	49.8	100	70-123
78-87-5	1,2-Dichloropropane	50	51.7	103	80-118
142-28-9	1,3-Dichloropropane	50	52.3	105	81-116
594-20-7	2,2-Dichloropropane	50	50.1	100	74-126
563-58-6	1,1-Dichloropropene	50	49.2	98	75-119
10061-01-5	cis-1,3-Dichloropropene	50	53.1	106	83-121

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3C7511-BS	3C170039.D	1	10/11/21	PS	n/a	n/a	V3C7511

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32749-2, JD32749-5

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	55.4	111	83-125
100-41-4	Ethylbenzene	50	52.9	106	80-114
87-68-3	Hexachlorobutadiene	50	54.0	108	71-125
591-78-6	2-Hexanone	200	208	104	77-126
74-88-4	Iodomethane	50	46.8	94	25-189
98-82-8	Isopropylbenzene	50	54.1	108	76-121
99-87-6	p-Isopropyltoluene	50	54.2	108	74-122
1634-04-4	Methyl Tert Butyl Ether	50	51.8	104	76-127
108-10-1	4-Methyl-2-pentanone(MIBK)	200	198	99	75-129
74-95-3	Methylene bromide	50	51.8	104	83-119
75-09-2	Methylene chloride	50	46.9	94	71-120
91-20-3	Naphthalene	50	53.9	108	73-131
103-65-1	n-Propylbenzene	50	52.8	106	74-116
100-42-5	Styrene	50	53.2	106	83-118
630-20-6	1,1,1,2-Tetrachloroethane	50	51.9	104	82-128
79-34-5	1,1,2,2-Tetrachloroethane	50	50.8	102	76-120
127-18-4	Tetrachloroethene	50	51.8	104	75-125
108-88-3	Toluene	50	52.6	105	79-115
87-61-6	1,2,3-Trichlorobenzene	50	55.4	111	75-131
120-82-1	1,2,4-Trichlorobenzene	50	55.6	111	76-130
71-55-6	1,1,1-Trichloroethane	50	51.3	103	77-122
79-00-5	1,1,2-Trichloroethane	50	49.8	100	82-119
79-01-6	Trichloroethene	50	49.7	99	82-119
75-69-4	Trichlorofluoromethane	50	55.2	110	70-134
96-18-4	1,2,3-Trichloropropane	50	51.0	102	80-118
95-63-6	1,2,4-Trimethylbenzene	50	52.6	105	77-116
108-67-8	1,3,5-Trimethylbenzene	50	53.1	106	76-118
108-05-4	Vinyl Acetate	50	45.3	91	75-124
75-01-4	Vinyl chloride	50	54.5	109	60-139
	m,p-Xylene	100	106	106	81-115
95-47-6	o-Xylene	50	52.7	105	82-117
1330-20-7	Xylene (total)	150	158	105	81-116

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD32749
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3C7511-BS	3C170039.D	1	10/11/21	PS	n/a	n/a	V3C7511

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32749-2, JD32749-5

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	72-130%
17060-07-0	1,2-Dichloroethane-D4	105%	75-131%
2037-26-5	Toluene-D8	100%	81-121%
460-00-4	4-Bromofluorobenzene	101%	60-141%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1A9288-BS	1A215230.D	1	10/13/21	ED	n/a	n/a	V1A9288

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32749-3A, JD32749-6A

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	50	51.8	104	75-122
78-93-3	2-Butanone (MEK)	200	245	123	64-130
56-23-5	Carbon tetrachloride	50	48.7	97	75-148
108-90-7	Chlorobenzene	50	52.2	104	76-124
67-66-3	Chloroform	50	44.5	89	77-124
106-46-7	1,4-Dichlorobenzene	50	54.1	108	71-123
107-06-2	1,2-Dichloroethane	50	45.2	90	66-150
75-35-4	1,1-Dichloroethene	50	47.5	95	61-132
127-18-4	Tetrachloroethene	50	51.7	103	70-136
79-01-6	Trichloroethene	50	52.5	105	79-126
75-01-4	Vinyl chloride	50	45.7	91	56-146

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	96%	76-120%
17060-07-0	1,2-Dichloroethane-D4	97%	64-135%
2037-26-5	Toluene-D8	98%	76-117%
460-00-4	4-Bromofluorobenzene	100%	72-122%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD32675-1MS	3C170051.D	1	10/11/21	PS	n/a	n/a	V3C7511
JD32675-1	3C170045.D	1	10/11/21	PS	n/a	n/a	V3C7511

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32749-2, JD32749-5

CAS No.	Compound	JD32675-1 ug/kg	Spike Q	MS ug/kg	MS %	Limits
67-64-1	Acetone	ND	209	143	68	31-142
71-43-2	Benzene	ND	52.2	43.2	83	62-126
108-86-1	Bromobenzene	ND	52.2	36.6	70	56-126
74-97-5	Bromochloromethane	ND	52.2	44.1	84	68-125
75-27-4	Bromodichloromethane	ND	52.2	42.8	82	63-132
75-25-2	Bromoform	ND	52.2	38.3	73	59-138
74-83-9	Bromomethane	ND	52.2	42.4	81	13-164
78-93-3	2-Butanone (MEK)	ND	209	150	72	51-135
104-51-8	n-Butylbenzene	ND	52.2	24.4	47	23-148
135-98-8	sec-Butylbenzene	ND	52.2	29.4	56	34-142
98-06-6	tert-Butylbenzene	ND	52.2	32.1	62	46-136
75-15-0	Carbon disulfide	ND	52.2	34.4	66	49-134
56-23-5	Carbon tetrachloride	ND	52.2	42.2	81	60-133
108-90-7	Chlorobenzene	ND	52.2	36.8	71	58-126
75-00-3	Chloroethane	ND	52.2	45.7	88	18-165
67-66-3	Chloroform	ND	52.2	45.7	88	60-125
74-87-3	Chloromethane	ND	52.2	44.3	85	43-145
95-49-8	o-Chlorotoluene	ND	52.2	34.9	67	53-128
106-43-4	p-Chlorotoluene	ND	52.2	33.2	64	49-126
96-12-8	1,2-Dibromo-3-chloropropane	ND	52.2	36.9	71	43-133
124-48-1	Dibromochloromethane	ND	52.2	40.7	78	68-131
106-93-4	1,2-Dibromoethane	ND	52.2	40.5	78	63-127
95-50-1	1,2-Dichlorobenzene	ND	52.2	32.9	63	46-130
541-73-1	1,3-Dichlorobenzene	ND	52.2	30.9	59	45-129
106-46-7	1,4-Dichlorobenzene	ND	52.2	31.3	60	43-129
75-71-8	Dichlorodifluoromethane	ND	52.2	45.3	87	35-157
75-34-3	1,1-Dichloroethane	ND	52.2	46.3	89	63-130
107-06-2	1,2-Dichloroethane	ND	52.2	44.9	86	61-118
75-35-4	1,1-Dichloroethene	ND	52.2	40.8	78	55-135
156-59-2	cis-1,2-Dichloroethene	ND	52.2	42.0	80	55-131
156-60-5	trans-1,2-Dichloroethene	ND	52.2	39.3	75	54-135
78-87-5	1,2-Dichloropropane	ND	52.2	44.6	85	68-123
142-28-9	1,3-Dichloropropane	ND	52.2	41.9	80	67-119
594-20-7	2,2-Dichloropropane	ND	52.2	40.2	77	50-131
563-58-6	1,1-Dichloropropene	ND	52.2	38.7	74	60-129
10061-01-5	cis-1,3-Dichloropropene	ND	52.2	41.0	79	65-123

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD32675-1MS	3C170051.D	1	10/11/21	PS	n/a	n/a	V3C7511
JD32675-1	3C170045.D	1	10/11/21	PS	n/a	n/a	V3C7511

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32749-2, JD32749-5

CAS No.	Compound	JD32675-1 ug/kg	Spike Q	ug/kg	MS ug/kg	MS %	Limits
10061-02-6	trans-1,3-Dichloropropene	ND		52.2	39.3	75	63-128
100-41-4	Ethylbenzene	ND		52.2	38.9	75	48-135
87-68-3	Hexachlorobutadiene	ND		52.2	15.1	29	10-151
591-78-6	2-Hexanone	ND		209	168	80	55-127
74-88-4	Iodomethane	ND		52.2	38.7	74	23-174
98-82-8	Isopropylbenzene	ND		52.2	36.9	71	46-139
99-87-6	p-Isopropyltoluene	ND		52.2	30.0	57	36-142
1634-04-4	Methyl Tert Butyl Ether	ND		52.2	46.0	88	62-128
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		209	167	80	59-125
74-95-3	Methylene bromide	ND		52.2	41.4	79	68-120
75-09-2	Methylene chloride	ND		52.2	40.2	77	59-127
91-20-3	Naphthalene	ND		52.2	27.0	52	10-160
103-65-1	n-Propylbenzene	ND		52.2	33.6	64	35-140
100-42-5	Styrene	ND		52.2	37.0	71	52-136
630-20-6	1,1,1,2-Tetrachloroethane	ND		52.2	41.4	79	68-132
79-34-5	1,1,2,2-Tetrachloroethane	ND		52.2	39.4	75	53-127
127-18-4	Tetrachloroethene	ND		52.2	35.6	68	50-138
108-88-3	Toluene	ND		52.2	41.0	79	57-129
87-61-6	1,2,3-Trichlorobenzene	ND		52.2	21.1	40	13-152
120-82-1	1,2,4-Trichlorobenzene	ND		52.2	21.5	41	15-153
71-55-6	1,1,1-Trichloroethane	ND		52.2	45.6	87	60-134
79-00-5	1,1,2-Trichloroethane	ND		52.2	40.0	77	56-137
79-01-6	Trichloroethene	ND		52.2	39.2	75	52-144
75-69-4	Trichlorofluoromethane	ND		52.2	44.1	84	48-144
96-18-4	1,2,3-Trichloropropane	ND		52.2	42.0	80	57-126
95-63-6	1,2,4-Trimethylbenzene	ND		52.2	33.7	65	38-137
108-67-8	1,3,5-Trimethylbenzene	ND		52.2	34.6	66	39-139
108-05-4	Vinyl Acetate	ND		52.2	19.6	38	17-143
75-01-4	Vinyl chloride	ND		52.2	42.4	81	44-152
	m,p-Xylene	ND		104	76.3	73	53-130
95-47-6	o-Xylene	ND		52.2	39.3	75	52-135
1330-20-7	Xylene (total)	ND		157	116	74	54-131

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JD32749
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD32675-1MS	3C170051.D	1	10/11/21	PS	n/a	n/a	V3C7511
JD32675-1	3C170045.D	1	10/11/21	PS	n/a	n/a	V3C7511

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32749-2, JD32749-5

CAS No.	Surrogate Recoveries	MS	JD32675-1	Limits
1868-53-7	Dibromofluoromethane	104%	103%	72-130%
17060-07-0	1,2-Dichloroethane-D4	106%	111%	75-131%
2037-26-5	Toluene-D8	100%	98%	81-121%
460-00-4	4-Bromofluorobenzene	102%	101%	60-141%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD32749-3AMS	1A215238.D	5	10/13/21	ED	n/a	n/a	V1A9288
JD32749-3AMSD	1A215239.D	5	10/13/21	ED	n/a	n/a	V1A9288
JD32749-3A	1A215237.D	5	10/13/21	ED	10/11/21	GP36344	V1A9288

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32749-3A, JD32749-6A

CAS No.	Compound	JD32749-3A		MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
		ug/l	Q							
71-43-2	Benzene	ND	250	254	102	250	256	102	1	38-139/13
78-93-3	2-Butanone (MEK)	ND	1000	940	94	1000	940	94	0	58-140/14
56-23-5	Carbon tetrachloride	ND	250	241	96	250	243	97	1	50-161/18
108-90-7	Chlorobenzene	ND	250	256	102	250	257	103	0	65-128/12
67-66-3	Chloroform	10.8	B 250	226	86	250	228	87	1	66-132/14
106-46-7	1,4-Dichlorobenzene	ND	250	263	105	250	264	106	0	63-126/13
107-06-2	1,2-Dichloroethane	ND	250	226	90	250	222	89	2	59-153/15
75-35-4	1,1-Dichloroethene	ND	250	235	94	250	240	96	2	41-144/17
127-18-4	Tetrachloroethene	ND	250	245	98	250	254	102	4	48-145/15
79-01-6	Trichloroethene	ND	250	259	104	250	261	104	1	53-141/15
75-01-4	Vinyl chloride	ND	250	228	91	250	229	92	0	34-151/20

CAS No.	Surrogate Recoveries	MS	MSD	JD32749-3A	Limits
1868-53-7	Dibromofluoromethane	95%	96%	95%	76-120%
17060-07-0	1,2-Dichloroethane-D4	95%	95%	103%	64-135%
2037-26-5	Toluene-D8	97%	98%	102%	76-117%
460-00-4	4-Bromofluorobenzene	101%	101%	98%	72-122%

* = Outside of Control Limits.

Leachate Spike Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GP36344-LS2	1A215238A.D	5	10/13/21	ED	10/11/21	GP36344	V1A9288
JD32749-3A	1A215237.D	5	10/13/21	ED	10/11/21	GP36344	V1A9288

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32749-3A, JD32749-6A

CAS No.	Compound	JD32749-3A ug/l	Spike Q	ug/l	LS ug/l	LS %	Limits
71-43-2	Benzene	ND		250	254	102	38-139
78-93-3	2-Butanone (MEK)	ND		1000	940	94	58-140
56-23-5	Carbon tetrachloride	ND		250	241	96	50-161
108-90-7	Chlorobenzene	ND		250	256	102	65-128
67-66-3	Chloroform	10.8	B	250	226	86	66-132
106-46-7	1,4-Dichlorobenzene	ND		250	263	105	63-126
107-06-2	1,2-Dichloroethane	ND		250	226	90	59-153
75-35-4	1,1-Dichloroethene	ND		250	235	94	41-144
127-18-4	Tetrachloroethene	ND		250	245	98	48-145
79-01-6	Trichloroethene	ND		250	259	104	53-141
75-01-4	Vinyl chloride	ND		250	228	91	34-151

CAS No.	Surrogate Recoveries	LS	JD32749-3A	Limits
1868-53-7	Dibromofluoromethane	95%	95%	76-120%
17060-07-0	1,2-Dichloroethane-D4	95%	103%	64-135%
2037-26-5	Toluene-D8	97%	102%	76-117%
460-00-4	4-Bromofluorobenzene	101%	98%	72-122%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD32675-7DUP	3C170053.D	1	10/11/21	PS	n/a	n/a	V3C7511
JD32675-7	3C170046.D	1	10/11/21	PS	n/a	n/a	V3C7511

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32749-2, JD32749-5

CAS No.	Compound	JD32675-7 ug/kg	DUP Q	ug/kg	Q	RPD	Limits
67-64-1	Acetone	ND		ND		nc	108
71-43-2	Benzene	ND		ND		nc	27
108-86-1	Bromobenzene	ND		ND		nc	30
74-97-5	Bromochloromethane	ND		ND		nc	30
75-27-4	Bromodichloromethane	ND		ND		nc	22
75-25-2	Bromoform	ND		ND		nc	30
74-83-9	Bromomethane	ND		ND		nc	6
78-93-3	2-Butanone (MEK)	ND		ND		nc	32
104-51-8	n-Butylbenzene	ND		ND		nc	17
135-98-8	sec-Butylbenzene	ND		ND		nc	17
98-06-6	tert-Butylbenzene	ND		ND		nc	8
75-15-0	Carbon disulfide	ND		ND		nc	31
56-23-5	Carbon tetrachloride	ND		ND		nc	30
108-90-7	Chlorobenzene	ND		ND		nc	30
75-00-3	Chloroethane	ND		ND		nc	0
67-66-3	Chloroform	ND		ND		nc	30
74-87-3	Chloromethane	ND		ND		nc	30
95-49-8	o-Chlorotoluene	ND		ND		nc	30
106-43-4	p-Chlorotoluene	ND		ND		nc	30
96-12-8	1,2-Dibromo-3-chloropropane	ND		ND		nc	30
124-48-1	Dibromochloromethane	ND		ND		nc	1
106-93-4	1,2-Dibromoethane	ND		ND		nc	30
95-50-1	1,2-Dichlorobenzene	ND		ND		nc	30
541-73-1	1,3-Dichlorobenzene	ND		ND		nc	30
106-46-7	1,4-Dichlorobenzene	ND		ND		nc	2
75-71-8	Dichlorodifluoromethane	ND		ND		nc	30
75-34-3	1,1-Dichloroethane	ND		ND		nc	7
107-06-2	1,2-Dichloroethane	ND		ND		nc	7
75-35-4	1,1-Dichloroethene	ND		ND		nc	10
156-59-2	cis-1,2-Dichloroethene	ND		ND		nc	27
156-60-5	trans-1,2-Dichloroethene	ND		ND		nc	16
78-87-5	1,2-Dichloropropane	ND		ND		nc	30
142-28-9	1,3-Dichloropropane	ND		ND		nc	30
594-20-7	2,2-Dichloropropane	ND		ND		nc	30
563-58-6	1,1-Dichloropropene	ND		ND		nc	30
10061-01-5	cis-1,3-Dichloropropene	ND		ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD32675-7DUP	3C170053.D	1	10/11/21	PS	n/a	n/a	V3C7511
JD32675-7	3C170046.D	1	10/11/21	PS	n/a	n/a	V3C7511

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32749-2, JD32749-5

CAS No.	Compound	JD32675-7 ug/kg	DUP Q	ug/kg	Q	RPD	Limits
10061-02-6	trans-1,3-Dichloropropene	ND		ND		nc	30
100-41-4	Ethylbenzene	ND		ND		nc	36
87-68-3	Hexachlorobutadiene	ND		ND		nc	30
591-78-6	2-Hexanone	ND		ND		nc	30
74-88-4	Iodomethane	ND		ND		nc	30
98-82-8	Isopropylbenzene	ND		ND		nc	13
99-87-6	p-Isopropyltoluene	ND		ND		nc	12
1634-04-4	Methyl Tert Butyl Ether	ND		ND		nc	11
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		ND		nc	30
74-95-3	Methylene bromide	ND		ND		nc	30
75-09-2	Methylene chloride	ND		ND		nc	31
91-20-3	Naphthalene	ND		ND		nc	26
103-65-1	n-Propylbenzene	ND		ND		nc	25
100-42-5	Styrene	ND		ND		nc	30
630-20-6	1,1,1,2-Tetrachloroethane	ND		ND		nc	30
79-34-5	1,1,2,2-Tetrachloroethane	ND		ND		nc	30
127-18-4	Tetrachloroethene	ND		ND		nc	44
108-88-3	Toluene	ND		ND		nc	39
87-61-6	1,2,3-Trichlorobenzene	ND		ND		nc	30
120-82-1	1,2,4-Trichlorobenzene	ND		ND		nc	30
71-55-6	1,1,1-Trichloroethane	ND		ND		nc	9
79-00-5	1,1,2-Trichloroethane	ND		ND		nc	30
79-01-6	Trichloroethene	ND		ND		nc	29
75-69-4	Trichlorofluoromethane	ND		ND		nc	30
96-18-4	1,2,3-Trichloropropane	ND		ND		nc	30
95-63-6	1,2,4-Trimethylbenzene	ND		ND		nc	35
108-67-8	1,3,5-Trimethylbenzene	ND		ND		nc	31
108-05-4	Vinyl Acetate	ND		ND		nc	30
75-01-4	Vinyl chloride	ND		ND		nc	14
	m,p-Xylene	ND		ND		nc	39
95-47-6	o-Xylene	ND		ND		nc	36
1330-20-7	Xylene (total)	ND		ND		nc	44

* = Outside of Control Limits.

Duplicate Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD32675-7DUP	3C170053.D	1	10/11/21	PS	n/a	n/a	V3C7511
JD32675-7	3C170046.D	1	10/11/21	PS	n/a	n/a	V3C7511

The QC reported here applies to the following samples:

Method: SW846 8260D

JD32749-2, JD32749-5

CAS No.	Surrogate Recoveries	DUP	JD32675-7	Limits
1868-53-7	Dibromofluoromethane	102%	103%	72-130%
17060-07-0	1,2-Dichloroethane-D4	110%	110%	75-131%
2037-26-5	Toluene-D8	99%	98%	81-121%
460-00-4	4-Bromofluorobenzene	102%	103%	60-141%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	V1A9258-BFB	Injection Date:	09/26/21
Lab File ID:	1A214394.D	Injection Time:	23:53
Instrument ID:	GCMS1A		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	25210	21.0	Pass
75	30.0 - 60.0% of mass 95	58968	49.2	Pass
95	Base peak, 100% relative abundance	119837	100.0	Pass
96	5.0 - 9.0% of mass 95	8107	6.77	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 120.0% of mass 95	105720	88.2	Pass
175	5.0 - 9.0% of mass 174	8408	7.02 (7.95) ^a	Pass
176	95.0 - 101.0% of mass 174	103672	86.5 (98.1) ^a	Pass
177	5.0 - 9.0% of mass 176	6471	5.40 (6.24) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V1A9258-IC9258	1A214395.D	09/27/21	00:12	00:19	Initial cal 0.2
V1A9258-IC9258	1A214396.D	09/27/21	00:32	00:39	Initial cal 0.5
V1A9258-IC9258	1A214397.D	09/27/21	00:51	00:58	Initial cal 1
V1A9258-IC9258	1A214398.D	09/27/21	01:10	01:17	Initial cal 2
V1A9258-IC9258	1A214399.D	09/27/21	01:29	01:36	Initial cal 4
V1A9258-IC9258	1A214400.D	09/27/21	01:48	01:55	Initial cal 8
V1A9258-IC9258	1A214401.D	09/27/21	02:08	02:15	Initial cal 20
V1A9258-ICC9258	1A214402.D	09/27/21	02:27	02:34	Initial cal 50
V1A9258-IC9258	1A214403.D	09/27/21	02:46	02:53	Initial cal 100
V1A9258-IC9258	1A214404.D	09/27/21	03:05	03:12	Initial cal 200
V1A9258-ICV9258	1A214407.D	09/27/21	04:03	04:10	Initial cal verification 50
V1A9258-ICV9258	1A214408.D	09/27/21	04:22	04:29	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	V1A9288-BFB	Injection Date:	10/13/21
Lab File ID:	1A215228.D	Injection Time:	17:24
Instrument ID:	GCMS1A		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	26818	20.1	Pass
75	30.0 - 60.0% of mass 95	64360	48.1	Pass
95	Base peak, 100% relative abundance	133725	100.0	Pass
96	5.0 - 9.0% of mass 95	9089	6.80	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 120.0% of mass 95	123874	92.6	Pass
175	5.0 - 9.0% of mass 174	7155	5.35 (5.78) ^a	Pass
176	95.0 - 101.0% of mass 174	120587	90.2 (97.3) ^a	Pass
177	5.0 - 9.0% of mass 176	8034	6.01 (6.66) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V1A9288-CC9258	1A215228.D	10/13/21	17:24	00:00	Continuing cal 50
V1A9288-BS	1A215230.D	10/13/21	18:04	00:40	Blank Spike
V1A9288-MB	1A215232.D	10/13/21	18:44	01:20	Method Blank
GP36344-LB2	1A215233.D	10/13/21	19:04	01:40	Leachate Blank
GP36344-LB3	1A215234.D	10/13/21	19:24	02:00	Leachate Blank
GP36344-LB6	1A215235.D	10/13/21	19:44	02:20	Leachate Blank
ZZZZZZ	1A215236.D	10/13/21	20:04	02:40	(unrelated sample)
JD32749-3A	1A215237.D	10/13/21	20:24	03:00	H-103-C
JD32749-3AMS	1A215238.D	10/13/21	20:44	03:20	Matrix Spike
GP36344-LS2	1A215238A.D	10/13/21	20:44	03:20	Leachate Spike
JD32749-3AMSD	1A215239.D	10/13/21	21:04	03:40	Matrix Spike Duplicate
ZZZZZZ	1A215241.D	10/13/21	21:44	04:20	(unrelated sample)
ZZZZZZ	1A215242.D	10/13/21	22:04	04:40	(unrelated sample)
ZZZZZZ	1A215243.D	10/13/21	22:24	05:00	(unrelated sample)
ZZZZZZ	1A215244.D	10/13/21	22:43	05:19	(unrelated sample)
ZZZZZZ	1A215245.D	10/13/21	23:03	05:39	(unrelated sample)
ZZZZZZ	1A215246.D	10/13/21	23:23	05:59	(unrelated sample)
ZZZZZZ	1A215247.D	10/13/21	23:43	06:19	(unrelated sample)
ZZZZZZ	1A215248.D	10/14/21	00:03	06:39	(unrelated sample)
JD32749-6A	1A215249.D	10/14/21	00:23	06:59	B-101-C
ZZZZZZ	1A215250.D	10/14/21	00:43	07:19	(unrelated sample)
ZZZZZZ	1A215251.D	10/14/21	01:02	07:38	(unrelated sample)
ZZZZZZ	1A215252.D	10/14/21	01:22	07:58	(unrelated sample)
ZZZZZZ	1A215253.D	10/14/21	01:42	08:18	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JD32749
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Sample:	V1A9288-BFB	Injection Date:	10/13/21
Lab File ID:	1A215228.D	Injection Time:	17:24
Instrument ID:	GCMS1A		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	1A215254.D	10/14/21	02:02	08:38	(unrelated sample)
ZZZZZZ	1A215255.D	10/14/21	02:21	08:57	(unrelated sample)
ZZZZZZ	1A215256.D	10/14/21	02:41	09:17	(unrelated sample)
ZZZZZZ	1A215257.D	10/14/21	03:01	09:37	(unrelated sample)
ZZZZZZ	1A215258.D	10/14/21	03:20	09:56	(unrelated sample)
V1A9288-ECC9258	1A215259.D	10/14/21	03:40	10:16	Ending cal 50

6.8.2

6

Instrument Performance Check (BFB)

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample: V3C7497-BFB	Injection Date: 09/26/21
Lab File ID: 3C169616.D	Injection Time: 17:44
Instrument ID: GCMS3C	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	75930	20.1	Pass
75	30.0 - 60.0% of mass 95	182549	48.3	Pass
95	Base peak, 100% relative abundance	377856	100.0	Pass
96	5.0 - 9.0% of mass 95	26256	6.95	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 120.0% of mass 95	321365	85.0	Pass
175	5.0 - 9.0% of mass 174	25216	6.67 (7.85) ^a	Pass
176	95.0 - 101.0% of mass 174	313685	83.0 (97.6) ^a	Pass
177	5.0 - 9.0% of mass 176	21085	5.58 (6.72) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3C7497-IC7497	3C169617.D	09/26/21	18:11	00:27	Initial cal 0.2
V3C7497-IC7497	3C169618.D	09/26/21	18:36	00:52	Initial cal 0.5
V3C7497-IC7497	3C169619.D	09/26/21	19:01	01:17	Initial cal 1
V3C7497-IC7497	3C169620.D	09/26/21	19:26	01:42	Initial cal 2
V3C7497-IC7497	3C169621.D	09/26/21	19:51	02:07	Initial cal 4
V3C7497-IC7497	3C169622.D	09/26/21	20:16	02:32	Initial cal 8
V3C7497-IC7497	3C169623.D	09/26/21	20:42	02:58	Initial cal 20
V3C7497-ICC7497	3C169624.D	09/26/21	21:07	03:23	Initial cal 50
V3C7497-IC7497	3C169625.D	09/26/21	21:32	03:48	Initial cal 100
V3C7497-IC7497	3C169626.D	09/26/21	21:57	04:13	Initial cal 200
V3C7497-ICV7497	3C169629.D	09/26/21	23:12	05:28	Initial cal verification 50
V3C7497-ICV7497	3C169630.D	09/26/21	23:37	05:53	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	V3C7511-BFB	Injection Date:	10/11/21
Lab File ID:	3C170038.D	Injection Time:	10:13
Instrument ID:	GCMS3C		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	34232	15.9	Pass
75	30.0 - 60.0% of mass 95	66421	30.9	Pass
95	Base peak, 100% relative abundance	214720	100.0	Pass
96	5.0 - 9.0% of mass 95	14302	6.66	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 120.0% of mass 95	183296	85.4	Pass
175	5.0 - 9.0% of mass 174	13984	6.51 (7.63) ^a	Pass
176	95.0 - 101.0% of mass 174	179179	83.4 (97.8) ^a	Pass
177	5.0 - 9.0% of mass 176	11938	5.56 (6.66) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3C7511-CC7497	3C170038.D	10/11/21	10:13	00:00	Continuing cal 50
V3C7511-BS	3C170039.D	10/11/21	10:42	00:29	Blank Spike
ZZZZZZ	3C170041A.D	10/11/21	11:51	01:38	(unrelated sample)
V3C7511-MB	3C170041.D	10/11/21	11:51	01:38	Method Blank
ZZZZZZ	3C170042.D	10/11/21	12:16	02:03	(unrelated sample)
ZZZZZZ	3C170043.D	10/11/21	12:42	02:29	(unrelated sample)
ZZZZZZ	3C170044.D	10/11/21	13:07	02:54	(unrelated sample)
JD32675-1	3C170045.D	10/11/21	13:33	03:20	(used for QC only; not part of job JD32749)
JD32675-7	3C170046.D	10/11/21	13:59	03:46	(used for QC only; not part of job JD32749)
ZZZZZZ	3C170047.D	10/11/21	14:24	04:11	(unrelated sample)
ZZZZZZ	3C170048.D	10/11/21	14:50	04:37	(unrelated sample)
ZZZZZZ	3C170049.D	10/11/21	15:15	05:02	(unrelated sample)
ZZZZZZ	3C170050.D	10/11/21	15:41	05:28	(unrelated sample)
JD32675-1MS	3C170051.D	10/11/21	16:07	05:54	Matrix Spike
JD32675-7DUP	3C170053.D	10/11/21	16:58	06:45	Duplicate
ZZZZZZ	3C170054.D	10/11/21	17:23	07:10	(unrelated sample)
JD32749-2	3C170055.D	10/11/21	17:49	07:36	H-103-B
JD32749-5	3C170056.D	10/11/21	18:15	08:02	B-101-B
ZZZZZZ	3C170057.D	10/11/21	18:40	08:27	(unrelated sample)
ZZZZZZ	3C170058.D	10/11/21	19:06	08:53	(unrelated sample)
ZZZZZZ	3C170059.D	10/11/21	19:32	09:19	(unrelated sample)
ZZZZZZ	3C170060.D	10/11/21	19:57	09:44	(unrelated sample)
ZZZZZZ	3C170061.D	10/11/21	20:23	10:10	(unrelated sample)
ZZZZZZ	3C170062.D	10/11/21	20:48	10:35	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JD32749
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Sample:	V3C7511-BFB	Injection Date:	10/11/21
Lab File ID:	3C170038.D	Injection Time:	10:13
Instrument ID:	GCMS3C		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
<i>ZZZZZZ</i>	3C170063.D	10/11/21	21:14	11:01	(unrelated sample)
<i>ZZZZZZ</i>	3C170064.D	10/11/21	21:39	11:26	(unrelated sample)
<i>ZZZZZZ</i>	3C170065.D	10/11/21	22:05	11:52	(unrelated sample)

6.8.4

6

Surrogate Recovery Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Method: SW846 8260D	Matrix: LEACHATE
---------------------	------------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JD32749-3A	1A215237.D	95	103	102	98
JD32749-6A	1A215249.D	98	100	104	100
GP36344-LB2	1A215233.D	96	101	102	99
GP36344-LB3	1A215234.D	96	100	103	97
GP36344-LS2	1A215238A.D	95	95	97	101
JD32749-3AMS	1A215238.D	95	95	97	101
JD32749-3AMSD	1A215239.D	96	95	98	101
V1A9288-BS	1A215230.D	96	97	98	100
V1A9288-MB	1A215232.D	96	100	104	103

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	76-120%
S2 = 1,2-Dichloroethane-D4	64-135%
S3 = Toluene-D8	76-117%
S4 = 4-Bromofluorobenzene	72-122%

Surrogate Recovery Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Method: SW846 8260D	Matrix: SO
---------------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JD32749-2	3C170055.D	104	112	98	103
JD32749-5	3C170056.D	106	115	98	104
JD32675-1MS	3C170051.D	104	106	100	102
JD32675-7DUP	3C170053.D	102	110	99	102
V3C7511-BS	3C170039.D	100	105	100	101
V3C7511-MB	3C170041.D	100	105	99	101

Surrogate Compounds Recovery Limits

S1 = Dibromofluoromethane	72-130%
S2 = 1,2-Dichloroethane-D4	75-131%
S3 = Toluene-D8	81-121%
S4 = 4-Bromofluorobenzene	60-141%

MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (DFTPP)
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35863-MB1	Z152147.D	1	10/10/21	CS	10/09/21	OP35863	EZ7568

The QC reported here applies to the following samples: Method: SW846 8270E

JD32749-1, JD32749-2, JD32749-5

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	33	11	ug/kg	
208-96-8	Acenaphthylene	ND	33	17	ug/kg	
120-12-7	Anthracene	ND	33	20	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	9.4	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	15	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	15	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	33	16	ug/kg	
218-01-9	Chrysene	ND	33	10	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	33	15	ug/kg	
206-44-0	Fluoranthene	ND	33	15	ug/kg	
86-73-7	Fluorene	ND	33	15	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	33	16	ug/kg	
91-20-3	Naphthalene	ND	33	9.4	ug/kg	
85-01-8	Phenanthrene	ND	33	11	ug/kg	
129-00-0	Pyrene	ND	33	11	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
367-12-4	2-Fluorophenol	80%	7-101%
4165-62-2	Phenol-d5	79%	12-101%
118-79-6	2,4,6-Tribromophenol	88%	10-127%
4165-60-0	Nitrobenzene-d5	85%	15-114%
321-60-8	2-Fluorobiphenyl	84%	22-104%
1718-51-0	Terphenyl-d14	87%	23-121%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	System artifact	1.47	690	ug/kg	J
	System artifact	2.72	430	ug/kg	J
	System artifact	2.92	290	ug/kg	J
	Total TIC, Semi-Volatile		0	ug/kg	

Method Blank Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35916-MB1	M175671.D	1	10/12/21	KLS	10/12/21	OP35916	EM7551

The QC reported here applies to the following samples:

Method: SW846 8270E

JD32749-4

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	33	11	ug/kg	
208-96-8	Acenaphthylene	ND	33	17	ug/kg	
120-12-7	Anthracene	ND	33	20	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	9.4	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	15	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	15	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	33	16	ug/kg	
218-01-9	Chrysene	ND	33	10	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	33	15	ug/kg	
206-44-0	Fluoranthene	ND	33	15	ug/kg	
86-73-7	Fluorene	ND	33	15	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	33	16	ug/kg	
91-20-3	Naphthalene	ND	33	9.4	ug/kg	
85-01-8	Phenanthrene	ND	33	11	ug/kg	
129-00-0	Pyrene	ND	33	11	ug/kg	

CAS No.	Surrogate Recoveries	Limits
367-12-4	2-Fluorophenol	56% 7-101%
4165-62-2	Phenol-d5	54% 12-101%
118-79-6	2,4,6-Tribromophenol	105% 10-127%
4165-60-0	Nitrobenzene-d5	64% 15-114%
321-60-8	2-Fluorobiphenyl	69% 22-104%
1718-51-0	Terphenyl-d14	81% 23-121%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	System artifact	3.37	300	ug/kg	J
	System artifact/aldol-condensation	3.55	200	ug/kg	J
	Total TIC, Semi-Volatile		0	ug/kg	

7.1.2
7

Method Blank Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35997-MB1	6P502234.D	1	10/16/21	CS	10/15/21	OP35997	E6P3532

The QC reported here applies to the following samples:

Method: SW846 8270E

JD32749-3A, JD32749-6A

CAS No.	Compound	Result	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	2.0	0.89	ug/l	
	3&4-Methylphenol	ND	2.0	0.88	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.4	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.3	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	0.92	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.17	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	2.0	0.55	ug/l	
118-74-1	Hexachlorobenzene	ND	2.0	0.33	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.0	0.49	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.39	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.64	ug/l	
110-86-1	Pyridine	ND	2.0	0.39	ug/l	

CAS No.	Surrogate Recoveries	Limits
367-12-4	2-Fluorophenol	41% 10-73%
4165-62-2	Phenol-d5	29% 10-64%
118-79-6	2,4,6-Tribromophenol	99% 31-130%
4165-60-0	Nitrobenzene-d5	65% 28-126%
321-60-8	2-Fluorobiphenyl	77% 26-114%
1718-51-0	Terphenyl-d14	103% 16-122%

7.1.3
7

Leachate Blank Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35997-LB23	6P502235.D	1	10/16/21	CS	10/15/21	OP35997	E6P3532

The QC reported here applies to the following samples:

Method: SW846 8270E

JD32749-3A, JD32749-6A

CAS No.	Compound	Result	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	20	8.9	ug/l	
	3&4-Methylphenol	ND	20	8.8	ug/l	
87-86-5	Pentachlorophenol	ND	100	14	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	50	13	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	50	9.2	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	20	1.7	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	20	5.5	ug/l	
118-74-1	Hexachlorobenzene	ND	20	3.3	ug/l	
87-68-3	Hexachlorobutadiene	ND	10	4.9	ug/l	
67-72-1	Hexachloroethane	ND	50	3.9	ug/l	
98-95-3	Nitrobenzene	ND	20	6.4	ug/l	
110-86-1	Pyridine	ND	20	3.9	ug/l	

CAS No.	Surrogate Recoveries	Limits
367-12-4	2-Fluorophenol	41% 10-73%
4165-62-2	Phenol-d5	27% 10-64%
118-79-6	2,4,6-Tribromophenol	92% 31-130%
4165-60-0	Nitrobenzene-d5	66% 28-126%
321-60-8	2-Fluorobiphenyl	73% 26-114%
1718-51-0	Terphenyl-d14	99% 16-122%

7.2.1

7

Blank Spike Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35916-BS1	M175672.D	1	10/12/21	KLS	10/12/21	OP35916	EM7551

The QC reported here applies to the following samples:

Method: SW846 8270E

JD32749-4

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	1670	1140	68	24-129
208-96-8	Acenaphthylene	1670	926	56	25-130
120-12-7	Anthracene	1670	1170	70	28-131
56-55-3	Benzo(a)anthracene	1670	1140	68	30-130
50-32-8	Benzo(a)pyrene	1670	1180	71	27-139
205-99-2	Benzo(b)fluoranthene	1670	1200	72	32-133
191-24-2	Benzo(g,h,i)perylene	1670	1160	70	24-141
207-08-9	Benzo(k)fluoranthene	1670	1140	68	26-135
218-01-9	Chrysene	1670	1140	68	29-127
53-70-3	Dibenzo(a,h)anthracene	1670	1140	68	24-135
206-44-0	Fluoranthene	1670	1220	73	31-134
86-73-7	Fluorene	1670	1130	68	26-136
193-39-5	Indeno(1,2,3-cd)pyrene	1670	1130	68	26-137
91-20-3	Naphthalene	1670	1030	62	26-127
85-01-8	Phenanthrene	1670	1140	68	26-131
129-00-0	Pyrene	1670	1190	71	30-131

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	62%	7-101%
4165-62-2	Phenol-d5	53%	12-101%
118-79-6	2,4,6-Tribromophenol	90%	10-127%
4165-60-0	Nitrobenzene-d5	56%	15-114%
321-60-8	2-Fluorobiphenyl	62%	22-104%
1718-51-0	Terphenyl-d14	74%	23-121%

* = Outside of Control Limits.

7.3.1
7

Blank Spike Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35997-BS1	6P502236.D	1	10/16/21	CS	10/15/21	OP35997	E6P3532

The QC reported here applies to the following samples:

Method: SW846 8270E

JD32749-3A, JD32749-6A

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
95-48-7	2-Methylphenol	50	30.6	61	26-101
	3&4-Methylphenol	100	52.5	53	23-98
87-86-5	Pentachlorophenol	100	80.8	81	37-147
95-95-4	2,4,5-Trichlorophenol	50	43.4	87	39-125
88-06-2	2,4,6-Trichlorophenol	50	40.4	81	40-127
106-46-7	1,4-Dichlorobenzene	50	32.0	64	25-101
121-14-2	2,4-Dinitrotoluene	50	47.4	95	47-128
118-74-1	Hexachlorobenzene	50	48.5	97	46-113
87-68-3	Hexachlorobutadiene	50	31.5	63	17-111
67-72-1	Hexachloroethane	50	30.9	62	18-101
98-95-3	Nitrobenzene	50	38.2	76	36-120
110-86-1	Pyridine	50	16.4	33	10-78

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	43%	10-73%
4165-62-2	Phenol-d5	31%	10-64%
118-79-6	2,4,6-Tribromophenol	98%	31-130%
4165-60-0	Nitrobenzene-d5	75%	28-126%
321-60-8	2-Fluorobiphenyl	87%	26-114%
1718-51-0	Terphenyl-d14	99%	16-122%

* = Outside of Control Limits.

7.3.2
7

Blank Spike/Blank Spike Duplicate Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35863-BS1	Z152148.D	1	10/10/21	CS	10/09/21	OP35863	EZ7568
OP35863-BSD	Z152170.D	1	10/10/21	CS	10/09/21	OP35863	EZ7568

The QC reported here applies to the following samples:

Method: SW846 8270E

JD32749-1, JD32749-2, JD32749-5

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	1670	1250	75	1160	70	7	24-129/16
208-96-8	Acenaphthylene	1670	1150	69	1060	64	8	25-130/17
120-12-7	Anthracene	1670	1320	79	1220	73	8	28-131/18
56-55-3	Benzo(a)anthracene	1670	1310	79	1230	74	6	30-130/20
50-32-8	Benzo(a)pyrene	1670	1320	79	1250	75	5	27-139/20
205-99-2	Benzo(b)fluoranthene	1670	1320	79	1240	74	6	32-133/21
191-24-2	Benzo(g,h,i)perylene	1670	1280	77	1180	71	8	24-141/23
207-08-9	Benzo(k)fluoranthene	1670	1320	79	1240	74	6	26-135/21
218-01-9	Chrysene	1670	1300	78	1240	74	5	29-127/20
53-70-3	Dibenzo(a,h)anthracene	1670	1280	77	1170	70	9	24-135/23
206-44-0	Fluoranthene	1670	1350	81	1280	77	5	31-134/23
86-73-7	Fluorene	1670	1250	75	1150	69	8	26-136/18
193-39-5	Indeno(1,2,3-cd)pyrene	1670	1270	76	1180	71	7	26-137/25
91-20-3	Naphthalene	1670	1240	74	1150	69	8	26-127/19
85-01-8	Phenanthrene	1670	1310	79	1200	72	9	26-131/19
129-00-0	Pyrene	1670	1260	76	1170	70	7	30-131/24

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
367-12-4	2-Fluorophenol	73%	67%	7-101%
4165-62-2	Phenol-d5	72%	65%	12-101%
118-79-6	2,4,6-Tribromophenol	83%	80%	10-127%
4165-60-0	Nitrobenzene-d5	79%	74%	15-114%
321-60-8	2-Fluorobiphenyl	73%	68%	22-104%
1718-51-0	Terphenyl-d14	76%	73%	23-121%

* = Outside of Control Limits.

7.4.1
7

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35863-MS	Z152165.D	1	10/11/21	CS	10/09/21	OP35863	EZ7568
OP35863-MSD	Z152166.D	1	10/11/21	CS	10/09/21	OP35863	EZ7568
JD32716-2	Z152167.D	1	10/11/21	CS	10/09/21	OP35863	EZ7568

The QC reported here applies to the following samples:

Method: SW846 8270E

JD32749-1, JD32749-2, JD32749-5

CAS No.	Compound	JD32716-2 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	464	2120	1600	54	2120	1200	35	29	10-145/63
208-96-8	Acenaphthylene	62.1	2120	1440	65	2120	1080	48	29	10-144/59
120-12-7	Anthracene	154	2120	1690	73	2120	1260	52	29	10-153/66
56-55-3	Benzo(a)anthracene	78.4	2120	1720	78	2120	1310	58	27	10-157/71
50-32-8	Benzo(a)pyrene	93.3	2120	1710	76	2120	1310	57	26	10-164/67
205-99-2	Benzo(b)fluoranthene	82.3	2120	1760	79	2120	1340	59	27	10-154/69
191-24-2	Benzo(g,h,i)perylene	499	2120	803	14	2120	1040	26	26	10-156/64
207-08-9	Benzo(k)fluoranthene	35.8	J 2120	1930	89	2120	1470	68	27	10-156/62
218-01-9	Chrysene	85.3	2120	1720	77	2120	1330	59	26	10-148/70
53-70-3	Dibenzo(a,h)anthracene	411	2120	857	21	2120	1040	30	19	10-146/63
206-44-0	Fluoranthene	264	2120	1860	75	2120	1430	55	26	10-171/80
86-73-7	Fluorene	244	2120	1620	65	2120	1200	45	30	10-148/65
193-39-5	Indeno(1,2,3-cd)pyrene	419	2120	809	18	2120	986	27	20	10-152/65
91-20-3	Naphthalene	473	2120	1340	41	2120	1030	26	26	10-147/64
85-01-8	Phenanthrene	861	2120	1780	43	2120	1430	27	22	10-162/81
129-00-0	Pyrene	405	2120	1790	65	2120	1420	48	23	10-166/77

CAS No.	Surrogate Recoveries	MS	MSD	JD32716-2	Limits
367-12-4	2-Fluorophenol	64%	51%		7-101%
4165-62-2	Phenol-d5	65%	52%		12-101%
118-79-6	2,4,6-Tribromophenol	87%	69%		10-127%
4165-60-0	Nitrobenzene-d5	67%	55%	55%	15-114%
321-60-8	2-Fluorobiphenyl	72%	59%	58%	22-104%
1718-51-0	Terphenyl-d14	80%	66%	65%	23-121%

* = Outside of Control Limits.

7.5.1
7

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35916-MS	M175682.D	1	10/12/21	KLS	10/12/21	OP35916	EM7551
OP35916-MSD	M175683.D	1	10/12/21	KLS	10/12/21	OP35916	EM7551
JD32593-45	M175679.D	1	10/12/21	KLS	10/12/21	OP35916	EM7551

The QC reported here applies to the following samples:

Method: SW846 8270E

JD32749-4

CAS No.	Compound	JD32593-45 ug/kg	Spike Q	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD	
83-32-9	Acenaphthene	ND		15200	8900	59	15100	5850	39	41	10-145/63
208-96-8	Acenaphthylene	ND		15200	7400	49	15100	4940	33	40	10-144/59
120-12-7	Anthracene	ND		15200	9070	60	15100	6030	40	40	10-153/66
56-55-3	Benzo(a)anthracene	ND		15200	8460	56	15100	5480	36	43	10-157/71
50-32-8	Benzo(a)pyrene	ND		15200	8590	57	15100	5500	36	44	10-164/67
205-99-2	Benzo(b)fluoranthene	ND		15200	8530	56	15100	5470	36	44	10-154/69
191-24-2	Benzo(g,h,i)perylene	ND		15200	8080	53	15100	5060	33	46	10-156/64
207-08-9	Benzo(k)fluoranthene	ND		15200	8480	56	15100	5450	36	44	10-156/62
218-01-9	Chrysene	ND		15200	8740	58	15100	5670	38	43	10-148/70
53-70-3	Dibenzo(a,h)anthracene	ND		15200	8690	57	15100	5430	36	46	10-146/63
206-44-0	Fluoranthene	ND		15200	8740	58	15100	5840	39	40	10-171/80
86-73-7	Fluorene	ND		15200	8620	57	15100	5880	39	38	10-148/65
193-39-5	Indeno(1,2,3-cd)pyrene	ND		15200	8700	57	15100	5270	35	49	10-152/65
91-20-3	Naphthalene	ND		15200	8360	55	15100	5460	36	42	10-147/64
85-01-8	Phenanthrene	ND		15200	8780	58	15100	5890	39	39	10-162/81
129-00-0	Pyrene	ND		15200	9130	60	15100	5930	39	42	10-166/77

CAS No.	Surrogate Recoveries	MS	MSD	JD32593-45	Limits
367-12-4	2-Fluorophenol	49%	33%	37%	7-101%
4165-62-2	Phenol-d5	44%	31%	36%	12-101%
118-79-6	2,4,6-Tribromophenol	75%	53%	69%	10-127%
4165-60-0	Nitrobenzene-d5	49%	34%	45%	15-114%
321-60-8	2-Fluorobiphenyl	52%	36%	48%	22-104%
1718-51-0	Terphenyl-d14	59%	39%	51%	23-121%

* = Outside of Control Limits.

7.5.2
7

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35997-MS	6P502238.D	1	10/16/21	CS	10/15/21	OP35997	E6P3532
OP35997-MSD	6P502239.D	1	10/16/21	CS	10/15/21	OP35997	E6P3532
JD32818-1A	6P502240.D	1	10/16/21	CS	10/15/21	OP35997	E6P3532

The QC reported here applies to the following samples:

Method: SW846 8270E

JD32749-3A, JD32749-6A

CAS No.	Compound	JD32818-1A Spike		MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
		ug/l	Q							
95-48-7	2-Methylphenol	ND	500	244	49	500	277	55	13	10-130/32
	3&4-Methylphenol	ND	1000	403	40	1000	472	47	16	10-128/36
87-86-5	Pentachlorophenol	ND	1000	723	72	1000	855	86	17	29-154/32
95-95-4	2,4,5-Trichlorophenol	ND	500	354	71	500	410	82	15	33-130/22
88-06-2	2,4,6-Trichlorophenol	ND	500	335	67	500	375	75	11	35-129/26
106-46-7	1,4-Dichlorobenzene	ND	500	285	57	500	283	57	1	10-155/26
121-14-2	2,4-Dinitrotoluene	ND	500	488	98	500	455	91	7	21-160/23
118-74-1	Hexachlorobenzene	ND	500	483	97	500	465	93	4	40-120/21
87-68-3	Hexachlorobutadiene	ND	500	268	54	500	283	57	5	10-129/24
67-72-1	Hexachloroethane	ND	500	267	53	500	270	54	1	10-120/26
98-95-3	Nitrobenzene	ND	500	354	71	500	330	66	7	26-138/26
110-86-1	Pyridine	ND	500	147	29	500	70.6	14	70* a	10-94/49

CAS No.	Surrogate Recoveries	MS	MSD	JD32818-1A	Limits
367-12-4	2-Fluorophenol	32%	38%	44%	10-73%
4165-62-2	Phenol-d5	25%	29%	29%	10-64%
118-79-6	2,4,6-Tribromophenol	81%	94%	100%	31-130%
4165-60-0	Nitrobenzene-d5	68%	64%	68%	28-126%
321-60-8	2-Fluorobiphenyl	81%	78%	72%	26-114%
1718-51-0	Terphenyl-d14	85%	70%	103%	16-122%

(a) Analytical precision exceeds in-house control limits.

* = Outside of Control Limits.

7.5.3
7

Leachate Spike Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35997-LS23	6P502238.D	1	10/16/21	CS	10/15/21	OP35997	E6P3532
JD32818-1A	6P502240.D	1	10/16/21	CS	10/15/21	OP35997	E6P3532

The QC reported here applies to the following samples:

Method: SW846 8270E

JD32749-3A, JD32749-6A

CAS No.	Compound	JD32818-1A ug/l	Spike Q ug/l	LS ug/l	LS %	Limits
95-48-7	2-Methylphenol	ND	500	244	49	10-130
	3&4-Methylphenol	ND	1000	403	40	10-128
87-86-5	Pentachlorophenol	ND	1000	723	72	29-154
95-95-4	2,4,5-Trichlorophenol	ND	500	354	71	33-130
88-06-2	2,4,6-Trichlorophenol	ND	500	335	67	35-129
106-46-7	1,4-Dichlorobenzene	ND	500	285	57	10-155
121-14-2	2,4-Dinitrotoluene	ND	500	488	98	21-160
118-74-1	Hexachlorobenzene	ND	500	483	97	40-120
87-68-3	Hexachlorobutadiene	ND	500	268	54	10-129
67-72-1	Hexachloroethane	ND	500	267	53	10-120
98-95-3	Nitrobenzene	ND	500	354	71	26-138
110-86-1	Pyridine	ND	500	147	29	10-94

CAS No.	Surrogate Recoveries	LS	JD32818-1A	Limits
367-12-4	2-Fluorophenol	32%	44%	10-73%
4165-62-2	Phenol-d5	25%	29%	10-64%
118-79-6	2,4,6-Tribromophenol	81%	100%	31-130%
4165-60-0	Nitrobenzene-d5	68%	68%	28-126%
321-60-8	2-Fluorobiphenyl	81%	72%	26-114%
1718-51-0	Terphenyl-d14	85%	103%	16-122%

* = Outside of Control Limits.

Instrument Performance Check (DFTPP)

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	E6P3504-DFTPP	Injection Date:	09/29/21
Lab File ID:	6P501599.D	Injection Time:	13:43
Instrument ID:	GCMS6P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	259029	44.7	Pass
68	Less than 2.0% of mass 69	1354	0.23 (0.38) ^a	Pass
69	Mass 69 relative abundance	353085	61.0	Pass
70	Less than 2.0% of mass 69	2293	0.40 (0.65) ^a	Pass
127	40.0 - 60.0% of mass 198	335087	57.9	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	579136	100.0	Pass
199	5.0 - 9.0% of mass 198	36184	6.25	Pass
275	10.0 - 30.0% of mass 198	164402	28.4	Pass
365	1.0 - 100.0% of mass 198	22673	3.91	Pass
441	Present, but less than mass 443	54549	9.42 (85.9) ^b	Pass
442	40.0 - 100.0% of mass 198	346410	59.8	Pass
443	17.0 - 23.0% of mass 442	63467	11.0 (18.3) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E6P3504-IC3504	6P501600.D	09/29/21	14:00	00:17	Initial cal 1
E6P3504-IC3504	6P501601.D	09/29/21	14:22	00:39	Initial cal 2
E6P3504-IC3504	6P501602.D	09/29/21	14:44	01:01	Initial cal 5
E6P3504-IC3504	6P501603.D	09/29/21	15:06	01:23	Initial cal 10
E6P3504-IC3504	6P501604.D	09/29/21	15:28	01:45	Initial cal 25
E6P3504-ICC3504	6P501605.D	09/29/21	15:49	02:06	Initial cal 50
E6P3504-IC3504	6P501606.D	09/29/21	16:11	02:28	Initial cal 80
E6P3504-IC3504	6P501607.D	09/29/21	16:33	02:50	Initial cal 100
E6P3504-ICV3504	6P501609.D	09/29/21	17:17	03:34	Initial cal verification 50
E6P3504-ICV3504	6P501610.D	09/29/21	17:39	03:56	Initial cal verification 50

7.7.1
7

Instrument Performance Check (DFTPP)

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	E6P3505-DFTPP	Injection Date:	09/29/21
Lab File ID:	6P501613.D	Injection Time:	20:16
Instrument ID:	GCMS6P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	220472	43.2	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
69	Mass 69 relative abundance	288218	56.4	Pass
70	Less than 2.0% of mass 69	1549	0.30 (0.54) ^a	Pass
127	40.0 - 60.0% of mass 198	280674	55.0	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	510592	100.0	Pass
199	5.0 - 9.0% of mass 198	33288	6.52	Pass
275	10.0 - 30.0% of mass 198	146973	28.8	Pass
365	1.0 - 100.0% of mass 198	20256	3.97	Pass
441	Present, but less than mass 443	50272	9.85 (79.9) ^b	Pass
442	40.0 - 100.0% of mass 198	322026	63.1	Pass
443	17.0 - 23.0% of mass 442	62917	12.3 (19.5) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E6P3505-IC3505	6P501614.D	09/29/21	20:26	00:10	Initial cal 1
E6P3505-IC3505	6P501615.D	09/29/21	20:48	00:32	Initial cal 2
E6P3505-IC3505	6P501616.D	09/29/21	21:10	00:54	Initial cal 5
E6P3505-IC3505	6P501617.D	09/29/21	21:32	01:16	Initial cal 10
E6P3505-IC3505	6P501618.D	09/29/21	21:53	01:37	Initial cal 25
E6P3505-ICC3505	6P501619.D	09/29/21	22:15	01:59	Initial cal 50
E6P3505-IC3505	6P501620.D	09/29/21	22:37	02:21	Initial cal 80
E6P3505-IC3505	6P501621.D	09/29/21	22:59	02:43	Initial cal 100
E6P3505-ICV3505	6P501622.D	09/29/21	23:21	03:05	Initial cal verification 50

7.7.2
7

Instrument Performance Check (DFTPP)

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	E6P3506-DFTPP	Injection Date:	09/30/21
Lab File ID:	6P501623.D	Injection Time:	11:06
Instrument ID:	GCMS6P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	259309	43.3	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
69	Mass 69 relative abundance	273800	45.7	Pass
70	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
127	40.0 - 60.0% of mass 198	341070	57.0	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	598592	100.0	Pass
199	5.0 - 9.0% of mass 198	35030	5.85	Pass
275	10.0 - 30.0% of mass 198	168085	28.1	Pass
365	1.0 - 100.0% of mass 198	22458	3.75	Pass
441	Present, but less than mass 443	51624	8.62 (78.4) ^b	Pass
442	40.0 - 100.0% of mass 198	364992	61.0	Pass
443	17.0 - 23.0% of mass 442	65872	11.0 (18.0) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E6P3506-ICV3504	6P501625.D	09/30/21	11:38	00:32	Initial cal verification 50

7.7.3
7

Instrument Performance Check (DFTPP)

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	E6P3507-DFTPP	Injection Date:	09/30/21
Lab File ID:	6P501626.D	Injection Time:	13:41
Instrument ID:	GCMS6P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	228085	41.3	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
69	Mass 69 relative abundance	316429	57.3	Pass
70	Less than 2.0% of mass 69	1962	0.36 (0.62) ^a	Pass
127	40.0 - 60.0% of mass 198	302040	54.7	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	552000	100.0	Pass
199	5.0 - 9.0% of mass 198	35967	6.52	Pass
275	10.0 - 30.0% of mass 198	160352	29.0	Pass
365	1.0 - 100.0% of mass 198	22148	4.01	Pass
441	Present, but less than mass 443	59389	10.8 (88.4) ^b	Pass
442	40.0 - 100.0% of mass 198	374058	67.8	Pass
443	17.0 - 23.0% of mass 442	67160	12.2 (18.0) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E6P3507-ICV3504	6P501627.D	09/30/21	13:51	00:10	Initial cal verification 50
E6P3507-CC3504	6P501628.D	09/30/21	14:22	00:41	Continuing cal 25
E6P3507-CC3505	6P501629.D	09/30/21	15:07	01:26	Continuing cal 25
OP35623-MB1	6P501630C.D	09/30/21	19:42	06:01	Method Blank
OP35623-BS1	6P501631.D	09/30/21	20:03	06:22	Blank Spike
ZZZZZZ	6P501632.D	09/30/21	20:25	06:44	(unrelated sample)
ZZZZZZ	6P501633.D	09/30/21	20:47	07:06	(unrelated sample)
JD32216-1	6P501634A.D	09/30/21	21:48	08:07	(used for QC only; not part of job JD32749)
ZZZZZZ	6P501635.D	09/30/21	22:09	08:28	(unrelated sample)
ZZZZZZ	6P501636.D	09/30/21	22:31	08:50	(unrelated sample)
ZZZZZZ	6P501637.D	09/30/21	22:53	09:12	(unrelated sample)
ZZZZZZ	6P501638.D	09/30/21	23:15	09:34	(unrelated sample)
OP35623-MS	6P501639.D	09/30/21	23:36	09:55	Matrix Spike
OP35623-MSD	6P501640.D	09/30/21	23:58	10:17	Matrix Spike Duplicate
ZZZZZZ	6P501641.D	10/01/21	00:20	10:39	(unrelated sample)
ZZZZZZ	6P501642.D	10/01/21	00:42	11:01	(unrelated sample)
ZZZZZZ	6P501643.D	10/01/21	01:03	11:22	(unrelated sample)
ZZZZZZ	6P501644.D	10/01/21	01:25	11:44	(unrelated sample)

7.7.4
7

Instrument Performance Check (DFTPP)

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	E6P3532-DFTPP	Injection Date:	10/16/21
Lab File ID:	6P502231.D	Injection Time:	03:16
Instrument ID:	GCMS6P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	132208	38.4	Pass
68	Less than 2.0% of mass 69	2581	0.75 (1.44) ^a	Pass
69	Mass 69 relative abundance	179847	52.2	Pass
70	Less than 2.0% of mass 69	1274	0.37 (0.71) ^a	Pass
127	40.0 - 60.0% of mass 198	186344	54.1	Pass
197	Less than 1.0% of mass 198	1024	0.30	Pass
198	Base peak, 100% relative abundance	344704	100.0	Pass
199	5.0 - 9.0% of mass 198	22556	6.54	Pass
275	10.0 - 30.0% of mass 198	95576	27.7	Pass
365	1.0 - 100.0% of mass 198	13149	3.81	Pass
441	Present, but less than mass 443	32528	9.44 (73.5) ^b	Pass
442	40.0 - 100.0% of mass 198	231453	67.1	Pass
443	17.0 - 23.0% of mass 442	44272	12.8 (19.1) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E6P3532-CC3504	6P502232.D	10/16/21	03:32	00:16	Continuing cal 25
E6P3532-CC3505	6P502233.D	10/16/21	03:54	00:38	Continuing cal 25
OP35997-MB1	6P502234.D	10/16/21	04:21	01:05	Method Blank
OP35997-LB23	6P502235.D	10/16/21	04:43	01:27	Leachate Blank
OP35997-BS1	6P502236.D	10/16/21	05:06	01:50	Blank Spike
OP35997-LS23	6P502238.D	10/16/21	05:51	02:35	Leachate Spike
OP35997-MS	6P502238.D	10/16/21	05:51	02:35	Matrix Spike
OP35997-MSD	6P502239.D	10/16/21	06:13	02:57	Matrix Spike Duplicate
JD32818-1A	6P502240.D	10/16/21	06:35	03:19	(used for QC only; not part of job JD32749)
ZZZZZZ	6P502241.D	10/16/21	06:58	03:42	(unrelated sample)
ZZZZZZ	6P502242.D	10/16/21	07:20	04:04	(unrelated sample)
ZZZZZZ	6P502243.D	10/16/21	07:43	04:27	(unrelated sample)
ZZZZZZ	6P502244.D	10/16/21	08:05	04:49	(unrelated sample)
ZZZZZZ	6P502245.D	10/16/21	08:27	05:11	(unrelated sample)

7.7.5
7

Instrument Performance Check (DFTPP)

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	E6P3533-DFTPP	Injection Date:	10/16/21
Lab File ID:	6P502259.D	Injection Time:	21:36
Instrument ID:	GCMS6P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	152711	38.2	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
69	Mass 69 relative abundance	204289	51.2	Pass
70	Less than 2.0% of mass 69	549	0.14 (0.27) ^a	Pass
127	40.0 - 60.0% of mass 198	213397	53.4	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	399317	100.0	Pass
199	5.0 - 9.0% of mass 198	25496	6.38	Pass
275	10.0 - 30.0% of mass 198	107707	27.0	Pass
365	1.0 - 100.0% of mass 198	12817	3.21	Pass
441	Present, but less than mass 443	39004	9.77 (75.6) ^b	Pass
442	40.0 - 100.0% of mass 198	273661	68.5	Pass
443	17.0 - 23.0% of mass 442	51607	12.9 (18.9) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E6P3533-CC3504	6P502260.D	10/16/21	21:53	00:17	Continuing cal 25
ZZZZZZ	6P502262.D	10/16/21	22:43	01:07	(unrelated sample)
ZZZZZZ	6P502263.D	10/16/21	23:05	01:29	(unrelated sample)
ZZZZZZ	6P502264.D	10/16/21	23:27	01:51	(unrelated sample)
ZZZZZZ	6P502265.D	10/17/21	00:03	02:27	(unrelated sample)
ZZZZZZ	6P502266.D	10/17/21	00:24	02:48	(unrelated sample)
ZZZZZZ	6P502267.D	10/17/21	00:46	03:10	(unrelated sample)
ZZZZZZ	6P502268.D	10/17/21	01:08	03:32	(unrelated sample)
ZZZZZZ	6P502269.D	10/17/21	01:30	03:54	(unrelated sample)
ZZZZZZ	6P502270.D	10/17/21	01:52	04:16	(unrelated sample)
JD32749-3A	6P502271.D	10/17/21	02:14	04:38	H-103-C
JD32749-6A	6P502272.D	10/17/21	02:36	05:00	B-101-C
ZZZZZZ	6P502273.D	10/17/21	03:00	05:24	(unrelated sample)
ZZZZZZ	6P502274.D	10/17/21	03:22	05:46	(unrelated sample)

7.7.6
7

Instrument Performance Check (DFTPP)

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	EM7525-DFTPP	Injection Date:	09/21/21
Lab File ID:	M175056.D	Injection Time:	18:37
Instrument ID:	GCMSM		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	55048	36.4	Pass
68	Less than 2.0% of mass 69	222	0.15 (0.31) ^a	Pass
69	Mass 69 relative abundance	72202	47.7	Pass
70	Less than 2.0% of mass 69	238	0.16 (0.33) ^a	Pass
127	40.0 - 60.0% of mass 198	90576	59.8	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	151381	100.0	Pass
199	5.0 - 9.0% of mass 198	10497	6.93	Pass
275	10.0 - 30.0% of mass 198	38794	25.6	Pass
365	1.0 - 100.0% of mass 198	5830	3.85	Pass
441	Present, but less than mass 443	18722	12.4 (72.2) ^b	Pass
442	40.0 - 100.0% of mass 198	133669	88.3	Pass
443	17.0 - 23.0% of mass 442	25917	17.1 (19.4) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EM7525-IC7525	M175057.D	09/21/21	18:49	00:12	Initial cal 1
EM7525-IC7525	M175058.D	09/21/21	19:17	00:40	Initial cal 2
EM7525-IC7525	M175059.D	09/21/21	19:46	01:09	Initial cal 5
EM7525-IC7525	M175060.D	09/21/21	20:15	01:38	Initial cal 10
EM7525-IC7525	M175061.D	09/21/21	20:43	02:06	Initial cal 25
EM7525-ICC7525	M175062.D	09/21/21	21:12	02:35	Initial cal 50
EM7525-IC7525	M175063A.D	09/21/21	22:42	04:05	Initial cal 80
EM7525-IC7525	M175064.D	09/21/21	23:10	04:33	Initial cal 100
EM7525-ICV7525	M175065.D	09/21/21	23:39	05:02	Initial cal verification 50

7.7.7
7

Instrument Performance Check (DFTPP)

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	EM7526-DFTPP	Injection Date:	09/22/21
Lab File ID:	M175070.D	Injection Time:	14:01
Instrument ID:	GCMSM		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	59523	33.7	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
69	Mass 69 relative abundance	82293	46.6	Pass
70	Less than 2.0% of mass 69	338	0.19 (0.41) ^a	Pass
127	40.0 - 60.0% of mass 198	103112	58.4	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	176544	100.0	Pass
199	5.0 - 9.0% of mass 198	12565	7.12	Pass
275	10.0 - 30.0% of mass 198	48477	27.5	Pass
365	1.0 - 100.0% of mass 198	7144	4.05	Pass
441	Present, but less than mass 443	23299	13.2 (75.9) ^b	Pass
442	40.0 - 100.0% of mass 198	157978	89.5	Pass
443	17.0 - 23.0% of mass 442	30685	17.4 (19.4) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EM7526-IC7526	M175071.D	09/22/21	14:18	00:17	Initial cal 100
EM7526-IC7526	M175072.D	09/22/21	14:47	00:46	Initial cal 1
EM7526-IC7526	M175073.D	09/22/21	15:16	01:15	Initial cal 80
EM7526-IC7526	M175074.D	09/22/21	15:45	01:44	Initial cal 2
EM7526-ICC7526	M175075.D	09/22/21	16:14	02:13	Initial cal 50
EM7526-IC7526	M175076.D	09/22/21	16:43	02:42	Initial cal 5
EM7526-IC7526	M175077.D	09/22/21	17:12	03:11	Initial cal 25
EM7526-IC7526	M175078.D	09/22/21	17:41	03:40	Initial cal 10
EM7526-ICV7526	M175079.D	09/22/21	18:10	04:09	Initial cal verification 50
EM7526-ICV7526	M175080.D	09/22/21	18:39	04:38	Initial cal verification 50
EM7526-ICV7526	M175081.D	09/22/21	19:08	05:07	Initial cal verification 50
EM7526-ICV7526	M175082.D	09/22/21	19:37	05:36	Initial cal verification 50

7.7.8
7

Instrument Performance Check (DFTPP)

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	EM7551-DFTPP	Injection Date:	10/12/21
Lab File ID:	M175663.D	Injection Time:	11:33
Instrument ID:	GCMSM		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	32528	33.1	Pass
68	Less than 2.0% of mass 69	295	0.30 (0.65) ^a	Pass
69	Mass 69 relative abundance	45536	46.3	Pass
70	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
127	40.0 - 60.0% of mass 198	57640	58.7	Pass
197	Less than 1.0% of mass 198	156	0.16	Pass
198	Base peak, 100% relative abundance	98248	100.0	Pass
199	5.0 - 9.0% of mass 198	6655	6.77	Pass
275	10.0 - 30.0% of mass 198	26449	26.9	Pass
365	1.0 - 100.0% of mass 198	3595	3.66	Pass
441	Present, but less than mass 443	12098	12.3 (74.2) ^b	Pass
442	40.0 - 100.0% of mass 198	84185	85.7	Pass
443	17.0 - 23.0% of mass 442	16305	16.6 (19.4) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EM7551-CC7526	M175664.D	10/12/21	11:46	00:13	Continuing cal 25
EM7551-CC7525	M175665.D	10/12/21	12:15	00:42	Continuing cal 25
ZZZZZZ	M175666.D	10/12/21	12:44	01:11	(unrelated sample)
ZZZZZZ	M175667.D	10/12/21	13:25	01:52	(unrelated sample)
ZZZZZZ	M175668.D	10/12/21	13:54	02:21	(unrelated sample)
ZZZZZZ	M175669.D	10/12/21	14:23	02:50	(unrelated sample)
ZZZZZZ	M175670.D	10/12/21	14:52	03:19	(unrelated sample)
OP35916-MB1	M175671.D	10/12/21	15:43	04:10	Method Blank
OP35916-BS1	M175672.D	10/12/21	16:12	04:39	Blank Spike
JD32749-4	M175673.D	10/12/21	16:41	05:08	B-101-A
ZZZZZZ	M175674.D	10/12/21	17:09	05:36	(unrelated sample)
ZZZZZZ	M175675.D	10/12/21	17:38	06:05	(unrelated sample)
ZZZZZZ	M175676.D	10/12/21	18:07	06:34	(unrelated sample)
ZZZZZZ	M175677.D	10/12/21	18:36	07:03	(unrelated sample)
ZZZZZZ	M175678.D	10/12/21	19:05	07:32	(unrelated sample)
JD32593-45	M175679.D	10/12/21	19:34	08:01	(used for QC only; not part of job JD32749)
ZZZZZZ	M175680.D	10/12/21	20:03	08:30	(unrelated sample)
ZZZZZZ	M175681.D	10/12/21	20:32	08:59	(unrelated sample)
OP35916-MS	M175682.D	10/12/21	21:00	09:27	Matrix Spike

7.7.9
7

Instrument Performance Check (DFTPP)

Job Number: JD32749
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Sample: EM7551-DFTPP	Injection Date: 10/12/21
Lab File ID: M175663.D	Injection Time: 11:33
Instrument ID: GCMSM	

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
OP35916-MSD	M175683.D	10/12/21	21:30	09:57	Matrix Spike Duplicate

Instrument Performance Check (DFTPP)

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	EZ7517-DFTPP	Injection Date:	09/02/21
Lab File ID:	Z151212.D	Injection Time:	11:16
Instrument ID:	GCMSZ		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	67019	39.8	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
69	Mass 69 relative abundance	81472	48.4	Pass
70	Less than 2.0% of mass 69	499	0.30 (0.61) ^a	Pass
127	40.0 - 60.0% of mass 198	84573	50.2	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	168347	100.0	Pass
199	5.0 - 9.0% of mass 198	11451	6.80	Pass
275	10.0 - 30.0% of mass 198	44512	26.4	Pass
365	1.0 - 100.0% of mass 198	7380	4.38	Pass
441	Present, but less than mass 443	23264	13.8 (82.0) ^b	Pass
442	40.0 - 100.0% of mass 198	149459	88.8	Pass
443	17.0 - 23.0% of mass 442	28381	16.9 (19.0) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EZ7517-IC7517	Z151214.D	09/02/21	12:00	00:44	Initial cal 1
EZ7517-IC7517	Z151215.D	09/02/21	12:28	01:12	Initial cal 2
EZ7517-IC7517	Z151216.D	09/02/21	12:57	01:41	Initial cal 5
EZ7517-IC7517	Z151217.D	09/02/21	13:25	02:09	Initial cal 10
EZ7517-IC7517	Z151218.D	09/02/21	13:53	02:37	Initial cal 25
EZ7517-ICC7517	Z151219.D	09/02/21	14:21	03:05	Initial cal 50
EZ7517-IC7517	Z151220.D	09/02/21	14:50	03:34	Initial cal 80
EZ7517-IC7517	Z151221.D	09/02/21	15:19	04:03	Initial cal 100
EZ7517-ICV7517	Z151222.D	09/02/21	15:49	04:33	Initial cal verification 50
EZ7517-ICV7513	Z151224.D	09/02/21	16:45	05:29	Initial cal verification 50

7.7.10
7

Instrument Performance Check (DFTPP)

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	EZ7524-DFTPP	Injection Date:	09/09/21
Lab File ID:	Z151331.D	Injection Time:	11:00
Instrument ID:	GCMSZ		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	62163	35.9	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) ^a	Pass
69	Mass 69 relative abundance	78023	45.1	Pass
70	Less than 2.0% of mass 69	516	0.30 (0.66) ^a	Pass
127	40.0 - 60.0% of mass 198	82981	47.9	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	173171	100.0	Pass
199	5.0 - 9.0% of mass 198	11633	6.72	Pass
275	10.0 - 30.0% of mass 198	48896	28.2	Pass
365	1.0 - 100.0% of mass 198	7616	4.40	Pass
441	Present, but less than mass 443	21822	12.6 (82.7) ^b	Pass
442	40.0 - 100.0% of mass 198	139160	80.4	Pass
443	17.0 - 23.0% of mass 442	26391	15.2 (19.0) ^c	Pass

(a) Value is % of mass 69

(b) Value is % of mass 443

(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EZ7524-IC7524	Z151332.D	09/09/21	11:19	00:19	Initial cal 1
EZ7524-IC7524	Z151333.D	09/09/21	11:45	00:45	Initial cal 2
EZ7524-IC7524	Z151334.D	09/09/21	12:11	01:11	Initial cal 5
EZ7524-IC7524	Z151335.D	09/09/21	12:37	01:37	Initial cal 10
EZ7524-IC7524	Z151336.D	09/09/21	13:03	02:03	Initial cal 25
EZ7524-ICC7524	Z151337.D	09/09/21	13:29	02:29	Initial cal 50
EZ7524-IC7524	Z151338.D	09/09/21	13:55	02:55	Initial cal 80
EZ7524-IC7524	Z151339.D	09/09/21	14:21	03:21	Initial cal 100
EZ7524-ICV7524	Z151340.D	09/09/21	14:47	03:47	Initial cal verification 50
EZ7524-ICV7524	Z151341.D	09/09/21	15:13	04:13	Initial cal verification 50
EZ7524-ICV7524	Z151342.D	09/09/21	15:39	04:39	Initial cal verification 50
EZ7524-ICV7524	Z151343.D	09/09/21	16:05	05:05	Initial cal verification 50

7.7.11
7

Instrument Performance Check (DFTPP)

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample:	EZ7568-DFTPP	Injection Date:	10/10/21
Lab File ID:	Z152144.D	Injection Time:	16:33
Instrument ID:	GCMSZ		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	63573	35.0	Pass
68	Less than 2.0% of mass 69	664	0.37 (0.81) ^a	Pass
69	Mass 69 relative abundance	81692	45.0	Pass
70	Less than 2.0% of mass 69	263	0.14 (0.32) ^a	Pass
127	40.0 - 60.0% of mass 198	94395	52.0	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	181485	100.0	Pass
199	5.0 - 9.0% of mass 198	13524	7.45	Pass
275	10.0 - 30.0% of mass 198	43347	23.9	Pass
365	1.0 - 100.0% of mass 198	7616	4.20	Pass
441	Present, but less than mass 443	16150	8.90 (91.7) ^b	Pass
442	40.0 - 100.0% of mass 198	89933	49.6	Pass
443	17.0 - 23.0% of mass 442	17612	9.70 (19.6) ^c	Pass

- (a) Value is % of mass 69
- (b) Value is % of mass 443
- (c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EZ7568-CC7524	Z152145.D	10/10/21	17:02	00:29	Continuing cal 50
EZ7568-CC7517	Z152146.D	10/10/21	17:28	00:55	Continuing cal 50
OP35863-MB1	Z152147.D	10/10/21	18:00	01:27	Method Blank
OP35863-BS1	Z152148.D	10/10/21	18:26	01:53	Blank Spike
OP35863-BSD	Z152170.D	10/10/21	18:51	02:18	Blank Spike Duplicate
JD32749-1	Z152149.D	10/10/21	19:17	02:44	H-103-A
ZZZZZZ	Z152150.D	10/10/21	19:43	03:10	(unrelated sample)
ZZZZZZ	Z152151.D	10/10/21	20:08	03:35	(unrelated sample)
ZZZZZZ	Z152152.D	10/10/21	20:34	04:01	(unrelated sample)
ZZZZZZ	Z152153.D	10/10/21	21:00	04:27	(unrelated sample)
ZZZZZZ	Z152154.D	10/10/21	21:25	04:52	(unrelated sample)
ZZZZZZ	Z152155.D	10/10/21	21:51	05:18	(unrelated sample)
ZZZZZZ	Z152156.D	10/10/21	22:17	05:44	(unrelated sample)
ZZZZZZ	Z152157.D	10/10/21	22:43	06:10	(unrelated sample)
ZZZZZZ	Z152158.D	10/10/21	23:08	06:35	(unrelated sample)
ZZZZZZ	Z152159.D	10/10/21	23:34	07:01	(unrelated sample)
ZZZZZZ	Z152160.D	10/11/21	00:00	07:27	(unrelated sample)
JD32749-2	Z152161.D	10/11/21	00:26	07:53	H-103-B
JD32749-5	Z152162.D	10/11/21	00:52	08:19	B-101-B

7.7.12
7

Instrument Performance Check (DFTPP)

Job Number: JD32749
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Sample:	EZ7568-DFTPP	Injection Date:	10/10/21
Lab File ID:	Z152144.D	Injection Time:	16:33
Instrument ID:	GCMSZ		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	Z152163.D	10/11/21	01:17	08:44	(unrelated sample)
ZZZZZZ	Z152164.D	10/11/21	01:43	09:10	(unrelated sample)
OP35863-MS	Z152165.D	10/11/21	02:09	09:36	Matrix Spike
OP35863-MSD	Z152166.D	10/11/21	02:35	10:02	Matrix Spike Duplicate
JD32716-2	Z152167.D	10/11/21	03:00	10:27	(used for QC only; not part of job JD32749)
ZZZZZZ	Z152168.D	10/11/21	03:26	10:53	(unrelated sample)
ZZZZZZ	Z152169.D	10/11/21	03:52	11:19	(unrelated sample)

7.7.12
7

Surrogate Recovery Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Method: SW846 8270E	Matrix: LEACHATE
---------------------	------------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
JD32749-3A	6P502271.D	41	28	98	69	74	95
JD32749-6A	6P502272.D	42	29	94	65	74	92
OP35997-BS1	6P502236.D	43	31	98	75	87	99
OP35997-LB23	6P502235.D	41	27	92	66	73	99
OP35997-LS23	6P502238.D	32	25	81	68	81	85
OP35997-MB1	6P502234.D	41	29	99	65	77	103
OP35997-MS	6P502238.D	32	25	81	68	81	85
OP35997-MSD	6P502239.D	38	29	94	64	78	70

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	10-73%
S2 = Phenol-d5	10-64%
S3 = 2,4,6-Tribromophenol	31-130%
S4 = Nitrobenzene-d5	28-126%
S5 = 2-Fluorobiphenyl	26-114%
S6 = Terphenyl-d14	16-122%

7.8.1
7

Surrogate Recovery Summary

Job Number: JD32749
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Method: SW846 8270E	Matrix: SO
---------------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
JD32749-1	Z152149.D	28	26	27
JD32749-2	Z152161.D	44	47	48
JD32749-4	M175673.D	48	54	59
JD32749-5	Z152162.D	34	28	24
OP35863-BS1	Z152148.D	79	73	76
OP35863-BSD	Z152170.D	74	68	73
OP35863-MB1	Z152147.D	85	84	87
OP35863-MS	Z152165.D	67	72	80
OP35863-MSD	Z152166.D	55	59	66
OP35916-BS1	M175672.D	56	62	74
OP35916-MB1	M175671.D	64	69	81
OP35916-MS	M175682.D	49	52	59
OP35916-MSD	M175683.D	34	36	39

Surrogate Compounds	Recovery Limits
S1 = Nitrobenzene-d5	15-114%
S2 = 2-Fluorobiphenyl	22-104%
S3 = Terphenyl-d14	23-121%

7.8.2
7

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JD32749
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLM4720-MB	LM112479.D	1	10/08/21	DFT	n/a	n/a	GLM4720

The QC reported here applies to the following samples:

Method: SW846 8015D

JD32749-3, JD32749-6

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	5.0	mg/kg	

CAS No.	Surrogate Recoveries	Limits
98-08-8	aaa-Trifluorotoluene	91% 70-116%

8.1.1

8

Blank Spike Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLM4720-BS	LM112480.D	1	10/08/21	DFT	n/a	n/a	GLM4720

The QC reported here applies to the following samples:

Method: SW846 8015D

JD32749-3, JD32749-6

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	400	338	85	75-126

CAS No.	Surrogate Recoveries	BSP	Limits
98-08-8	aaa-Trifluorotoluene	99%	70-116%

8.2.1

8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD32749-3MS	LM112486.D	1	10/09/21	DFT	n/a	n/a	GLM4720
JD32749-3MSD	LM112487.D	1	10/09/21	DFT	n/a	n/a	GLM4720
JD32749-3	LM112485.D	1	10/09/21	DFT	n/a	n/a	GLM4720

The QC reported here applies to the following samples:

Method: SW846 8015D

JD32749-3, JD32749-6

CAS No.	Compound	JD32749-3 mg/kg	Spike Q	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	475	369	78	475	419	88	13* a	68-128/11

CAS No.	Surrogate Recoveries	MS	MSD	JD32749-3	Limits
98-08-8	aaa-Trifluorotoluene	118%* b	105%	92%	70-116%

- (a) Outside of in house control limits, but within reasonable method limits.
- (b) Outside of in house control limits, but within reasonable method recovery limits.

* = Outside of Control Limits.

Surrogate Recovery Summary

Job Number: JD32749
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Method: SW846 8015D	Matrix: SO
---------------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a
JD32749-3	LM112485.D	92
JD32749-6	LM112484.D	88
GLM4720-BS	LM112480.D	99
GLM4720-MB	LM112479.D	91
JD32749-3MS	LM112486.D	118* ^b
JD32749-3MSD	LM112487.D	105

Surrogate Compounds	Recovery Limits
---------------------	-----------------

S1 = aaa-Trifluorotoluene	70-116%
---------------------------	---------

- (a) Recovery from GC signal #1
- (b) Outside of in house control limits, but within reasonable method recovery limits.

8.4.1
8

GC/LC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35999-MB1	3G133572.D	1	10/20/21	RK	10/15/21	OP35999	G3G4869

The QC reported here applies to the following samples:

Method: SW846 8151A

JD32749-3A, JD32749-6A

CAS No.	Compound	Result	RL	MDL	Units	Q
94-75-7	2,4-D	ND	0.33	0.098	ug/l	
93-72-1	2,4,5-TP (Silvex)	0.025	0.10	0.020	ug/l	J

CAS No.	Surrogate Recoveries	Limits
19719-28-9	2,4-DCAA	193%* a 13-169%
19719-28-9	2,4-DCAA	80% 13-169%

(a) Outside of in house control limits.

9.1.1
9

Method Blank Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35998-MB1	6G79672.D	1	10/17/21	CP	10/15/21	OP35998	G6G2810

The QC reported here applies to the following samples:

Method: SW846 8081B

JD32749-3A, JD32749-6A

CAS No.	Compound	Result	RL	MDL	Units	Q
58-89-9	gamma-BHC (Lindane)	ND	0.020	0.012	ug/l	
12789-03-6	Chlordane	ND	1.0	0.43	ug/l	
72-20-8	Endrin	ND	0.020	0.012	ug/l	
76-44-8	Heptachlor	ND	0.020	0.0090	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.020	0.012	ug/l	
72-43-5	Methoxychlor	ND	0.040	0.013	ug/l	
8001-35-2	Toxaphene	ND	0.50	0.32	ug/l	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	83%	30-137%
877-09-8	Tetrachloro-m-xylene	79%	30-137%
2051-24-3	Decachlorobiphenyl	55%	10-137%
2051-24-3	Decachlorobiphenyl	66%	10-137%

9.1.2
9

Method Blank Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35560-MB1	XX2472493.D	1	10/17/21	TL	10/15/21	OP35560	GXX7617

The QC reported here applies to the following samples:

Method: SW846 8082A

JD32749-2, JD32749-5

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	50	23	ug/kg	
11104-28-2	Aroclor 1221	ND	50	31	ug/kg	
11141-16-5	Aroclor 1232	ND	50	32	ug/kg	
53469-21-9	Aroclor 1242	ND	50	21	ug/kg	
12672-29-6	Aroclor 1248	ND	50	45	ug/kg	
11097-69-1	Aroclor 1254	ND	50	27	ug/kg	
11096-82-5	Aroclor 1260	ND	50	21	ug/kg	
11100-14-4	Aroclor 1268	ND	50	21	ug/kg	
37324-23-5	Aroclor 1262	ND	50	33	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	138%	24-152%
877-09-8	Tetrachloro-m-xylene	139%	24-152%
2051-24-3	Decachlorobiphenyl	156%	10-172%
2051-24-3	Decachlorobiphenyl	137%	10-172%

9.1.3
9

Method Blank Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35560-MB1	XX2472626.D	1	10/19/21	RK	10/15/21	OP35560	GXX7620

The QC reported here applies to the following samples:

Method: SW846 8082A

JD32749-2, JD32749-5

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	50	23	ug/kg	
11104-28-2	Aroclor 1221	ND	50	31	ug/kg	
11141-16-5	Aroclor 1232	ND	50	32	ug/kg	
53469-21-9	Aroclor 1242	ND	50	21	ug/kg	
12672-29-6	Aroclor 1248	ND	50	45	ug/kg	
11097-69-1	Aroclor 1254	ND	50	27	ug/kg	
11096-82-5	Aroclor 1260	ND	50	21	ug/kg	
11100-14-4	Aroclor 1268	ND	50	21	ug/kg	
37324-23-5	Aroclor 1262	ND	50	33	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	126%	24-152%
877-09-8	Tetrachloro-m-xylene	143% ^a	24-152%
2051-24-3	Decachlorobiphenyl	159%	10-172%
2051-24-3	Decachlorobiphenyl	153%	10-172%

(a) Outside program requirements.

9.1.4
9

Method Blank Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35840-MB1	RK4913.D	1	10/23/21	TC	10/22/21	OP35840	GRK135

The QC reported here applies to the following samples:

Method: SW846 8082A

JD32749-3, JD32749-6

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	33	16	ug/kg	
11104-28-2	Aroclor 1221	ND	33	21	ug/kg	
11141-16-5	Aroclor 1232	ND	33	21	ug/kg	
53469-21-9	Aroclor 1242	ND	33	14	ug/kg	
12672-29-6	Aroclor 1248	ND	33	30	ug/kg	
11097-69-1	Aroclor 1254	ND	33	18	ug/kg	
11096-82-5	Aroclor 1260	ND	33	14	ug/kg	
11100-14-4	Aroclor 1268	ND	33	14	ug/kg	
37324-23-5	Aroclor 1262	ND	33	22	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	96%	24-152%
877-09-8	Tetrachloro-m-xylene	101%	24-152%
2051-24-3	Decachlorobiphenyl	90%	10-172%
2051-24-3	Decachlorobiphenyl	85%	10-172%

9.1.5
9

Method Blank Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35840-MB1 ^a	RK5020.D	1	10/25/21	TC	10/22/21	OP35840	GRK137

The QC reported here applies to the following samples:

Method: SW846 8082A

JD32749-3, JD32749-6

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	33	16	ug/kg	
11104-28-2	Aroclor 1221	ND	33	21	ug/kg	
11141-16-5	Aroclor 1232	ND	33	21	ug/kg	
53469-21-9	Aroclor 1242	ND	33	14	ug/kg	
12672-29-6	Aroclor 1248	ND	33	30	ug/kg	
11097-69-1	Aroclor 1254	ND	33	18	ug/kg	
11096-82-5	Aroclor 1260	ND	33	14	ug/kg	
11100-14-4	Aroclor 1268	ND	33	14	ug/kg	
37324-23-5	Aroclor 1262	ND	33	22	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	98%	24-152%
877-09-8	Tetrachloro-m-xylene	106%	24-152%
2051-24-3	Decachlorobiphenyl	114%	10-172%
2051-24-3	Decachlorobiphenyl	116%	10-172%

(a) Had TBA cleanup.

9.1.6
9

Method Blank Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35889-MB1	ZZ101153.D	1	10/10/21	TL	10/09/21	OP35889	GZZ3733

The QC reported here applies to the following samples:

Method: SW846 8015D

JD32749-3, JD32749-6

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	10	3.4	mg/kg	

CAS No.	Surrogate Recoveries	Limits	
84-15-1	o-Terphenyl	73%	18-132%
438-22-2	5a-Androstane	74%	22-134%

9.1.7
9

Leachate Blank Summary

Job Number: JD32749
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35999-LB23	3G133574.D	1	10/20/21	RK	10/15/21	OP35999	G3G4869

The QC reported here applies to the following samples:

Method: SW846 8151A

JD32749-3A, JD32749-6A

CAS No.	Compound	Result	RL	MDL	Units	Q
94-75-7	2,4-D	ND	3.3	0.98	ug/l	
93-72-1	2,4,5-TP (Silvex)	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Limits
19719-28-9	2,4-DCAA	116% 13-169%
19719-28-9	2,4-DCAA	64% 13-169%

Leachate Blank Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35998-LB23	6G79690.D	1	10/18/21	CP	10/15/21	OP35998	G6G2810

The QC reported here applies to the following samples:

Method: SW846 8081B

JD32749-3A, JD32749-6A

CAS No.	Compound	Result	RL	MDL	Units	Q
58-89-9	gamma-BHC (Lindane)	ND	0.067	0.040	ug/l	
12789-03-6	Chlordane	ND	3.3	1.4	ug/l	
72-20-8	Endrin	ND	0.067	0.040	ug/l	
76-44-8	Heptachlor	ND	0.067	0.030	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.067	0.040	ug/l	
72-43-5	Methoxychlor	ND	0.13	0.045	ug/l	
8001-35-2	Toxaphene	ND	1.7	1.1	ug/l	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	125%	30-137%
877-09-8	Tetrachloro-m-xylene	113%	30-137%
2051-24-3	Decachlorobiphenyl	104%	10-137%
2051-24-3	Decachlorobiphenyl	121%	10-137%

9.2.2
9

Blank Spike Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35999-BS1	3G133573.D	1	10/20/21	RK	10/15/21	OP35999	G3G4869

The QC reported here applies to the following samples:

Method: SW846 8151A

JD32749-3A, JD32749-6A

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
94-75-7	2,4-D	1.33	1.3	97	36-158
93-72-1	2,4,5-TP (Silvex)	0.267	0.24	90 ^a	44-158

CAS No.	Surrogate Recoveries	BSP	Limits
19719-28-9	2,4-DCAA	195%* ^b	13-169%
19719-28-9	2,4-DCAA	88%	13-169%

(a) Reported from 1st signal. 2nd signal used for confirmation.

(b) Outside of in house control limits.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35998-BS1	6G79673.D	1	10/17/21	CP	10/15/21	OP35998	G6G2810

The QC reported here applies to the following samples:

Method: SW846 8081B

JD32749-3A, JD32749-6A

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
58-89-9	gamma-BHC (Lindane)	0.5	0.47	94	37-178
72-20-8	Endrin	0.5	0.48	96	45-182
76-44-8	Heptachlor	0.5	0.47	94	26-172
1024-57-3	Heptachlor epoxide	0.5	0.49	98 ^a	43-173
72-43-5	Methoxychlor	0.5	0.49	98	40-192

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	100%	30-137%
877-09-8	Tetrachloro-m-xylene	90%	30-137%
2051-24-3	Decachlorobiphenyl	55%	10-137%
2051-24-3	Decachlorobiphenyl	63%	10-137%

(a) Reported from the 2nd signal. The %D of the CCV on the 1st signal exceeds the method criteria of 20%, so it being used for confirmation only.

* = Outside of Control Limits.

9.3.2
9

Blank Spike Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35560-BS1	XX2472494.D	1	10/17/21	TL	10/15/21	OP35560	GXX7617

The QC reported here applies to the following samples:

Method: SW846 8082A

JD32749-2, JD32749-5

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
12674-11-2	Aroclor 1016	200	275	138	39-169
11104-28-2	Aroclor 1221		ND		50-150
11141-16-5	Aroclor 1232		ND		50-150
53469-21-9	Aroclor 1242		ND		50-150
12672-29-6	Aroclor 1248		ND		50-150
11097-69-1	Aroclor 1254		ND		50-150
11096-82-5	Aroclor 1260	200	241	121 ^a	41-171
11100-14-4	Aroclor 1268		ND		50-150
37324-23-5	Aroclor 1262		ND		50-150

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	103%	24-152%
877-09-8	Tetrachloro-m-xylene	104%	24-152%
2051-24-3	Decachlorobiphenyl	108%	10-172%
2051-24-3	Decachlorobiphenyl	105%	10-172%

(a) Reported from the 2nd signal. The %D of the CCV on the 1st signal exceeds the method criteria of 20%, so it being used for confirmation only.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35560-BS1	XX2472627.D	1	10/19/21	RK	10/15/21	OP35560	GXX7620

The QC reported here applies to the following samples:

Method: SW846 8082A

JD32749-2, JD32749-5

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
12674-11-2	Aroclor 1016	200	172	86	39-169
11104-28-2	Aroclor 1221		ND		50-150
11141-16-5	Aroclor 1232		ND		50-150
53469-21-9	Aroclor 1242		ND		50-150
12672-29-6	Aroclor 1248		ND		50-150
11097-69-1	Aroclor 1254		ND		50-150
11096-82-5	Aroclor 1260	200	231	116	41-171
11100-14-4	Aroclor 1268		ND		50-150
37324-23-5	Aroclor 1262		ND		50-150

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	96%	24-152%
877-09-8	Tetrachloro-m-xylene	107%	24-152%
2051-24-3	Decachlorobiphenyl	111%	10-172%
2051-24-3	Decachlorobiphenyl	108%	10-172%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35840-BS1	RK4914.D	1	10/23/21	TC	10/22/21	OP35840	GRK135
OP35840-BSD	RK5021.D	1	10/25/21	TC	10/22/21	OP35840	GRK137

The QC reported here applies to the following samples:

Method: SW846 8082A

JD32749-3, JD32749-6

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	133	154	115 ^a	180	135	16	39-169/28
11104-28-2	Aroclor 1221		ND		ND		nc	50-150/30
11141-16-5	Aroclor 1232		ND		ND		nc	50-150/30
53469-21-9	Aroclor 1242		ND		ND		nc	50-150/30
12672-29-6	Aroclor 1248		ND		ND		nc	50-150/30
11097-69-1	Aroclor 1254		ND		ND		nc	50-150/30
11096-82-5	Aroclor 1260	133	179	134	185	139	21	41-171/29
11100-14-4	Aroclor 1268		ND		ND		nc	50-150/30
37324-23-5	Aroclor 1262		ND		ND		nc	50-150/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
877-09-8	Tetrachloro-m-xylene	94%	108%	24-152%
877-09-8	Tetrachloro-m-xylene	98%	118%	24-152%
2051-24-3	Decachlorobiphenyl	95%	125%	10-172%
2051-24-3	Decachlorobiphenyl	84%	122%	10-172%

(a) Reported from the 2nd signal. The %D of the CCV on the 1st signal exceeds the method criteria of 20%, so it being used for confirmation only.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35889-BS1	ZZ101154.D	1	10/10/21	TL	10/09/21	OP35889	GZZ3733
OP35889-BSD	ZZ101155.D	1	10/10/21	TL	10/09/21	OP35889	GZZ3733

The QC reported here applies to the following samples:

Method: SW846 8015D

JD32749-3, JD32749-6

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	100	73.9	74	61.5	62	18	44-120/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	80%	68%	18-132%
438-22-2	5a-Androstane	78%	67%	22-134%

9.4.2
9

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35999-MS	3G133602.D	1	10/21/21	RK	10/15/21	OP35999	G3G4870
OP35999-MSD	3G133603.D	1	10/21/21	RK	10/15/21	OP35999	G3G4870
JD32818-1A	3G133601.D	1	10/21/21	RK	10/15/21	OP35999	G3G4870

The QC reported here applies to the following samples:

Method: SW846 8151A

JD32749-3A, JD32749-6A

CAS No.	Compound	JD32818-1A Spike		MS	MS	Spike	MSD	MSD	RPD	Limits
		ug/l	Q	ug/l	ug/l	%	ug/l	ug/l		%
94-75-7	2,4-D	ND	13.3	12.8	96	13.3	13.0	97	2	35-196/60
93-72-1	2,4,5-TP (Silvex)	ND	2.67	2.1	79	2.67	2.1	79	0	10-226/52

CAS No.	Surrogate Recoveries	MS	MSD	JD32818-1A	Limits
19719-28-9	2,4-DCAA	120%	127%	127%	13-169%
19719-28-9	2,4-DCAA	73%	74%	69%	13-169%

9.5.1
9

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35998-MS	6G79675.D	1	10/18/21	CP	10/15/21	OP35998	G6G2810
OP35998-MSD	6G79676.D	1	10/18/21	CP	10/15/21	OP35998	G6G2810
JD32818-1A	6G79674.D	1	10/18/21	CP	10/15/21	OP35998	G6G2810

The QC reported here applies to the following samples:

Method: SW846 8081B

JD32749-3A, JD32749-6A

CAS No.	Compound	JD32818-1A Spike		MS	MS	Spike	MSD	MSD	RPD	Limits
		ug/l	Q	ug/l	ug/l	%	ug/l	ug/l		%
58-89-9	gamma-BHC (Lindane)	ND	1.67	1.7	102	1.67	1.6	96	6	39-160/97
12789-03-6	Chlordane	ND		ND			ND		nc	81-123/10
72-20-8	Endrin	ND	1.67	1.8	108	1.67	1.7	102	6	43-169/95
76-44-8	Heptachlor	ND	1.67	1.6	96	1.67	1.7	102	6	35-152/102
1024-57-3	Heptachlor epoxide	ND	1.67	1.6	96	1.67	1.5	90	6	42-159/96
72-43-5	Methoxychlor	ND	1.67	1.8	108	1.67	1.7	102	6	47-170/99
8001-35-2	Toxaphene	ND		ND			ND		nc	50-150/8

CAS No.	Surrogate Recoveries	MS	MSD	JD32818-1A	Limits
877-09-8	Tetrachloro-m-xylene	99%	103%	112%	30-137%
877-09-8	Tetrachloro-m-xylene	89%	93%	107%	30-137%
2051-24-3	Decachlorobiphenyl	80%	73%	92%	10-137%
2051-24-3	Decachlorobiphenyl	91%	79%	115%	10-137%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35560-MS	XX2472629.D	1	10/19/21	RK	10/15/21	OP35560	GXX7620
OP35560-MSD	XX2472630.D	1	10/19/21	RK	10/15/21	OP35560	GXX7620
FA88588-60	XX2472628.D	1	10/19/21	RK	10/15/21	OP35560	GXX7620

The QC reported here applies to the following samples:

Method: SW846 8082A

JD32749-2, JD32749-5

CAS No.	Compound	FA88588-60 ug/kg	Spike Q	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	64 U	247	464	188	259	410	158	12	14-200/59
11104-28-2	Aroclor 1221	64 U		ND			ND		nc	50-150/30
11141-16-5	Aroclor 1232	64 U		ND			ND		nc	50-150/30
53469-21-9	Aroclor 1242	64 U		ND			ND		nc	50-150/11
12672-29-6	Aroclor 1248	64 U		ND			ND		nc	50-150/25
11097-69-1	Aroclor 1254	89.3		156			120		26	50-150/37
11096-82-5	Aroclor 1260	64 U	247	363	147	259	329	127	10	10-200/59
11100-14-4	Aroclor 1268	64 U		ND			ND		nc	50-150/30
37324-23-5	Aroclor 1262	64 U		ND			ND		nc	50-150/10

CAS No.	Surrogate Recoveries	MS	MSD	FA88588-60	Limits
877-09-8	Tetrachloro-m-xylene	121%	106%	126%	24-152%
877-09-8	Tetrachloro-m-xylene	136%	118%	131% ^a	24-152%
2051-24-3	Decachlorobiphenyl	143%	123%	145%	10-172%
2051-24-3	Decachlorobiphenyl	136%	121%	146%	10-172%

(a) Outside program requirements due to matrix interference.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35840-MS	RK4916.D	1	10/23/21	TC	10/22/21	OP35840	GRK135
OP35840-MSD	RK4917.D	1	10/23/21	TC	10/22/21	OP35840	GRK135
JD32716-1	RK4915.D	1	10/23/21	TC	10/22/21	OP35840	GRK135

The QC reported here applies to the following samples:

Method: SW846 8082A

JD32749-3, JD32749-6

CAS No.	Compound	JD32716-1 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND	161	194	121	146	143	98	30	14-200/59
11104-28-2	Aroclor 1221	ND		ND			ND		nc	50-150/30
11141-16-5	Aroclor 1232	ND		ND			ND		nc	50-150/30
53469-21-9	Aroclor 1242	ND		ND			ND		nc	50-150/11
12672-29-6	Aroclor 1248	ND		ND			ND		nc	50-150/25
11097-69-1	Aroclor 1254	ND		ND			ND		nc	50-150/37
11096-82-5	Aroclor 1260	ND	161	169	105	146	122	84	32	10-200/59
11100-14-4	Aroclor 1268	ND		ND			ND		nc	50-150/30
37324-23-5	Aroclor 1262	ND		ND			ND		nc	50-150/10

CAS No.	Surrogate Recoveries	MS	MSD	JD32716-1	Limits
877-09-8	Tetrachloro-m-xylene	115%	89%	58%	24-152%
877-09-8	Tetrachloro-m-xylene	119%	93%	59%	24-152%
2051-24-3	Decachlorobiphenyl	82%	66%	44%	10-172%
2051-24-3	Decachlorobiphenyl	100%	76%	50%	10-172%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35889-MS	ZZ101157.D	1	10/10/21	TL	10/09/21	OP35889	GZZ3733
OP35889-MSD	ZZ101158.D	1	10/10/21	TL	10/09/21	OP35889	GZZ3733
JD32867-1	ZZ101156.D	1	10/10/21	TL	10/09/21	OP35889	GZZ3733

The QC reported here applies to the following samples:

Method: SW846 8015D

JD32749-3, JD32749-6

CAS No.	Compound	JD32867-1 mg/kg	Spike Q	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	10.7	89.8	76.0	73	91.4	64.1	58	17	10-145/50

CAS No.	Surrogate Recoveries	MS	MSD	JD32867-1	Limits
84-15-1	o-Terphenyl	69%	64%	58%	18-132%
438-22-2	5a-Androstane	68%	63%	57%	22-134%

9.5.5
9

* = Outside of Control Limits.

Leachate Spike Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35999-LS23	3G133602.D	1	10/21/21	RK	10/15/21	OP35999	G3G4870
JD32818-1A	3G133601.D	1	10/21/21	RK	10/15/21	OP35999	G3G4870

The QC reported here applies to the following samples:

Method: SW846 8151A

JD32749-3A, JD32749-6A

CAS No.	Compound	JD32818-1A ug/l	Spike Q ug/l	LS ug/l	LS %	Limits
94-75-7	2,4-D	ND	13.3	12.8	96	35-196
93-72-1	2,4,5-TP (Silvex)	ND	2.67	2.1	79	10-226

CAS No.	Surrogate Recoveries	LS	JD32818-1A	Limits
19719-28-9	2,4-DCAA	120%	127%	13-169%
19719-28-9	2,4-DCAA	73%	69%	13-169%

9.6.1
9

* = Outside of Control Limits.

Leachate Spike Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP35998-LS23	6G79675.D	1	10/18/21	CP	10/15/21	OP35998	G6G2810
JD32818-1A	6G79674.D	1	10/18/21	CP	10/15/21	OP35998	G6G2810

The QC reported here applies to the following samples:

Method: SW846 8081B

JD32749-3A, JD32749-6A

CAS No.	Compound	JD32818-1A ug/l	Spike Q	ug/l	LS ug/l	LS %	Limits
58-89-9	gamma-BHC (Lindane)	ND	1.67	1.7	102	39-160	
12789-03-6	Chlordane	ND		ND		81-123	
72-20-8	Endrin	ND	1.67	1.8	108	43-169	
76-44-8	Heptachlor	ND	1.67	1.6	96	35-152	
1024-57-3	Heptachlor epoxide	ND	1.67	1.6	96	42-159	
72-43-5	Methoxychlor	ND	1.67	1.8	108	47-170	
8001-35-2	Toxaphene	ND		ND		50-150	

CAS No.	Surrogate Recoveries	LS	JD32818-1A	Limits
877-09-8	Tetrachloro-m-xylene	99%	112%	30-137%
877-09-8	Tetrachloro-m-xylene	89%	107%	30-137%
2051-24-3	Decachlorobiphenyl	80%	92%	10-137%
2051-24-3	Decachlorobiphenyl	91%	115%	10-137%

* = Outside of Control Limits.

Surrogate Recovery Summary

Job Number: JD32749
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Method: SW846 8151A	Matrix: LEACHATE
---------------------	------------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a	S1 ^b
JD32749-3A	3G133614.D	104	58
JD32749-6A	3G133615.D	110	62
OP35999-BS1	3G133573.D	195* ^c	88
OP35999-LB23	3G133574.D	116	64
OP35999-LS23	3G133602.D	120	73
OP35999-MB1	3G133572.D	193* ^c	80
OP35999-MS	3G133602.D	120	73
OP35999-MSD	3G133603.D	127	74

Surrogate Compounds Recovery Limits

S1 = 2,4-DCAA 13-169%

- (a) Recovery from GC signal #2
- (b) Recovery from GC signal #1
- (c) Outside of in house control limits.

9.7.1
9

Surrogate Recovery Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Method: SW846 8081B	Matrix: LEACHATE
---------------------	------------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a	S1 ^b	S2 ^a	S2 ^b
JD32749-3A	6G79694.D	94	89	69	99
JD32749-6A	6G79695.D	111	104	94	115
OP35998-BS1	6G79673.D	100	90	55	63
OP35998-LB23	6G79690.D	125	113	104	121
OP35998-LS23	6G79675.D	99	89	80	91
OP35998-MB1	6G79672.D	83	79	55	66
OP35998-MS	6G79675.D	99	89	80	91
OP35998-MSD	6G79676.D	103	93	73	79

Surrogate Compounds	Recovery Limits
---------------------	-----------------

S1 = Tetrachloro-m-xylene	30-137%
S2 = Decachlorobiphenyl	10-137%

(a) Recovery from GC signal #1
 (b) Recovery from GC signal #2

9.7.2
9

Surrogate Recovery Summary

Job Number: JD32749
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

Method: SW846 8082A	Matrix: SO
---------------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a	S1 ^b	S2 ^a	S2 ^b
JD32749-2	XX2472515A.D	100	104	103	114
JD32749-3	RK4936.D	76	81	58	147
JD32749-5	XX2472515B.D	99	107	96	108
JD32749-6	RK4997.D	89	96	79	142
OP35560-BS1	XX2472494.D	103	104	108	105
OP35560-BS1	XX2472627.D	96	107	111	108
OP35560-MB1	XX2472493.D	138	139	156	137
OP35560-MB1	XX2472626.D	126	143 ^c	159	153
OP35560-MS	XX2472629.D	121	136	143	136
OP35560-MSD	XX2472630.D	106	118	123	121
OP35840-BS1	RK4914.D	94	98	95	84
OP35840-BSD	RK5021.D	108	118	125	122
OP35840-MB1	RK4913.D	96	101	90	85
OP35840-MB1	RK5020.D	98	106	114	116
OP35840-MS	RK4916.D	115	119	82	100
OP35840-MSD	RK4917.D	89	93	66	76

Surrogate Compounds Recovery Limits

S1 = Tetrachloro-m-xylene	24-152%
S2 = Decachlorobiphenyl	10-172%

- (a) Recovery from GC signal #1
- (b) Recovery from GC signal #2
- (c) Outside program requirements.

9.7.3
9

Surrogate Recovery Summary

Job Number: JD32749
Account: ATCVTW Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Method: SW846 8015D	Matrix: SO
---------------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a	S2 ^a
JD32749-3	ZZ101167.D	63	61
JD32749-6	ZZ101166.D	78	76
OP35889-BS1	ZZ101154.D	80	78
OP35889-BSD	ZZ101155.D	68	67
OP35889-MB1	ZZ101153.D	73	74
OP35889-MS	ZZ101157.D	69	68
OP35889-MSD	ZZ101158.D	64	63

Surrogate Compounds	Recovery Limits
---------------------	-----------------

S1 = o-Terphenyl	18-132%
S2 = 5a-Androstane	22-134%

(a) Recovery from GC signal #1

9.7.4
9

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD32749
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29085
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 10/08/21

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.033	.0057	.015	0.0049	<0.033

Associated samples MP29085: JD32749-1, JD32749-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

10.1.1
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32749
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29085
 Matrix Type: SOLID

Methods: SW846 7471B
 Units: mg/kg

Prep Date: 10/08/21

Metal	JD32675-31 Original MS	SpikeLot HGPWS1	% Rec	QC Limits
-------	---------------------------	--------------------	-------	--------------

Mercury	0.63	1.0	0.351	105.6	80-120
---------	------	-----	-------	-------	--------

Associated samples MP29085: JD32749-1, JD32749-2

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

10.1.2
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32749
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29085
 Matrix Type: SOLID

Methods: SW846 7471B
 Units: mg/kg

Prep Date: 10/08/21

Metal	JD32675-31 Original MSD	Spike lot	HGPWS1 % Rec	MSD RPD	QC Limit
Mercury	0.63	0.90	0.35	77.1N(a) 10.5	20

Associated samples MP29085: JD32749-1, JD32749-2

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

10.1.2
10

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD32749
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29085
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 10/08/21

Metal	BSP Result	Spikelot HGPWS1	% Rec	QC Limits
Mercury	0.37	0.333	111.0	80-120

Associated samples MP29085: JD32749-1, JD32749-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

10.1.3
10

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD32749
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29086
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 10/08/21

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.033	.0057	.015	0.0056	<0.033

Associated samples MP29086: JD32749-4, JD32749-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32749
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29086
 Matrix Type: SOLID

Methods: SW846 7471B
 Units: mg/kg

Prep Date: 10/08/21

Metal	JD32691-5 Original MS	SpikeLot HGPWS1	% Rec	QC Limits
-------	--------------------------	--------------------	-------	--------------

Mercury 0.0085 0.40 0.362 108.1 80-120

Associated samples MP29086: JD32749-4, JD32749-5

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

10.2.2
 10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32749
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29086
 Matrix Type: SOLID

Methods: SW846 7471B
 Units: mg/kg

Prep Date: 10/08/21

Metal	JD32691-5 Original MSD	SpikeLot HGPWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0085	0.43	0.363	116.2	7.2 20

Associated samples MP29086: JD32749-4, JD32749-5

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

10.2.2
 10

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD32749
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29086
 Matrix Type: SOLID

Methods: SW846 7471B
 Units: mg/kg

Prep Date: 10/08/21 10/08/21

Metal	BSP Result	Spikelot HGPWS1	% Rec	QC Limits	LCS Result	Spikelot HGLC540108%	Rec	QC Limits
Mercury	0.39	0.333	117.0	80-120	27.1	27.9	97.1	71-124

Associated samples MP29086: JD32749-4, JD32749-5

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

10.2.3
 10

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD32749
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29086
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 10/08/21

Metal	LCS Result	Spikelot HGLC540108% Rec	QC Limits
-------	---------------	-----------------------------	--------------

Mercury 26.9 27.9 96.4 71-124

Associated samples MP29086: JD32749-4, JD32749-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD32749
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29112
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 10/09/21

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	.92	8.1		
Antimony	2.0	.28	.41		
Arsenic	2.0	.26	.28	-0.010	<2.0
Barium	20	.02	1.9	0.090	<20
Beryllium	0.20	.02	.08		
Bismuth	2.0	.25	.52		
Boron	10	.18	3.7		
Cadmium	0.50	.04	.07	0.040	<0.50
Calcium	500	1.3	21		
Chromium	1.0	.07	.37	0.12	<1.0
Cobalt	5.0	.06	.28		
Copper	2.5	.07	.84		
Iron	50	.33	19		
Lead	2.0	.2	.41	0.060	<2.0
Lithium	5.0	.15	.92		
Magnesium	500	2.5	14		
Manganese	1.5	.01	.41		
Molybdenum	2.0	.06	.32		
Nickel	4.0	.08	.35		
Phosphorus	20	.7	3.3		
Potassium	1000	3.5	32		
Selenium	2.0	.36	.65	-0.030	<2.0
Silicon	20	.22	11		
Silver	0.50	.06	.17	0.040	<0.50
Sodium	1000	1.4	78		
Strontium	5.0	.01	.18		
Sulfur	10	.37	3.9		
Thallium	1.0	.52	.58		
Tin	20	.14	3.8		
Titanium	1.0	.08	.34		
Tungsten	5.0	.13	1.8		
Vanadium	5.0	.05	.19		
Zinc	5.0	.03	2.3		

10.3.1
10

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD32749
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29112
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 10/09/21

Metal	RL	IDL	MDL	MB	
				raw	final

Zirconium 2.0 .05 .54

Associated samples MP29112: JD32749-1, JD32749-2, JD32749-4, JD32749-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

10.3.1
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32749
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29112
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: mg/kg

Prep Date: 10/09/21

Metal	JD32675-7 Original MS		SpikeLot MPSPK2	% Rec	QC Limits
Aluminum	anr				
Antimony	anr				
Arsenic	12.5	207	224	86.8	75-125
Barium	210	440	224	102.7	75-125
Beryllium	anr				
Bismuth	anr				
Boron	anr				
Cadmium	1.3	204	224	90.5	75-125
Calcium	anr				
Chromium	14.7	215	224	89.4	75-125
Cobalt	anr				
Copper	anr				
Iron	anr				
Lead	455	627	224	76.8	75-125
Lithium	anr				
Magnesium	anr				
Manganese	anr				
Molybdenum	anr				
Nickel	anr				
Phosphorus	anr				
Potassium	anr				
Selenium	0.46	198	224	88.2	75-125
Silicon	anr				
Silver	0.44	27.0	28	94.9	75-125
Sodium	anr				
Strontium	anr				
Sulfur	anr				
Thallium	anr				
Tin	anr				
Titanium	anr				
Tungsten	anr				
Vanadium	anr				
Zinc	anr				

10.3.2
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32749
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29112
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 10/09/21

Metal	JD32675-7 Original MS	SpikeLot MPSPK2	% Rec	QC Limits
-------	--------------------------	--------------------	-------	--------------

Zirconium

Associated samples MP29112: JD32749-1, JD32749-2, JD32749-4, JD32749-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

10.3.2
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32749
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29112
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: mg/kg

Prep Date: 10/09/21

Metal	JD32675-7 Original MSD		SpikeLot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum	anr					
Antimony	anr					
Arsenic	12.5	206	222	87.3	0.5	20
Barium	210	410	222	90.2	7.1	20
Beryllium	anr					
Bismuth						
Boron						
Cadmium	1.3	201	222	90.1	1.5	20
Calcium	anr					
Chromium	14.7	211	222	88.5	1.9	20
Cobalt	anr					
Copper	anr					
Iron	anr					
Lead	455	689	222	105.5	9.4	20
Lithium						
Magnesium	anr					
Manganese	anr					
Molybdenum						
Nickel	anr					
Phosphorus						
Potassium	anr					
Selenium	0.46	194	222	87.3	2.0	20
Silicon						
Silver	0.44	26.6	27.7	94.4	1.5	20
Sodium	anr					
Strontium						
Sulfur						
Thallium	anr					
Tin						
Titanium						
Tungsten						
Vanadium	anr					
Zinc	anr					

10.3.2
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32749
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29112
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 10/09/21

Metal	JD32675-7 Original MSD	SpikeLot MPSPK2	% Rec	MSD RPD	QC Limit
-------	---------------------------	--------------------	-------	------------	-------------

Zirconium

Associated samples MP29112: JD32749-1, JD32749-2, JD32749-4, JD32749-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

10.3.2
10

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD32749
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29112
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: mg/kg

Prep Date: 10/09/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	180	198	90.9	80-120
Barium	186	198	93.9	80-120
Beryllium	anr			
Bismuth				
Boron				
Cadmium	187	198	94.4	80-120
Calcium	anr			
Chromium	185	198	93.4	80-120
Cobalt	anr			
Copper	anr			
Iron	anr			
Lead	194	198	98.0	80-120
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium	anr			
Selenium	184	198	92.9	80-120
Silicon				
Silver	24.8	24.8	100.2	80-120
Sodium	anr			
Strontium				
Sulfur				
Thallium	anr			
Tin				
Titanium				
Tungsten				
Vanadium	anr			
Zinc	anr			

10.3.3
10

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD32749
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29112
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 10/09/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
-------	---------------	--------------------	-------	--------------

Zirconium

Associated samples MP29112: JD32749-1, JD32749-2, JD32749-4, JD32749-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

10.3.3
10

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD32749
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29112
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: ug/l

Prep Date: 10/09/21

Metal	JD32675-7 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	111	112	1.0	0-10
Barium	1880	1950	3.9	0-10
Beryllium	anr			
Bismuth				
Boron				
Cadmium	12.0	11.5	4.2	0-10
Calcium	anr			
Chromium	131	139	5.9	0-10
Cobalt	anr			
Copper	anr			
Iron	anr			
Lead	4070	4240	4.2	0-10
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium	anr			
Selenium	4.10	0.00	100.0(a)	0-10
Silicon				
Silver	3.90	6.50	66.7 (a)	0-10
Sodium	anr			
Strontium				
Sulfur				
Thallium	anr			
Tin				
Titanium				
Tungsten				
Vanadium	anr			
Zinc	anr			

10.3.4
10

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD32749
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29112
Matrix Type: SOLID

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/09/21

Metal	JD32675-7	QC
	Original SDL 1:5 %DIF	Limits

Zirconium

Associated samples MP29112: JD32749-1, JD32749-2, JD32749-4, JD32749-5

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

10.3.4
10

POST DIGESTATE SPIKE SUMMARY

Login Number: JD32749
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29112
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: ug/l

Prep Date:

10/09/21

Metal	Sample ml	Final ml	JD32675-7 Raw	PS Corr.**	ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Bismuth										
Boron										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Lithium										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Phosphorus										
Potassium										
Selenium										
Silicon										
Silver										
Sodium										
Strontium										
Sulfur										
Thallium										
Tin										
Titanium										
Tungsten										
Vanadium										
Zinc										

10.3.5
10

POST DIGESTATE SPIKE SUMMARY

Login Number: JD32749
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29112
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: ug/l

Prep Date:

10/09/21

Metal	Sample ml	Final ml	JD32675-7 Raw	PS Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
-------	-----------	----------	---------------	------------	---------	----------	-------------	------------	-------	-----------

Zirconium

Associated samples MP29112: JD32749-1, JD32749-2, JD32749-4, JD32749-5

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (**) Corr. sample result = Raw * (sample volume / final volume)
 (anr) Analyte not requested

10.3.5
 10

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD32749
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29118
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: mg/l

Prep Date: 10/10/21

Metal	RL	IDL	MDL	MB raw	final
Aluminum	0.20	.016	.046		
Antimony	0.10	.0025	.0047		
Arsenic	0.10	.002	.0028	0.00030	<0.10
Barium	0.20	.0004	.013	0.0093	<0.20
Beryllium	0.0020	.0001	.0005		
Bismuth	0.020	.0036	.004		
Boron	0.10	.0019	.063		
Cadmium	0.0040	.0004	.001	0.0	<0.0040
Calcium	5.0	.0056	.099		
Chromium	0.010	.0005	.002	0.0015	<0.010
Cobalt	0.050	.0005	.0026		
Copper	0.010	.001	.0059		
Iron	0.10	.011	.032		
Lead	0.10	.0012	.0018	0.012	<0.10
Lithium	0.050	.0023	.0073		
Magnesium	5.0	.065	.14		
Manganese	0.015	.0002	.0014		
Molybdenum	0.020	.0004	.0036		
Nickel	0.010	.0003	.0017		
Phosphorus	0.050	.0041	.018		
Potassium	10	.055	.2		
Selenium	0.10	.0035	.0049	0.0022	<0.10
Silicon	0.20	.0016	.1		
Silver	0.010	.0011	.0019	0.00010	<0.010
Strontium	0.010	.0001	.001		
Sulfur	0.050	.0044	.045		
Thallium	0.10	.0025	.0018		
Tin	0.010	.001	.0037		
Titanium	0.010	.0004	.0025		
Tungsten	0.050	.0028	.04		
Vanadium	0.050	.0006	.0018		
Zinc	0.020	.0001	.0069		
Zirconium	0.010	.0004	.0041		

10.4.1
10

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD32749
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29118
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: mg/l

Prep Date: 10/10/21

Metal	RL	IDL	MDL	MB raw	final
-------	----	-----	-----	-----------	-------

Associated samples MP29118: JD32749-3A, JD32749-6A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32749
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29118
 Matrix Type: LEACHATE

Methods: SW846 6010D
 Units: mg/l

Prep Date: 10/10/21

Metal	JD32818-1A Original MS		Spike lot	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	0.0041	2.1	2.0	104.8	75-125
Barium	0.58	2.5	2.0	96.0	75-125
Beryllium	anr				
Bismuth					
Boron					
Cadmium	0.0018	2.1	2.0	104.9	75-125
Chromium	0.012	1.9	2.0	94.4	75-125
Cobalt					
Copper	anr				
Iron					
Lead	0.0068	2.0	2.0	99.7	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel	anr				
Phosphorus					
Potassium					
Selenium	0.0	2.1	2.0	105.0	75-125
Silver	0.0042	0.28	0.25	110.3	75-125
Strontium					
Sulfur					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc	anr				
Zirconium					

Associated samples MP29118: JD32749-3A, JD32749-6A

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

10.4.2
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32749
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

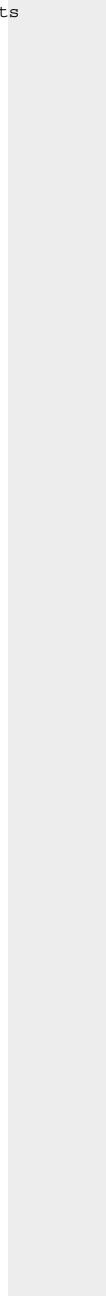
QC Batch ID: MP29118
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: mg/l

Prep Date: 10/10/21

Metal	JD32818-1A Original MS	SpikeLot MPSPK2	% Rec	QC Limits
-------	---------------------------	--------------------	-------	--------------

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested



10.4.2
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32749
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29118
 Matrix Type: LEACHATE

Methods: SW846 6010D
 Units: mg/l

Prep Date: 10/10/21

Metal	JD32818-1A Original MSD		SpikeLot MPSPK2 % Rec		MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	0.0041	2.1	2.0	104.8	0.0	20
Barium	0.58	2.6	2.0	101.0	3.9	20
Beryllium	anr					
Bismuth						
Boron						
Cadmium	0.0018	2.1	2.0	104.9	0.0	20
Chromium	0.012	1.9	2.0	94.4	0.0	20
Cobalt						
Copper	anr					
Iron						
Lead	0.0068	2.0	2.0	99.7	0.0	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel	anr					
Phosphorus						
Potassium						
Selenium	0.0	2.2	2.0	110.0	4.7	20
Silver	0.0042	0.28	0.25	110.3	0.0	20
Strontium						
Sulfur						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc	anr					
Zirconium						

Associated samples MP29118: JD32749-3A, JD32749-6A

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

10.4.2
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32749
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

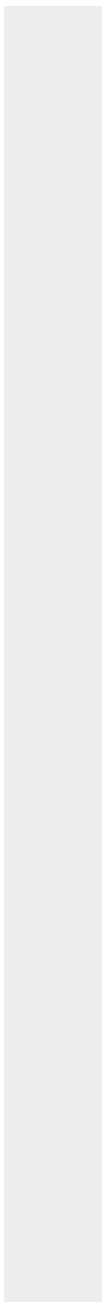
QC Batch ID: MP29118
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: mg/l

Prep Date: 10/10/21

Metal	JD32818-1A Original MSD	SpikeLot MPSPK2	% Rec	MSD RPD	QC Limit
-------	----------------------------	--------------------	-------	------------	-------------

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested



10.4.2
10

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD32749
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29118
 Matrix Type: LEACHATE

Methods: SW846 6010D
 Units: mg/l

Prep Date: 10/10/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	2.0	2.0	100.0	80-120
Barium	2.0	2.0	100.0	80-120
Beryllium	anr			
Bismuth				
Boron				
Cadmium	2.1	2.0	105.0	80-120
Calcium				
Chromium	2.0	2.0	100.0	80-120
Cobalt				
Copper	anr			
Iron				
Lead	2.0	2.0	100.0	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium	2.1	2.0	105.0	80-120
Silicon				
Silver	0.27	0.25	108.0	80-120
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc	anr			
Zirconium				

10.4.3
10

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD32749
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29118
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: mg/l

Prep Date: 10/10/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
-------	---------------	--------------------	-------	--------------

Associated samples MP29118: JD32749-3A, JD32749-6A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

10.4.3
10

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD32749
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29118
 Matrix Type: LEACHATE

Methods: SW846 6010D
 Units: ug/l

Prep Date: 10/10/21

Metal	JD32818-1A Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	4.10	0.00	100.0 (a)	0-10
Barium	575	582	1.2	0-10
Beryllium	anr			
Bismuth				
Boron				
Cadmium	1.80	0.00	100.0(a)	0-10
Calcium				
Chromium	11.9	12.2	2.5	0-10
Cobalt				
Copper	anr			
Iron				
Lead	6.80	8.80	29.4 (a)	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	4.20	6.30	50.0 (a)	0-10
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc	anr			
Zirconium				

10.4.4
10

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD32749
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29118
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/10/21

	JD32818-1A	QC
Metal	Original SDL 1:5 %DIF	Limits

Associated samples MP29118: JD32749-3A, JD32749-6A

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD32749
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29158
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: mg/l

Prep Date: 10/11/21

Metal	RL	IDL	MDL	MB raw	final
-------	----	-----	-----	-----------	-------

Mercury 0.00020 .000034 .000095 -0.000026<0.00020

Associated samples MP29158: JD32749-3A, JD32749-6A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32749
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29158
 Matrix Type: LEACHATE

Methods: SW846 7470A
 Units: mg/l

Prep Date: 10/11/21

Metal	JD32818-1A Original MS	Spike lot	HGPW3 % Rec	QC Limits
-------	---------------------------	--------------	----------------	--------------

Mercury 0.0 0.0021 0.0020 105.0 75-125

Associated samples MP29158: JD32749-3A, JD32749-6A

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

10.5.2
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD32749
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29158
 Matrix Type: LEACHATE

Methods: SW846 7470A
 Units: mg/l

Prep Date: 10/11/21

Metal	JD32818-1A Original MSD	SpikeLot HGPW3	% Rec	MSD RPD	QC Limit
Mercury	0.0	0.0021	0.0020	105.0	0.0 20

Associated samples MP29158: JD32749-3A, JD32749-6A

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

10.5.2
 10

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD32749
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

QC Batch ID: MP29158
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: mg/l

Prep Date: 10/11/21

Metal	BSP Result	Spikelot HGPW3	% Rec	QC Limits
-------	---------------	-------------------	-------	--------------

Mercury 0.0022 0.0020 110.0 80-120

Associated samples MP29158: JD32749-3A, JD32749-6A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

10.5.3
10

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JD32749
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Cyanide Reactivity	GP36382/GN22833	10	0.0	mg/kg	100	4.66	4.7	.25-27%
Sulfide Reactivity	GP36380/GN22850	100	0.0	mg/kg	608	343	56.4	42-107%

Associated Samples:

Batch GP36380: JD32749-3, JD32749-6

Batch GP36382: JD32749-3, JD32749-6

(*) Outside of QC limits

11.1
11

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JD32749
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Corrosivity as pH	GN22716	JD32987-1A	su	7.6	7.93	4.4	0-5%
Cyanide Reactivity	GP36382/GN22833	JD32997-1	mg/kg	0.0	0.0	0.0	0-20%
Ignitability (Flashpoint)	GN22715	JD32749-3	Deg. F	>200	>200	0.0	0-10%
Paint Filter Test	GN22713	JD32749-3	ml/100g	0.0	0.0	0.0	0-10%
Solids, Percent	GN22504	JD32749-1	%	94.9	95.1	0.2	0-5%
Sulfide Reactivity	GP36380/GN22850	JD32997-1	mg/kg	0.0	0.0	0.0	0-20%

Associated Samples:

Batch GN22504: JD32749-1, JD32749-2, JD32749-4, JD32749-5

Batch GN22661: JD32749-3, JD32749-6

Batch GN22713: JD32749-3, JD32749-6

Batch GN22715: JD32749-3, JD32749-6

Batch GN22716: JD32749-3, JD32749-6

Batch GP36380: JD32749-3, JD32749-6

Batch GP36382: JD32749-3, JD32749-6

(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JD32749
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge, Route 12, VT

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Sulfide Reactivity	GP36380/GN22850	JD32997-1	mg/kg	0.0	717	374	52.2	20-82%

Associated Samples:

Batch GP36380: JD32749-3, JD32749-6

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits



APPENDIX C

GROUNDWATER LABORATORY ANALYTICAL REPORT



The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Atlas Technical Consultants, LLC

Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

280BS02090

SGS Job Number: JD33214

Sampling Date: 10/05/21

Report to:

Atlas Technical Consultants, LLC
51 Knight Lane
Williston, VT 05495
erik.urch@oneatlas.com

ATTN: Erik Urch

Total number of pages in report: 62



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A handwritten signature in black ink, appearing to read "Mike Earp".

Mike Earp
General Manager

Client Service contact: Marie Meidhof 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Case Narrative/Conformance Summary	4
Section 3: Summary of Hits	6
Section 4: Sample Results	7
4.1: JD33214-1: B-101 MW	8
4.2: JD33214-2: B-104 MW	12
4.3: JD33214-3: DUP-2	16
4.4: JD33214-4: TRIP BLANK-NB	20
Section 5: Misc. Forms	23
5.1: Chain of Custody	24
Section 6: MS Volatiles - QC Data Summaries	27
6.1: Method Blank Summary	28
6.2: Blank Spike Summary	31
6.3: Matrix Spike/Matrix Spike Duplicate Summary	34
6.4: Instrument Performance Checks (BFB)	37
6.5: Surrogate Recovery Summaries	39
Section 7: Metals Analysis - QC Data Summaries	40
7.1: Prep QC MP29240: Hg	41
7.2: Prep QC MP29242: Hg	45
7.3: Prep QC MP29243: Hg	49
7.4: Prep QC MP29250: As,Ba,Cd,Cr,Pb,Se,Ag	53

1

2

3

4

5

6

7



Sample Summary

Atlas Technical Consultants, LLC

Job No: JD33214

Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

Project No: 280BS02090

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
---------------	----------------	---------	----------	-------------	------	------------------

This report contains results reported as ND = Not detected. The following applies:
 Organics ND = Not detected above the MDL

JD33214-1	10/05/21	11:32	AG	10/07/21	AQ	Ground Water	B-101 MW
JD33214-2	10/05/21	12:52	AG	10/07/21	AQ	Ground Water	B-104 MW
JD33214-3	10/05/21	13:02	AG	10/07/21	AQ	Ground Water	DUP-2
JD33214-4	10/05/21	13:02	AG	10/07/21	AQ	Trip Blank Water	TRIP BLANK-NB

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Atlas Technical Consultants, LLC

Job No JD33214

Site: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, B

Report Date 10/18/2021 11:03:34 A

On 10/07/2021, 3 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 3 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JD33214 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

MS Volatiles By Method SW846 8260D

Matrix: AQ

Batch ID: V2D8673

- All samples were analyzed within the recommended method holding time.
- Sample(s) JD33141-IMS, JD33141-IMSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for Vinyl Acetate are outside control limits. Outside control limits due to matrix interference.
- Matrix Spike Duplicate Recovery(s) for Vinyl Acetate are outside control limits. Outside control limits due to matrix interference.
- JD33214-3 for 2-Hexanone: Associated CCV outside of control limits high, sample was ND.
- JD33214-1 for 2-Hexanone: Associated CCV outside of control limits high, sample was ND.
- V2D8673-BS for 2-Butanone (MEK): High percent recovery and no associated positive reported in the QC batch.
- JD33214-1 for Vinyl Acetate: Associated CCV outside of control limits high, sample was ND.
- JD33214-2 for 2-Hexanone: Associated CCV outside of control limits high, sample was ND.
- JD33214-2 for Acetone: Associated CCV outside of control limits high, sample was ND.
- V2D8673-BS for Acetone: High percent recovery and no associated positive reported in the QC batch.
- JD33214-2 for Dichlorodifluoromethane: Associated CCV outside of control limits low. A sensitivity check was analyzed to demonstrate system suitability to detect affected analyte. Sample was ND.
- JD33214-4 for Acetone: Associated CCV outside of control limits high, sample was ND.
- JD33214-3 for Acetone: Associated CCV outside of control limits high, sample was ND.
- JD33214-3 for Vinyl Acetate: Associated CCV outside of control limits high, sample was ND.
- JD33214-1 for Acetone: Associated CCV outside of control limits high, sample was ND.
- JD33214-2 for Vinyl Acetate: Associated CCV outside of control limits high, sample was ND.
- JD33214-4 for Vinyl Acetate: Associated CCV outside of control limits high, sample was ND.
- JD33214-4 for Dichlorodifluoromethane: Associated CCV outside of control limits low. A sensitivity check was analyzed to demonstrate system suitability to detect affected analyte. Sample was ND.
- JD33214-4 for 2-Hexanone: Associated CCV outside of control limits high, sample was ND.
- V2D8673-BS for Vinyl Acetate: Outside control limits. This compound is not reported in associated samples.
- JD33214-3 for Dichlorodifluoromethane: Associated CCV outside of control limits low. A sensitivity check was analyzed to demonstrate system suitability to detect affected analyte. Sample was ND.
- JD33214-1 for Dichlorodifluoromethane: Associated CCV outside of control limits low. A sensitivity check was analyzed to demonstrate system suitability to detect affected analyte. Sample was ND.

Monday, October 18, 2021

Page 1 of 2

Metals Analysis By Method SW846 6010D

Matrix: AQ **Batch ID:** MP29250

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32821-1MS, JD32821-1MSD, JD32821-1SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP29250-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Metals Analysis By Method SW846 7470A

Matrix: AQ **Batch ID:** MP29240

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD32998-2MS, JD32998-2MSD were used as the QC samples for metals.

Matrix: AQ **Batch ID:** MP29242

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD33177-1MS, JD33177-1MSD were used as the QC samples for metals.

Matrix: AQ **Batch ID:** MP29243

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD33177-11MS, JD33177-11MSD were used as the QC samples for metals.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Summary of Hits

Job Number: JD33214
Account: Atlas Technical Consultants, LLC
Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH
Collected: 10/05/21



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

JD33214-1 B-101 MW

No hits reported in this sample.

JD33214-2 B-104 MW

Benzene	0.56	0.50	0.43	ug/l	SW846 8260D
Isopropylbenzene	1.3	1.0	0.65	ug/l	SW846 8260D
Naphthalene	8.7	5.0	2.5	ug/l	SW846 8260D
Toluene	0.57 J	1.0	0.53	ug/l	SW846 8260D
1,2,4-Trimethylbenzene	29.4	2.0	1.0	ug/l	SW846 8260D
1,3,5-Trimethylbenzene	6.5	2.0	1.0	ug/l	SW846 8260D
m,p-Xylene	62.5	1.0	0.78	ug/l	SW846 8260D
Xylene (total)	62.5	1.0	0.59	ug/l	SW846 8260D
Arsenic	4.4	3.0		ug/l	SW846 6010D

JD33214-3 DUP-2

Benzene	0.66	0.50	0.43	ug/l	SW846 8260D
Isopropylbenzene	1.3	1.0	0.65	ug/l	SW846 8260D
Naphthalene	10.0	5.0	2.5	ug/l	SW846 8260D
Toluene	0.67 J	1.0	0.53	ug/l	SW846 8260D
1,2,4-Trimethylbenzene	32.6	2.0	1.0	ug/l	SW846 8260D
1,3,5-Trimethylbenzene	7.0	2.0	1.0	ug/l	SW846 8260D
m,p-Xylene	69.3	1.0	0.78	ug/l	SW846 8260D
Xylene (total)	69.3	1.0	0.59	ug/l	SW846 8260D
Arsenic	4.2	3.0		ug/l	SW846 6010D

JD33214-4 TRIP BLANK-NB

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	B-101 MW	Date Sampled:	10/05/21
Lab Sample ID:	JD33214-1	Date Received:	10/07/21
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260D	Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2D199341.D	1	10/13/21 19:05	JS	n/a	n/a	V2D8673
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone ^a	ND	10	3.1	ug/l	
71-43-2	Benzene	ND	0.50	0.43	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.55	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.48	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.45	ug/l	
75-25-2	Bromoform	ND	1.0	0.63	ug/l	
74-83-9	Bromomethane	ND	2.0	1.6	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	6.9	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	0.52	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	0.62	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	0.69	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.46	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.55	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.56	ug/l	
75-00-3	Chloroethane	ND	1.0	0.73	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.76	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	0.63	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	0.60	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.53	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.56	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.48	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.53	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.54	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.51	ug/l	
75-71-8	Dichlorodifluoromethane ^b	ND	2.0	0.56	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.57	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.60	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.59	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.51	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.51	ug/l	

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: B-101 MW		Date Sampled: 10/05/21
Lab Sample ID: JD33214-1		Date Received: 10/07/21
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260D		
Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	107%		80-121%
2037-26-5	Toluene-D8	102%		80-120%
460-00-4	4-Bromofluorobenzene	99%		80-120%

- (a) Associated CCV outside of control limits high, sample was ND.
- (b) Associated CCV outside of control limits low. A sensitivity check was analyzed to demonstrate system suitability to detect affected analyte. Sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.1
4

Report of Analysis

Client Sample ID: B-101 MW	Date Sampled: 10/05/21
Lab Sample ID: JD33214-1	Date Received: 10/07/21
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 3.0	3.0	ug/l	1	10/15/21	10/15/21 ND	SW846 6010D ²	SW846 3010A ⁴
Barium	< 200	200	ug/l	1	10/15/21	10/15/21 ND	SW846 6010D ²	SW846 3010A ⁴
Cadmium	< 3.0	3.0	ug/l	1	10/15/21	10/15/21 ND	SW846 6010D ²	SW846 3010A ⁴
Chromium	< 10	10	ug/l	1	10/15/21	10/15/21 ND	SW846 6010D ²	SW846 3010A ⁴
Lead	< 3.0	3.0	ug/l	1	10/15/21	10/15/21 ND	SW846 6010D ²	SW846 3010A ⁴
Mercury	< 0.20	0.20	ug/l	1	10/15/21	10/15/21 LM	SW846 7470A ¹	SW846 7470A ³
Selenium	< 10	10	ug/l	1	10/15/21	10/15/21 ND	SW846 6010D ²	SW846 3010A ⁴
Silver	< 10	10	ug/l	1	10/15/21	10/15/21 ND	SW846 6010D ²	SW846 3010A ⁴

- (1) Instrument QC Batch: MA51273
- (2) Instrument QC Batch: MA51291
- (3) Prep QC Batch: MP29243
- (4) Prep QC Batch: MP29250

RL = Reporting Limit

4.1
4

Report of Analysis

Client Sample ID:	B-104 MW	Date Sampled:	10/05/21
Lab Sample ID:	JD33214-2	Date Received:	10/07/21
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260D	Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2D199342.D	1	10/13/21 19:34	JS	n/a	n/a	V2D8673
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone ^a	ND	10	3.1	ug/l	
71-43-2	Benzene	0.56	0.50	0.43	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.55	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.48	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.45	ug/l	
75-25-2	Bromoform	ND	1.0	0.63	ug/l	
74-83-9	Bromomethane	ND	2.0	1.6	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	6.9	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	0.52	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	0.62	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	0.69	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.46	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.55	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.56	ug/l	
75-00-3	Chloroethane	ND	1.0	0.73	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.76	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	0.63	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	0.60	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.53	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.56	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.48	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.53	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.54	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.51	ug/l	
75-71-8	Dichlorodifluoromethane ^b	ND	2.0	0.56	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.57	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.60	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.59	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.51	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.51	ug/l	

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: B-104 MW		Date Sampled: 10/05/21
Lab Sample ID: JD33214-2		Date Received: 10/07/21
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260D		
Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	107%		80-121%
2037-26-5	Toluene-D8	100%		80-120%
460-00-4	4-Bromofluorobenzene	101%		80-120%

- (a) Associated CCV outside of control limits high, sample was ND.
- (b) Associated CCV outside of control limits low. A sensitivity check was analyzed to demonstrate system suitability to detect affected analyte. Sample was ND.

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.2
4

Report of Analysis

Client Sample ID: B-104 MW	Date Sampled: 10/05/21
Lab Sample ID: JD33214-2	Date Received: 10/07/21
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	4.4	3.0	ug/l	1	10/15/21	10/15/21 ND	SW846 6010D ²	SW846 3010A ⁴
Barium	< 200	200	ug/l	1	10/15/21	10/15/21 ND	SW846 6010D ²	SW846 3010A ⁴
Cadmium	< 3.0	3.0	ug/l	1	10/15/21	10/15/21 ND	SW846 6010D ²	SW846 3010A ⁴
Chromium	< 10	10	ug/l	1	10/15/21	10/15/21 ND	SW846 6010D ²	SW846 3010A ⁴
Lead	< 3.0	3.0	ug/l	1	10/15/21	10/15/21 ND	SW846 6010D ²	SW846 3010A ⁴
Mercury	< 0.20	0.20	ug/l	1	10/15/21	10/15/21 LM	SW846 7470A ¹	SW846 7470A ³
Selenium	< 10	10	ug/l	1	10/15/21	10/15/21 ND	SW846 6010D ²	SW846 3010A ⁴
Silver	< 10	10	ug/l	1	10/15/21	10/15/21 ND	SW846 6010D ²	SW846 3010A ⁴

- (1) Instrument QC Batch: MA51273
- (2) Instrument QC Batch: MA51291
- (3) Prep QC Batch: MP29240
- (4) Prep QC Batch: MP29250

RL = Reporting Limit

4.2
4

Report of Analysis

Client Sample ID:	DUP-2	Date Sampled:	10/05/21
Lab Sample ID:	JD33214-3	Date Received:	10/07/21
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260D	Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2D199343.D	1	10/13/21 20:04	JS	n/a	n/a	V2D8673
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone ^a	ND	10	3.1	ug/l	
71-43-2	Benzene	0.66	0.50	0.43	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.55	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.48	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.45	ug/l	
75-25-2	Bromoform	ND	1.0	0.63	ug/l	
74-83-9	Bromomethane	ND	2.0	1.6	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	6.9	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	0.52	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	0.62	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	0.69	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.46	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.55	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.56	ug/l	
75-00-3	Chloroethane	ND	1.0	0.73	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.76	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	0.63	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	0.60	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.53	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.56	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.48	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.53	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.54	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.51	ug/l	
75-71-8	Dichlorodifluoromethane ^b	ND	2.0	0.56	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.57	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.60	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.59	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.51	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.51	ug/l	

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-2	Date Sampled:	10/05/21
Lab Sample ID:	JD33214-3	Date Received:	10/07/21
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260D		
Project:	Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	1.0	0.43	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.52	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.42	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.47	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.60	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.54	ug/l	
591-78-6	2-Hexanone ^a	ND	5.0	2.0	ug/l	
74-88-4	Iodomethane	ND	2.0	1.6	ug/l	
98-82-8	Isopropylbenzene	1.3	1.0	0.65	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.51	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.9	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.48	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
91-20-3	Naphthalene	10.0	5.0	2.5	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	0.60	ug/l	
100-42-5	Styrene	ND	1.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.65	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.90	ug/l	
108-88-3	Toluene	0.67	1.0	0.53	ug/l	J
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.54	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.53	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.53	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.40	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	32.6	2.0	1.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	7.0	2.0	1.0	ug/l	
108-05-4	Vinyl Acetate ^a	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.79	ug/l	
	m,p-Xylene	69.3	1.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.59	ug/l	
1330-20-7	Xylene (total)	69.3	1.0	0.59	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		85-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: DUP-2		Date Sampled: 10/05/21
Lab Sample ID: JD33214-3		Date Received: 10/07/21
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260D		
Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	108%		80-121%
2037-26-5	Toluene-D8	100%		80-120%
460-00-4	4-Bromofluorobenzene	100%		80-120%

- (a) Associated CCV outside of control limits high, sample was ND.
- (b) Associated CCV outside of control limits low. A sensitivity check was analyzed to demonstrate system suitability to detect affected analyte. Sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.3
4

Report of Analysis

Client Sample ID: DUP-2		Date Sampled: 10/05/21
Lab Sample ID: JD33214-3		Date Received: 10/07/21
Matrix: AQ - Ground Water		Percent Solids: n/a
Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	4.2	3.0	ug/l	1	10/15/21	10/15/21 ND	SW846 6010D ²	SW846 3010A ⁴
Barium	< 200	200	ug/l	1	10/15/21	10/15/21 ND	SW846 6010D ²	SW846 3010A ⁴
Cadmium	< 3.0	3.0	ug/l	1	10/15/21	10/15/21 ND	SW846 6010D ²	SW846 3010A ⁴
Chromium	< 10	10	ug/l	1	10/15/21	10/15/21 ND	SW846 6010D ²	SW846 3010A ⁴
Lead	< 3.0	3.0	ug/l	1	10/15/21	10/15/21 ND	SW846 6010D ²	SW846 3010A ⁴
Mercury	< 0.20	0.20	ug/l	1	10/15/21	10/15/21 LM	SW846 7470A ¹	SW846 7470A ³
Selenium	< 10	10	ug/l	1	10/15/21	10/15/21 ND	SW846 6010D ²	SW846 3010A ⁴
Silver	< 10	10	ug/l	1	10/15/21	10/15/21 ND	SW846 6010D ²	SW846 3010A ⁴

- (1) Instrument QC Batch: MA51273
- (2) Instrument QC Batch: MA51291
- (3) Prep QC Batch: MP29242
- (4) Prep QC Batch: MP29250

RL = Reporting Limit

4.3
4

Report of Analysis

Client Sample ID:	TRIP BLANK-NB	Date Sampled:	10/05/21
Lab Sample ID:	JD33214-4	Date Received:	10/07/21
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260D		
Project:	Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2D199336.D	1	10/13/21 16:39	JS	n/a	n/a	V2D8673
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone ^a	ND	10	3.1	ug/l	
71-43-2	Benzene	ND	0.50	0.43	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.55	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.48	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.45	ug/l	
75-25-2	Bromoform	ND	1.0	0.63	ug/l	
74-83-9	Bromomethane	ND	2.0	1.6	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	6.9	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	0.52	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	0.62	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	0.69	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.46	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.55	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.56	ug/l	
75-00-3	Chloroethane	ND	1.0	0.73	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.76	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	0.63	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	0.60	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.53	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.56	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.48	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.53	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.54	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.51	ug/l	
75-71-8	Dichlorodifluoromethane ^b	ND	2.0	0.56	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.57	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.60	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.59	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.51	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.51	ug/l	

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK-NB	Date Sampled:	10/05/21
Lab Sample ID:	JD33214-4	Date Received:	10/07/21
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260D		
Project:	Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	1.0	0.43	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.52	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.42	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.47	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.60	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.54	ug/l	
591-78-6	2-Hexanone ^a	ND	5.0	2.0	ug/l	
74-88-4	Iodomethane	ND	2.0	1.6	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.65	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.51	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.9	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.48	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
91-20-3	Naphthalene	ND	5.0	2.5	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	0.60	ug/l	
100-42-5	Styrene	ND	1.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.65	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.90	ug/l	
108-88-3	Toluene	ND	1.0	0.53	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.54	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.53	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.53	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.40	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	1.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	1.0	ug/l	
108-05-4	Vinyl Acetate ^a	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.79	ug/l	
	m,p-Xylene	ND	1.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.59	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.59	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		85-118%

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TRIP BLANK-NB		Date Sampled: 10/05/21
Lab Sample ID: JD33214-4		Date Received: 10/07/21
Matrix: AQ - Trip Blank Water		Percent Solids: n/a
Method: SW846 8260D		
Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	106%		80-121%
2037-26-5	Toluene-D8	103%		80-120%
460-00-4	4-Bromofluorobenzene	100%		80-120%

- (a) Associated CCV outside of control limits high, sample was ND.
- (b) Associated CCV outside of control limits low. A sensitivity check was analyzed to demonstrate system suitability to detect affected analyte. Sample was ND.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.4
4

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



GW
TB

CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

FED-EX Tracking #
SGS Quote #
Bottle # / Container #
SGS Job #

EHSQA-QAC-0023-04-FORM-Standard COC

RP-09821-68
JD33214

Client / Reporting Information		Project Information				Requested Analysis												Matrix Codes															
Company Name: Atlas		Project Name: Northfield Bridge - Hardesty & Hanover				VB260 MASTD HMB												DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank															
Street Address: 51 Knight Lane		Street: 6 Bedford Farms Dr. Suite 111																															
City State Zip: Williston VT		Billing Information (if different from Report to) City State Company Name: Bedford NH																															
Project Contact E-mail: Erik.Urch@meatlas.com		Project # Street Address: 280 BS 02090																															
Phone #: 802-338-5626		Client Purchase Order #: 802 BS 02090				pH Check (Lab Use Only)												LAB USE ONLY															
Sampler(s) Name(s): Alex Gagnon		Project Manager: Erik Urch				Collection																											
MEQ/DI Val #		Date		Time		Sampled by		Grab (G) / Composite (C)		Source (S) / Filtered (F)		Matrix		# of bottles		NICI		Ni(OH)		MNS		H2SO4		NONE		DI Water		MEOH		ENCORE			
		10/05/21		1132		AG		G		N		GW		4		3		1															
				1250										4		3																	
				1139										4		3																	
				1302										4		3																	
				0800								TB		3		3																	

Initial Assessment: **KG 3B**

Label Verification

Turn Around Time (Business Days)		Deliverable				Comments / Special Instructions																	
<input checked="" type="checkbox"/> 10 Business Days <input type="checkbox"/> 5 Business Days <input type="checkbox"/> 3 Business Days <input type="checkbox"/> 2 Business Days <input type="checkbox"/> 1 Business Day <input type="checkbox"/> Other <small>All data available via Lablink</small>		Approved By (SGS PM): / Date: _____ <input type="checkbox"/> Commercial "A" (Level 1) <input checked="" type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> NJ Reduced (Level 3) <input type="checkbox"/> Full Tier I (Level 4) <input type="checkbox"/> Commercial "C" <input type="checkbox"/> NJ DKQP				<input type="checkbox"/> NYASP Category A <input type="checkbox"/> NYASP Category B <input type="checkbox"/> MA MCP Criteria <input type="checkbox"/> CT RCP Criteria <input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format				<input type="checkbox"/> DOD-QSM5		http://www.sgs.com/en/terms-and-conditions											
* Approval needed for 1-3 Business Day TAT		Commercial "A" = Results only; Commercial "B" = Results + QC Summary Commercial "C" = Results + QC Summary + Partial Raw data																					

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by: 1 Alex Gagnon	Date / Time: 10/5/21	Received By: 1 FedEx	Relinquished By: 2 FedEx	Date / Time: 10/7/21 1555	Received By: 3 Erik Urch	
Relinquished by: 3	Date / Time:	Received By: 3	Relinquished By: 4	Date / Time:	Received By: 4	
Relinquished by: 5	Date / Time:	Received By: 5	Custody Seal #	<input type="checkbox"/> Intact <input type="checkbox"/> Not intact	Therm ID: <input type="checkbox"/> On Ice <input type="checkbox"/> Absent	Cooler Temp. °C 3.98

5.1
5



SGS Sample Receipt Summary

Job Number: JD33214

Client: ATLAS TECHNICAL CONSULTANTS, LLC

Project: NORTHFIELD BRIDGE PROJECT, VT

Date / Time Received: 10/7/2021 3:55:00 PM

Delivery Method: FEDEX

Airbill #s:

Cooler Temps (Raw Measured) °C: Cooler 1: (3.9);

Cooler Temps (Corrected) °C: Cooler 1: (3.0);

Cooler Security

- | | <u>Y or N</u> | | | <u>Y or N</u> | |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. COC Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Smpl Dates/Time OK | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Cooler Temperature

- | | <u>Y or N</u> | |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Cooler temp verification: | IR Gun | |
| 3. Cooler media: | Ice (Bag) | |
| 4. No. Coolers: | 1 | |

Quality Control Preservation

- | | <u>Y</u> | <u>or</u> | <u>N</u> | <u>N/A</u> |
|---------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|
| 1. Trip Blank present / cooler: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Trip Blank listed on COC: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Samples preserved properly: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. VOCs headspace free: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Sample Integrity - Documentation

- | | <u>Y or N</u> | |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Container labeling complete: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Sample Integrity - Condition

- | | <u>Y or N</u> | |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recvd within HT: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. All containers accounted for: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Condition of sample: | Intact | |

Sample Integrity - Instructions

- | | <u>Y</u> | <u>or</u> | <u>N</u> | <u>N/A</u> |
|---|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Bottles received for unspecified tests | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Sufficient volume recvd for analysis: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Compositing instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Test Strip Lot #s: pH 1-12: 231619 pH 12+: 203117A Other: (Specify) _____

Comments 1.) The COC states there is 3 trip blanks however received only 1x40ml. Please Confirm.

JD33214: Chain of Custody

Page 2 of 3

5.1
5

Please proceed with limited volume

JD33214: Chain of Custody
Page 3 of 3

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JD33214

Account: ATCVTW Atlas Technical Consultants, LLC

Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2D8673-MB	2D199328.D	1	10/13/21	JS	n/a	n/a	V2D8673

The QC reported here applies to the following samples:

Method: SW846 8260D

JD33214-1, JD33214-2, JD33214-3, JD33214-4

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	3.1	ug/l	
71-43-2	Benzene	ND	0.50	0.43	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.55	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.48	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.45	ug/l	
75-25-2	Bromoform	ND	1.0	0.63	ug/l	
74-83-9	Bromomethane	ND	2.0	1.6	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	6.9	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	0.52	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	0.62	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	0.69	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.46	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.55	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.56	ug/l	
75-00-3	Chloroethane	ND	1.0	0.73	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.76	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	0.63	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	0.60	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.53	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.56	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.48	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.53	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.54	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.51	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.56	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.57	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.60	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.59	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.51	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.51	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.43	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.52	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.42	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.47	ug/l	

Method Blank Summary

Job Number: JD33214
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2D8673-MB	2D199328.D	1	10/13/21	JS	n/a	n/a	V2D8673

The QC reported here applies to the following samples:

Method: SW846 8260D

JD33214-1, JD33214-2, JD33214-3, JD33214-4

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.60	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.54	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
74-88-4	Iodomethane	ND	2.0	1.6	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.65	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.51	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.9	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.48	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
91-20-3	Naphthalene	ND	5.0	2.5	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	0.60	ug/l	
100-42-5	Styrene	ND	1.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.65	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.90	ug/l	
108-88-3	Toluene	ND	1.0	0.53	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.54	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.53	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.53	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.40	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	1.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	1.0	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.1	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.79	ug/l	
	m,p-Xylene	ND	1.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.59	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.59	ug/l	

Method Blank Summary

Job Number: JD33214

Account: ATCVTW Atlas Technical Consultants, LLC

Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2D8673-MB	2D199328.D	1	10/13/21	JS	n/a	n/a	V2D8673

The QC reported here applies to the following samples:

Method: SW846 8260D

JD33214-1, JD33214-2, JD33214-3, JD33214-4

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	108% 85-118%
17060-07-0	1,2-Dichloroethane-D4	107% 80-121%
2037-26-5	Toluene-D8	107% 80-120%
460-00-4	4-Bromofluorobenzene	98% 80-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Blank Spike Summary

Job Number: JD33214
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2D8673-BS	2D199326.D	1	10/13/21	JS	n/a	n/a	V2D8673

The QC reported here applies to the following samples:

Method: SW846 8260D

JD33214-1, JD33214-2, JD33214-3, JD33214-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	200	290	145* a	63-137
71-43-2	Benzene	50	48.3	97	78-117
108-86-1	Bromobenzene	50	49.0	98	82-121
74-97-5	Bromochloromethane	50	51.4	103	83-124
75-27-4	Bromodichloromethane	50	53.2	106	83-123
75-25-2	Bromoform	50	52.9	106	80-140
74-83-9	Bromomethane	50	46.0	92	26-167
78-93-3	2-Butanone (MEK)	200	276	138* a	73-135
104-51-8	n-Butylbenzene	50	53.4	107	78-126
135-98-8	sec-Butylbenzene	50	50.0	100	78-122
98-06-6	tert-Butylbenzene	50	49.4	99	77-122
75-15-0	Carbon disulfide	50	44.3	89	60-131
56-23-5	Carbon tetrachloride	50	49.8	100	75-127
108-90-7	Chlorobenzene	50	46.8	94	83-115
75-00-3	Chloroethane	50	48.4	97	61-135
67-66-3	Chloroform	50	51.4	103	76-118
74-87-3	Chloromethane	50	49.8	100	46-144
95-49-8	o-Chlorotoluene	50	49.8	100	80-120
106-43-4	p-Chlorotoluene	50	49.9	100	80-117
96-12-8	1,2-Dibromo-3-chloropropane	50	56.2	112	75-135
124-48-1	Dibromochloromethane	50	50.3	101	84-128
106-93-4	1,2-Dibromoethane	50	52.8	106	82-129
95-50-1	1,2-Dichlorobenzene	50	49.9	100	85-117
541-73-1	1,3-Dichlorobenzene	50	47.5	95	83-116
106-46-7	1,4-Dichlorobenzene	50	49.6	99	82-115
75-71-8	Dichlorodifluoromethane	50	39.2	78	49-153
75-34-3	1,1-Dichloroethane	50	55.8	112	75-122
107-06-2	1,2-Dichloroethane	50	49.0	98	74-116
75-35-4	1,1-Dichloroethene	50	45.5	91	68-129
156-59-2	cis-1,2-Dichloroethene	50	51.1	102	78-120
156-60-5	trans-1,2-Dichloroethene	50	51.0	102	74-125
78-87-5	1,2-Dichloropropane	50	50.0	100	80-120
142-28-9	1,3-Dichloropropane	50	51.7	103	82-116
594-20-7	2,2-Dichloropropane	50	55.7	111	70-128
563-58-6	1,1-Dichloropropene	50	51.6	103	75-121
10061-01-5	cis-1,3-Dichloropropene	50	54.8	110	84-123

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD33214

Account: ATCVTW Atlas Technical Consultants, LLC

Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2D8673-BS	2D199326.D	1	10/13/21	JS	n/a	n/a	V2D8673

The QC reported here applies to the following samples:

Method: SW846 8260D

JD33214-1, JD33214-2, JD33214-3, JD33214-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	54.6	109	84-124
100-41-4	Ethylbenzene	50	47.0	94	80-115
87-68-3	Hexachlorobutadiene	50	54.2	108	68-137
591-78-6	2-Hexanone	200	261	131	74-132
74-88-4	Iodomethane	50	47.0	94	10-200
98-82-8	Isopropylbenzene	50	47.1	94	79-120
99-87-6	p-Isopropyltoluene	50	49.2	98	80-122
1634-04-4	Methyl Tert Butyl Ether	50	53.4	107	77-124
108-10-1	4-Methyl-2-pentanone(MIBK)	200	238	119	77-129
74-95-3	Methylene bromide	50	51.9	104	83-121
75-09-2	Methylene chloride	50	54.3	109	74-125
91-20-3	Naphthalene	50	59.3	119	73-138
103-65-1	n-Propylbenzene	50	50.8	102	78-117
100-42-5	Styrene	50	47.4	95	83-122
630-20-6	1,1,1,2-Tetrachloroethane	50	48.5	97	82-125
79-34-5	1,1,2,2-Tetrachloroethane	50	57.4	115	78-122
127-18-4	Tetrachloroethene	50	46.0	92	75-125
108-88-3	Toluene	50	48.0	96	80-115
87-61-6	1,2,3-Trichlorobenzene	50	60.9	122	73-140
120-82-1	1,2,4-Trichlorobenzene	50	58.9	118	77-137
71-55-6	1,1,1-Trichloroethane	50	52.0	104	77-124
79-00-5	1,1,2-Trichloroethane	50	52.9	106	83-118
79-01-6	Trichloroethene	50	46.4	93	80-123
75-69-4	Trichlorofluoromethane	50	48.8	98	71-134
96-18-4	1,2,3-Trichloropropane	50	49.5	99	80-121
95-63-6	1,2,4-Trimethylbenzene	50	47.7	95	81-119
108-67-8	1,3,5-Trimethylbenzene	50	48.2	96	79-120
108-05-4	Vinyl Acetate	50	73.2	146* b	77-131
75-01-4	Vinyl chloride	50	48.8	98	56-138
	m,p-Xylene	100	93.6	94	81-118
95-47-6	o-Xylene	50	46.2	92	81-119
1330-20-7	Xylene (total)	150	140	93	81-118

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD33214

Account: ATCVTW Atlas Technical Consultants, LLC

Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2D8673-BS	2D199326.D	1	10/13/21	JS	n/a	n/a	V2D8673

The QC reported here applies to the following samples:

Method: SW846 8260D

JD33214-1, JD33214-2, JD33214-3, JD33214-4

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	107%	85-118%
17060-07-0	1,2-Dichloroethane-D4	107%	80-121%
2037-26-5	Toluene-D8	98%	80-120%
460-00-4	4-Bromofluorobenzene	102%	80-120%

- (a) High percent recovery and no associated positive reported in the QC batch.
- (b) Outside control limits. This compound is not reported in associated samples.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD33214

Account: ATCVTW Atlas Technical Consultants, LLC

Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD33141-1MS	2D199333.D	5	10/13/21	JS	n/a	n/a	V2D8673
JD33141-1MSD	2D199334.D	5	10/13/21	JS	n/a	n/a	V2D8673
JD33141-1 ^a	2D199337.D	5	10/13/21	JS	n/a	n/a	V2D8673

The QC reported here applies to the following samples:

Method: SW846 8260D

JD33214-1, JD33214-2, JD33214-3, JD33214-4

CAS No.	Compound	JD33141-1	Spike	MS	MS	Spike	MSD	MSD	RPD	Limits
		ug/l	Q	ug/l	%	ug/l	ug/l	%		Rec/RPD
67-64-1	Acetone	ND	1000	729	73	1000	722	72	1	52-133/18
71-43-2	Benzene	ND	250	230	92	250	225	90	2	55-129/11
108-86-1	Bromobenzene	ND	250	241	96	250	233	93	3	73-120/11
74-97-5	Bromochloromethane	ND	250	247	99	250	239	96	3	75-122/10
75-27-4	Bromodichloromethane	ND	250	236	94	250	238	95	1	74-123/11
75-25-2	Bromoform	ND	250	245	98	250	244	98	0	69-135/12
74-83-9	Bromomethane	ND	250	219	88	250	217	87	1	11-167/43
78-93-3	2-Butanone (MEK)	ND	1000	980	98	1000	987	99	1	64-131/15
104-51-8	n-Butylbenzene	ND	250	247	99	250	248	99	0	69-130/11
135-98-8	sec-Butylbenzene	ND	250	237	95	250	233	93	2	70-125/12
98-06-6	tert-Butylbenzene	ND	250	236	94	250	234	94	1	68-125/12
75-15-0	Carbon disulfide	ND	250	204	82	250	203	81	0	54-137/15
56-23-5	Carbon tetrachloride	ND	250	222	89	250	220	88	1	68-132/11
108-90-7	Chlorobenzene	ND	250	222	89	250	218	87	2	71-119/10
75-00-3	Chloroethane	ND	250	225	90	250	221	88	2	50-146/18
67-66-3	Chloroform	5.3	250	235	92	250	229	89	3	67-120/11
74-87-3	Chloromethane	ND	250	216	86	250	215	86	0	42-146/17
95-49-8	o-Chlorotoluene	ND	250	241	96	250	238	95	1	71-120/12
106-43-4	p-Chlorotoluene	ND	250	237	95	250	232	93	2	71-117/11
96-12-8	1,2-Dibromo-3-chloropropane	ND	250	260	104	250	266	106	2	65-130/15
124-48-1	Dibromochloromethane	ND	250	237	95	250	233	93	2	74-125/10
106-93-4	1,2-Dibromoethane	ND	250	247	99	250	246	98	0	74-125/9
95-50-1	1,2-Dichlorobenzene	ND	250	233	93	250	235	94	1	73-117/10
541-73-1	1,3-Dichlorobenzene	ND	250	225	90	250	224	90	0	73-117/10
106-46-7	1,4-Dichlorobenzene	ND	250	232	93	250	231	92	0	70-117/10
75-71-8	Dichlorodifluoromethane	ND	250	164	66	250	166	66	1	46-169/17
75-34-3	1,1-Dichloroethane	ND	250	245	98	250	238	95	3	66-124/13
107-06-2	1,2-Dichloroethane	ND	250	212	85	250	211	84	0	66-115/10
75-35-4	1,1-Dichloroethene	ND	250	209	84	250	207	83	1	60-136/15
156-59-2	cis-1,2-Dichloroethene	126	250	337	84	250	328	81	3	55-133/12
156-60-5	trans-1,2-Dichloroethene	ND	250	230	92	250	226	90	2	67-127/13
78-87-5	1,2-Dichloropropane	ND	250	231	92	250	229	92	1	72-120/11
142-28-9	1,3-Dichloropropane	ND	250	246	98	250	240	96	2	72-115/10
594-20-7	2,2-Dichloropropane	ND	250	246	98	250	239	96	3	61-133/12
563-58-6	1,1-Dichloropropene	ND	250	237	95	250	231	92	3	68-127/12
10061-01-5	cis-1,3-Dichloropropene	ND	250	254	102	250	255	102	0	75-123/12

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD33214

Account: ATCVTW Atlas Technical Consultants, LLC

Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD33141-1MS	2D199333.D	5	10/13/21	JS	n/a	n/a	V2D8673
JD33141-1MSD	2D199334.D	5	10/13/21	JS	n/a	n/a	V2D8673
JD33141-1 ^a	2D199337.D	5	10/13/21	JS	n/a	n/a	V2D8673

The QC reported here applies to the following samples:

Method: SW846 8260D

JD33214-1, JD33214-2, JD33214-3, JD33214-4

CAS No.	Compound	JD33141-1 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND	250	260	104	250	251	100	4	73-122/11
100-41-4	Ethylbenzene	ND	250	221	88	250	218	87	1	44-136/10
87-68-3	Hexachlorobutadiene	ND	250	250	100	250	253	101	1	55-143/15
591-78-6	2-Hexanone	ND	1000	1050	105	1000	1040	104	1	64-129/13
74-88-4	Iodomethane	ND	250	214	86	250	214	86	0	10-200/61
98-82-8	Isopropylbenzene	ND	250	222	89	250	217	87	2	71-122/11
99-87-6	p-Isopropyltoluene	ND	250	233	93	250	229	92	2	72-124/11
1634-04-4	Methyl Tert Butyl Ether	ND	250	241	96	250	237	95	2	64-122/11
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	1000	1080	108	1000	1100	110	2	68-128/13
74-95-3	Methylene bromide	ND	250	239	96	250	238	95	0	74-118/10
75-09-2	Methylene chloride	ND	250	243	97	250	241	96	1	65-126/13
91-20-3	Naphthalene	ND	250	273	109	250	275	110	1	58-140/16
103-65-1	n-Propylbenzene	ND	250	243	97	250	239	96	2	64-123/11
100-42-5	Styrene	ND	250	227	91	250	219	88	4	73-124/11
630-20-6	1,1,1,2-Tetrachloroethane	ND	250	229	92	250	226	90	1	74-123/11
79-34-5	1,1,2,2-Tetrachloroethane	ND	250	276	110	250	274	110	1	68-120/15
127-18-4	Tetrachloroethene	ND	250	222	89	250	218	87	2	61-134/11
108-88-3	Toluene	ND	250	235	94	250	229	92	3	54-130/11
87-61-6	1,2,3-Trichlorobenzene	ND	250	278	111	250	277	111	0	64-135/15
120-82-1	1,2,4-Trichlorobenzene	ND	250	269	108	250	270	108	0	67-134/14
71-55-6	1,1,1-Trichloroethane	ND	250	233	93	250	229	92	2	66-130/12
79-00-5	1,1,2-Trichloroethane	ND	250	246	98	250	245	98	0	73-117/11
79-01-6	Trichloroethene	ND	250	221	88	250	218	87	1	56-139/11
75-69-4	Trichlorofluoromethane	ND	250	214	86	250	213	85	0	63-150/16
96-18-4	1,2,3-Trichloropropane	ND	250	239	96	250	230	92	4	71-118/12
95-63-6	1,2,4-Trimethylbenzene	ND	250	226	90	250	224	90	1	45-139/11
108-67-8	1,3,5-Trimethylbenzene	ND	250	230	92	250	226	90	2	60-128/12
108-05-4	Vinyl Acetate	ND	250	345	138* b	250	349	140* b	1	66-128/15
75-01-4	Vinyl chloride	38.5	250	246	83	250	244	82	1	48-148/17
	m,p-Xylene	ND	500	443	89	500	432	86	3	42-140/10
95-47-6	o-Xylene	ND	250	219	88	250	214	86	2	54-133/11
1330-20-7	Xylene (total)	ND	750	662	88	750	646	86	2	46-138/10

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD33214

Account: ATCVTW Atlas Technical Consultants, LLC

Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD33141-1MS	2D199333.D	5	10/13/21	JS	n/a	n/a	V2D8673
JD33141-1MSD	2D199334.D	5	10/13/21	JS	n/a	n/a	V2D8673
JD33141-1 ^a	2D199337.D	5	10/13/21	JS	n/a	n/a	V2D8673

The QC reported here applies to the following samples:

Method: SW846 8260D

JD33214-1, JD33214-2, JD33214-3, JD33214-4

CAS No.	Surrogate Recoveries	MS	MSD	JD33141-1	Limits
1868-53-7	Dibromofluoromethane	106%	105%		85-118%
17060-07-0	1,2-Dichloroethane-D4	103%	103%		80-121%
2037-26-5	Toluene-D8	101%	99%		80-120%
460-00-4	4-Bromofluorobenzene	104%	105%		80-120%

(a) Sample used for QC purposes only.

(b) Outside control limits due to matrix interference.

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JD33214
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

Sample:	V2D8656-BFB	Injection Date:	09/26/21
Lab File ID:	2D199016.D	Injection Time:	23:52
Instrument ID:	GCMS2D		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	58402	19.2	Pass
75	30.0 - 60.0% of mass 95	146104	48.0	Pass
95	Base peak, 100% relative abundance	304597	100.0	Pass
96	5.0 - 9.0% of mass 95	20696	6.79	Pass
173	Less than 2.0% of mass 174	3429	1.13 (1.20) ^a	Pass
174	50.0 - 120.0% of mass 95	284629	93.4	Pass
175	5.0 - 9.0% of mass 174	20909	6.86 (7.35) ^a	Pass
176	95.0 - 101.0% of mass 174	274133	90.0 (96.3) ^a	Pass
177	5.0 - 9.0% of mass 176	18628	6.12 (6.80) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V2D8656-IC8656	2D199017.D	09/27/21	00:21	00:29	Initial cal 0.2
V2D8656-IC8656	2D199018.D	09/27/21	00:50	00:58	Initial cal 0.5
V2D8656-IC8656	2D199019.D	09/27/21	01:19	01:27	Initial cal 1
V2D8656-IC8656	2D199020.D	09/27/21	01:48	01:56	Initial cal 2
V2D8656-IC8656	2D199021.D	09/27/21	02:17	02:25	Initial cal 4
V2D8656-IC8656	2D199022.D	09/27/21	02:46	02:54	Initial cal 8
V2D8656-IC8656	2D199023.D	09/27/21	03:14	03:22	Initial cal 20
V2D8656-ICC8656	2D199024.D	09/27/21	03:43	03:51	Initial cal 50
V2D8656-IC8656	2D199025.D	09/27/21	04:12	04:20	Initial cal 100
V2D8656-IC8656	2D199026.D	09/27/21	04:41	04:49	Initial cal 200
V2D8656-ICV8656	2D199029.D	09/27/21	06:07	06:15	Initial cal verification 50
V2D8656-ICV8656	2D199030.D	09/27/21	06:36	06:44	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JD33214
 Account: ATCVTW Atlas Technical Consultants, LLC
 Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

Sample:	V2D8673-BFB	Injection Date:	10/13/21
Lab File ID:	2D199324.D	Injection Time:	10:11
Instrument ID:	GCMS2D		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	82983	21.6	Pass
75	30.0 - 60.0% of mass 95	186347	48.6	Pass
95	Base peak, 100% relative abundance	383680	100.0	Pass
96	5.0 - 9.0% of mass 95	24840	6.47	Pass
173	Less than 2.0% of mass 174	3585	0.93 (1.02) ^a	Pass
174	50.0 - 120.0% of mass 95	350912	91.5	Pass
175	5.0 - 9.0% of mass 174	27115	7.07 (7.73) ^a	Pass
176	95.0 - 101.0% of mass 174	352832	92.0 (100.5) ^a	Pass
177	5.0 - 9.0% of mass 176	21965	5.72 (6.23) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V2D8673-CC8656	2D199324.D	10/13/21	10:11	00:00	Continuing cal 20
V2D8673-BS	2D199326.D	10/13/21	11:18	01:07	Blank Spike
V2D8673-MB	2D199328.D	10/13/21	12:16	02:05	Method Blank
ZZZZZZ	2D199329.D	10/13/21	12:57	02:46	(unrelated sample)
ZZZZZZ	2D199330.D	10/13/21	13:26	03:15	(unrelated sample)
ZZZZZZ	2D199331.D	10/13/21	14:13	04:02	(unrelated sample)
ZZZZZZ	2D199332.D	10/13/21	14:42	04:31	(unrelated sample)
JD33141-1MS	2D199333.D	10/13/21	15:12	05:01	Matrix Spike
JD33141-1MSD	2D199334.D	10/13/21	15:41	05:30	Matrix Spike Duplicate
JD33214-4	2D199336.D	10/13/21	16:39	06:28	TRIP BLANK-NB
JD33141-1	2D199337.D	10/13/21	17:09	06:58	(used for QC only; not part of job JD33214)
ZZZZZZ	2D199339.D	10/13/21	18:07	07:56	(unrelated sample)
ZZZZZZ	2D199340.D	10/13/21	18:36	08:25	(unrelated sample)
JD33214-1	2D199341.D	10/13/21	19:05	08:54	B-101 MW
JD33214-2	2D199342.D	10/13/21	19:34	09:23	B-104 MW
JD33214-3	2D199343.D	10/13/21	20:04	09:53	DUP-2
ZZZZZZ	2D199344.D	10/13/21	20:33	10:22	(unrelated sample)
ZZZZZZ	2D199345.D	10/13/21	21:02	10:51	(unrelated sample)

Surrogate Recovery Summary

Job Number: JD33214

Account: ATCVTW Atlas Technical Consultants, LLC

Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

Method: SW846 8260D

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JD33214-1	2D199341.D	107	107	102	99
JD33214-2	2D199342.D	109	107	100	101
JD33214-3	2D199343.D	107	108	100	100
JD33214-4	2D199336.D	105	106	103	100
JD33141-1MS	2D199333.D	106	103	101	104
JD33141-1MSD	2D199334.D	105	103	99	105
V2D8673-BS	2D199326.D	107	107	98	102
V2D8673-MB	2D199328.D	108	107	107	98

Surrogate Compounds	Recovery Limits
----------------------------	------------------------

S1 = Dibromofluoromethane	85-118%
S2 = 1,2-Dichloroethane-D4	80-121%
S3 = Toluene-D8	80-120%
S4 = 4-Bromofluorobenzene	80-120%

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- **Method Blank Summaries**
- **Matrix Spike and Duplicate Summaries**
- **Blank Spike and Lab Control Sample Summaries**
- **Serial Dilution Summaries**

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD33214
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

QC Batch ID: MP29240
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 10/15/21

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.034	.095	0.028	<0.20

Associated samples MP29240: JD33214-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

7.1.1
7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD33214
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

QC Batch ID: MP29240
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 10/15/21

Metal	JD32998-2 Original MS	SpikeLot HGPW3	% Rec	QC Limits
-------	--------------------------	-------------------	-------	--------------

Mercury	0.035	2.4	2	118.3	75-125
---------	-------	-----	---	-------	--------

Associated samples MP29240: JD33214-2

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD33214
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

QC Batch ID: MP29240 Methods: SW846 7470A
 Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/15/21

Metal	JD32998-2 Original MSD		SpikeLot HGPW3	% Rec	MSD RPD	QC Limit
Mercury	0.035	2.5	2	123.3	4.1	20

Associated samples MP29240: JD33214-2

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD33214

Account: ATCVTW - Atlas Technical Consultants, LLC

Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

QC Batch ID: MP29240

Methods: SW846 7470A

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

10/15/21

10/15/21

Metal	BSP Result	Spikelot HGPW3	% Rec	QC Limits	BSD Result	Spikelot HGPW3	% Rec	BSD RPD	QC Limit
Mercury	2.3	2	115.0	80-120	2.2	2	110.0	4.4	

Associated samples MP29240: JD33214-2

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

7.1.3

7

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD33214
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

QC Batch ID: MP29242
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 10/15/21

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.034	.095	0.025	<0.20

Associated samples MP29242: JD33214-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

7.2.1

7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD33214
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

QC Batch ID: MP29242
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 10/15/21

Metal	JD33177-1 Original MS		SpikeLot HGPW3	% Rec	QC Limits
Mercury	0.040	2.1	2	103.0	75-125

Associated samples MP29242: JD33214-3

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

7.2.2
7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD33214
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

QC Batch ID: MP29242 Methods: SW846 7470A
 Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/15/21

Metal	JD33177-1 Original MSD		SpikeLot HGPW3	% Rec	MSD RPD	QC Limit
Mercury	0.040	2.2	2	108.0	4.7	20

Associated samples MP29242: JD33214-3

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

7.2.2

7

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD33214

Account: ATCVTW - Atlas Technical Consultants, LLC

Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

QC Batch ID: MP29242

Methods: SW846 7470A

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 10/15/21

Metal	BSP Result	Spikelot HGPW3	% Rec	QC Limits
Mercury	1.9	2	95.0	80-120

Associated samples MP29242: JD33214-3

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD33214
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

QC Batch ID: MP29243
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 10/15/21

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.034	.095	0.049	<0.20

Associated samples MP29243: JD33214-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

7.3.1

7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD33214
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

QC Batch ID: MP29243
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 10/15/21

Metal	JD33177-11 Original MS	SpikeLot HGPW3	% Rec	QC Limits
Mercury	0.075	2.2	2	106.3 75-125

Associated samples MP29243: JD33214-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

7.3.2
7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD33214
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

QC Batch ID: MP29243 Methods: SW846 7470A
 Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/15/21

Metal	JD33177-11 Original MSD	SpikeLot HGPW3	% Rec	MSD RPD	QC Limit
Mercury	0.075	2.3	2	111.3	4.4 20

Associated samples MP29243: JD33214-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD33214

Account: ATCVTW - Atlas Technical Consultants, LLC

Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

QC Batch ID: MP29243

Methods: SW846 7470A

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 10/15/21

Metal	BSP Result	Spikelot HGPW3	% Rec	QC Limits
-------	---------------	-------------------	-------	--------------

Mercury 2.2 2 110.0 80-120

Associated samples MP29243: JD33214-1

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD33214
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

QC Batch ID: MP29250
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/15/21

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	16	150		
Antimony	6.0	2.5	4.7		
Arsenic	3.0	2	2.8	0.0	<3.0
Barium	200	.4	13	0.20	<200
Beryllium	1.0	.1	.5		
Bismuth	20	3.6	8.6		
Boron	100	1.9	10		
Cadmium	3.0	.4	1	0.0	<3.0
Calcium	5000	5.6	99		
Cerium	100				
Chromium	10	.5	2	-0.20	<10
Cobalt	50	.5	2.6		
Copper	10	1	5.9		
Iron	100	11	32		
Lead	3.0	1.2	1.8	0.60	<3.0
Lithium	50	2.3	7.3		
Magnesium	5000	65	140		
Manganese	15	.2	1.4		
Molybdenum	20	.4	3.6		
Nickel	10	.3	1.7		
Phosphorus	50	4.1	18		
Potassium	10000	55	200		
Selenium	10	3.5	4.9	-3.3	<10
Silicon	200	1.6	32		
Silver	10	1.1	6.1	-1.1	<10
Sodium	10000	11	570		
Strontium	10	.1	2.7		
Sulfur	50	4.4	45		
Thallium	10	2.5	1.8		
Tin	10	1	3.7		
Titanium	10	.4	2.5		
Tungsten	50	2.8	40		
Vanadium	50	.6	1.8		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD33214
Account: ATCVTW - Atlas Technical Consultants, LLC
Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

QC Batch ID: MP29250
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/15/21

Metal	RL	IDL	MDL	MB	
				raw	final

Zinc 20 .1 6.9

Zirconium 10 .4 4.1

Associated samples MP29250: JD33214-1, JD33214-2, JD33214-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

7.4.1

7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD33214

Account: ATCVTW - Atlas Technical Consultants, LLC

Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

QC Batch ID: MP29250

Methods: SW846 6010D

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 10/15/21

Metal	JD32821-1 Original MS		SpikeLot MPSPK2	% Rec	QC Limits
Aluminum	anr				
Antimony	anr				
Arsenic	3.1	2000	2000	99.8	75-125
Barium	17.2	1940	2000	96.1	75-125
Beryllium	anr				
Bismuth					
Boron	anr				
Cadmium	0.0	2010	2000	100.5	75-125
Calcium	anr				
Cerium					
Chromium	0.0	1960	2000	98.0	75-125
Cobalt	anr				
Copper	anr				
Iron	anr				
Lead	0.0	1990	2000	99.5	75-125
Lithium					
Magnesium	anr				
Manganese	anr				
Molybdenum	anr				
Nickel	anr				
Phosphorus	anr				
Potassium	anr				
Selenium	0.0	1970	2000	98.5	75-125
Silicon					
Silver	0.0	253	250	101.2	75-125
Sodium	anr				
Strontium	anr				
Sulfur					
Thallium	anr				
Tin	anr				
Titanium	anr				
Tungsten					
Vanadium	anr				

7.4.2
7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD33214

Account: ATCVTW - Atlas Technical Consultants, LLC

Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

QC Batch ID: MP29250

Methods: SW846 6010D

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

10/15/21

Metal	JD32821-1 Original MS	SpikeLot MPSPK2	% Rec	QC Limits
-------	--------------------------	--------------------	-------	--------------

Zinc anr

Zirconium

Associated samples MP29250: JD33214-1, JD33214-2, JD33214-3

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

7.4.2

7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD33214
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

QC Batch ID: MP29250
 Matrix Type: AQUEOUS

Methods: SW846 6010D
 Units: ug/l

Prep Date: 10/15/21

Metal	JD32821-1 Original MSD		SpikeLot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum	anr					
Antimony	anr					
Arsenic	3.1	2000	2000	99.8	0.0	20
Barium	17.2	1920	2000	95.1	1.0	20
Beryllium	anr					
Bismuth						
Boron	anr					
Cadmium	0.0	1980	2000	99.0	1.5	20
Calcium	anr					
Cerium						
Chromium	0.0	1920	2000	96.0	2.1	20
Cobalt	anr					
Copper	anr					
Iron	anr					
Lead	0.0	1960	2000	98.0	1.5	20
Lithium						
Magnesium	anr					
Manganese	anr					
Molybdenum	anr					
Nickel	anr					
Phosphorus	anr					
Potassium	anr					
Selenium	0.0	1930	2000	96.5	2.1	20
Silicon						
Silver	0.0	248	250	99.2	2.0	20
Sodium	anr					
Strontium	anr					
Sulfur						
Thallium	anr					
Tin	anr					
Titanium	anr					
Tungsten						
Vanadium	anr					

7.4.2
7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD33214
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

QC Batch ID: MP29250
 Matrix Type: AQUEOUS

Methods: SW846 6010D
 Units: ug/l

Prep Date: 10/15/21

Metal	JD32821-1 Original MSD	SpikeLot MPSPK2	% Rec	MSD RPD	QC Limit
-------	---------------------------	--------------------	-------	------------	-------------

Zinc anr

Zirconium

Associated samples MP29250: JD33214-1, JD33214-2, JD33214-3

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

7.4.2

7

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD33214

Account: ATCVTW - Atlas Technical Consultants, LLC

Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

QC Batch ID: MP29250

Methods: SW846 6010D

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 10/15/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	1990	2000	99.5	80-120
Barium	1950	2000	97.5	80-120
Beryllium	anr			
Bismuth				
Boron	anr			
Cadmium	2020	2000	101.0	80-120
Calcium	anr			
Cerium				
Chromium	2000	2000	100.0	80-120
Cobalt	anr			
Copper	anr			
Iron	anr			
Lead	2000	2000	100.0	80-120
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum	anr			
Nickel	anr			
Phosphorus	anr			
Potassium	anr			
Selenium	1980	2000	99.0	80-120
Silicon				
Silver	250	250	100.0	80-120
Sodium	anr			
Strontium	anr			
Sulfur				
Thallium	anr			
Tin	anr			
Titanium	anr			
Tungsten				
Vanadium	anr			

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD33214

Account: ATCVTW - Atlas Technical Consultants, LLC

Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

QC Batch ID: MP29250

Methods: SW846 6010D

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 10/15/21

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
-------	---------------	--------------------	-------	--------------

Zinc anr

Zirconium

Associated samples MP29250: JD33214-1, JD33214-2, JD33214-3

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD33214
 Account: ATCVTW - Atlas Technical Consultants, LLC
 Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

QC Batch ID: MP29250
 Matrix Type: AQUEOUS

Methods: SW846 6010D
 Units: ug/l

Prep Date: 10/15/21

Metal	JD32821-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	3.10	0.00	100.0 (a)	0-10
Barium	17.2	17.1	0.6	0-10
Beryllium	anr			
Bismuth				
Boron	anr			
Cadmium	0.00	0.00	NC	0-10
Calcium	anr			
Cerium				
Chromium	0.00	0.00	NC	0-10
Cobalt	anr			
Copper	anr			
Iron	anr			
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum	anr			
Nickel	anr			
Phosphorus	anr			
Potassium	anr			
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium	anr			
Strontium	anr			
Sulfur				
Thallium	anr			
Tin	anr			
Titanium	anr			
Tungsten				
Vanadium	anr			

7.4.4
7

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD33214

Account: ATCVTW - Atlas Technical Consultants, LLC

Project: Northfield Bridge - Hardesty & Hanover, 6 Bedford Farms Drive, Bedford, NH

QC Batch ID: MP29250

Methods: SW846 6010D

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 10/15/21

Metal	JD32821-1 Original SDL 1:5	%DIF	QC Limits
-------	-------------------------------	------	--------------

Zinc anr

Zirconium

Associated samples MP29250: JD33214-1, JD33214-2, JD33214-3

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

7.4.4

7



APPENDIX D
FIELD NOTES



9/20/21

280 BSO2090

Northfield Bridge - Day 1

0800

JP onsite

weather - 70° sunny

could PID #3

RF=1

isobutylene

- reached out to Ryan from H+H, no one here by 8:20

- H+H and driller estimated/scoped 8 days, not 2 days... called Erik U.

- H+H is doing geo-technical on entire overburden PLUS 10' ft into bedrock

- Haz (H) borings to 25' or refusal

- Geotech (B) borings estimated 25' plus 10' bedrock

Samples

A = shallow (0.5-1.5') - PAHs, RCRA 8

B = deep (TBD) - VOCs, PAHs, PCBs, RCRA 8

C = composite (entire boring) - waste characterization

↳ to be shipped + held per WP

B-106-A @ 0950 (0.5-1.5') } TOR @ 23.8' bgs

B-106-B @ 1115 (20-24') } no PID hits

B-106-C @ 1130 (0-24')

* H-104-A @ 1420 (0.5-4', needed for dup) *DUP-A @ 0001

* H-104-B @ 1520 (20-24') *DUP-B @ 0002

H-104-C1 @ 1540 } needed 2 composites

H-104-C2 @ 1542 } from one of the 10 borings

freeze VI voas; all others OK to keep on ice.

0730 arrival for tomorrow

1630 offsite

JP

104H

9/21/21 0800 BS02090 North Red Bridge - Day 2
0730 JP onsite; Ryan (H+H), Mike + Norm (MEBC)
weather - 65°, mostly cloudy
cold PID #3 R.F. = 1 Visibility low

- waiting on town flaggers; 2 showed up ~ 9am
- Erik H. to bring 2 roadboxes on Thursday for MW's

Samples:

H-101-A @ 0915	(0.5-1.5')	
H-101-B @ 1010	(24-29')	TOR = 29'
H-101-C @ 1030	(0-29')	
B-103-A @ 1110	(2-4')	
B-103-B @ 1320	(20-22')	TOR = 30'
B-103-C @ 1340	(0-27')	

1500 JP still rock coming - not starting another hole.
JP offsite.

9/22/21 Day 3 0830 JP onsite cold PID #3
weather - 65°, cloudy

- still waiting for traffic control upon arrival; arrived 0840
- town doesn't work Fridays so no traffic control; plan to do B-104 in parking lot Friday, only.

Samples:

3 H+H staff and 2 Vtrans onsite ~ 10 am

H-102-A @ 0930	(2-4')	
H-102-B @ 1120	(17-19')	
H-102-C @ 1140	(0-25')	
B-102-A @ 1310	(2-4')	
B-102-B @ 1330	(8-11')	TOR = 32'
B-102-C @ 1420	(0-32')	

1430 JP offsite.

JP

pg 2 of 4

9/23/21 280B302090 NorthFidd Bridge - Day 4

7:35 E Urch onsite

weather: cloudy, 60s

col'd PID #3, bump 130.3, cal 100.3

met w/ Ryan (H+H) + Mike (NERP) + discussed plans

8:05 Begin ^{rock} coring B-102 at 33' - top of rock

10:15 Completed rock coring @ B-102

10:40 Moved + setup @ B-105 across the bridge

11:45 Break for lunch - collected B-105-A (0.5-2') @ 11:00

12:40 Begin mud rotary @ 12' on B-105 - collected B-105-B (20-24') @ 13:30

13:30 Finished overburden in B105, lost water into formation - broken top of rock.

14:00 Collected B-105-C (0.5-24') composite of B-105 soils

14:30 offsite

9/24/21 Day 5

0830 off onsite 60° rain, heavy at times, cold PID #3

Start at B-104 Dom (Atlas) onsite for training

Samples

B-104-A @ 0840 (0-2')

B-104-B @ 0950 (20-24')

B-104-C @ 1000 (0-27')

TOR = 28'

- install well @ B-104 (B-104MW)

- out of water and town garage is closed. Plan to drive casing down to 20-25 ft and complete augering out hole on Monday.

- sent samples + COC's back to office w/ Dom to keep in fridge/freezer until shipment on Monday

- Drove casing to 25 ft (driller doesn't have drive points) will clean out borehole and set well on Monday, ETA 9AM

1300 offsite

ff (pg 3 of 4)

9/27/21 Northfield Bridge 280 B50 2090 Day 6

0900 JP onsite weather - 60 overcast / rain

cald PID #3 RF=1 isobutylene cal 100.6

- NEBC onsite 0900, went to town garage for water

- Hager-Richter onsite doing bedrock survey, have to wait for them to finish this side of road before we can get back onto B-104 MW to complete well. HR doing seismic refraction

1000 set up on B-104 MW screen 25-15' logs; complete w/ road box

1130 set up on H-103 / break for lunch

1230 develop B-104 MW DTW ~ 20ft (measure DTW and DTB tomorrow w/ WLM)

- per-pump worked well, good recharge / did not go dry. Purged ~ 5 gal. until clear / surged

1250 - had to pause augering, causing too much interference for HR

Samples

on 9/28 DTW = 18.62' b foc

DTB = 25.55' b foc

H-103-A @ 1240 (1-3')

H-103-B @ 1500 (17-19')

H-103-C @ 1530 (0-25')

1630

offsite

JP

9/28/21 0800 onsite (JP) Alex. G for training + replacement
Day 7 weather 60° overcast cald PID #3

set up on B-101; classify overburden + set well, then do rock coring

Samples

B-101-A @ 0845 (0-2')

B-101-B @ 1450 (20-24')

B-101-C @ 1455 (0-24')

MW B-101 DTW = 17.78' b foc

DTB = 24.62' b foc

~~Alex G onsite @~~ Purged / Developed B-101 (MW) from 1545 - 1645

Drillers offsite @ 1655

Alex G offsite @ 1700

JP

pg 4 of 4

10 Northfield Bridge

10/05/21

50s - Cloudy

A. Gagnon

p.1

280 BS 02090

0800-0900 Calibrated equipment / mdo / TB

• YSI Professional Plus # 4133

• Turbidimeter #2

• YSI Tiger #2

1000 Onsite for LF Sampling (x2) AB

- Set up traffic control

Well ID	DTW	DTB	Dia.	Sampled	Notes
B-101	17.91	24.61	2"	1132	0.0 ppm
B-104	18.63	25.57	2"	1252	0.2 ppm
DUP-1	—	—	—	1139	—
DUP-2	—	—	—	1302	—
Trip Blank NB	—	—	—	0800	—

• Geopump # 011301 → 0-3/4 max speed doesn't work

1350 Offsite (AB)

Alex Gagnon p.1/1

Scale: 1 square = _____

YSI MULTIPARAMETER METER

Serial No.: BJ100186 Model No.: YSI Professional Plus Decal No.: 4133
 Site Name: Northall Bridge Job No.: 280BS02090

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #s)	Signature	Remarks
Cond. mS/cm mS/cm		1413	1480		AC	
pH=4.0		3.99	4.38		AC	
pH=7.0		7.01	7.42		AC	
pH=10.0		10.02	9.99		AC	
D.O. mg/l / %		0.00	0.02		AC	
ORP mV		219.9	219.2		AC	
Temp C						
Baro. Press. mmHg						

DATE	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #s)	Signature	Remarks
Cond. mS/cm						
pH=4.0						
pH=7.0						
pH=10.0						
D.O. mg/l / %						
ORP mV						
Temp C						
Baro. Press. mmHg						

ATC Well Sampling Form - Page 1 of 2

Site Name/Location: Northfield Bridge Date: 10/05/21

Sample I.D.: B-101 MW Collection Time: 1132

Sampling Sequence: 1 of 2

EC S Field Staff Collecting This Sample: AB

Climatic Conditions (Temp/Precip): 50s - cloudy

Depth To Product: NP Feet Depth To Water: 17.91 Feet

Reference Point (TOC or other -Describe) TOC

Ref. Point Elev. Relative To Ground Surface (Use "+" For Aboveground, "-" For Belowground): _____ feet

Measurement Technique (WLM, IP or other -Describe) IP

Presence/Absence Of NAPL And Detection Method: ND

Total Depth Of Boring (Take Measurement After Sampling): 24.61

Well Yield: High X Low _____ Pumped Dry? _____

Final Water Appearance (At Sample Collection) Clear X Cloudy _____ Opaque _____

Sample Collected from (tubing, bailer, or other-describe) Tubing

Submitted For Analysis By (Method or Methods): VOCs, Total 8-RCRA Metals

Field Test Results (HACH Kits):

Alkalinity: NS Chloride: NS

Iron (II): NS Sulfate: NS

Notes: DUP-1 collected @ 1139

NP = No Product

ND = Not Detected

NS = Not Sampled

--USE REVERSE SIDE OF FORM FOR LOW FLOW SAMPLING PARAMETERS--

Low-Flow Well Sampling Form - Page 2 of 2

Location: Northfield Bridge Depth To 17.91 / 24.61 Of Screen (Below RP)
 Well Id: B-101 MW Top Bottom
 Field Personnel: AG Pump Intake Depth: 22.5
 Reference Point (RP - IOC or other-describe): TOC Pumping Device: Geopump - Peristaltic

Time (24 Hr)	Depth To Water (ft)	Purge Rate mL/min	Pump Speed	Cumulative Volume Purged (L)	Temperature °C	Specific Conductance (uS/cm)	pH	ORP/ eH (mV)	DO (Mg/L)	Turbidity (NTU)	Comments
1042	17.94	150	med	0.75	13.5	2750	7.08	71.3	0.39	14.2	clear, no odor
1047	17.94	150	med	1.5	13.8	2949	6.83	68.0	0.53	12.5	SAA
1052	17.94	150	med	2.25	13.9	3107	6.72	79.3	1.58	18.0	SAA
1057	17.94	150	med	3.0	13.9	3199	6.66	80.6	1.10	25.7	SAA
1102	17.94	150	med	3.75	13.8	3285	6.63	69.9	0.18	42.7	SAA
1107	17.95	150	med	4.5	13.8	3340	6.60	65.1	0.07	33.5	SAA
1112	17.95	150	med	5.25	13.8	3482	6.57	68.0	0.08	34.9	SAA
1117	17.95	150	med	6.0	13.8	3530	6.57	69.6	0.08	20.6	SAA
1122	17.95	150	med	6.75	13.9	3628	6.55	73.3	0.10	21.9	SAA
1127	17.96	150	med	7.5	14.0	3727	6.54	77.5	0.09	15.1	SAA
1132	17.9	150	med	8.25	14.0	3744	6.54	77.8	0.10	14.0	SAA

Notes:

Began pumping @ 1037, SAA = same as above

Sampled @ 1132, DUF-1 sampled @ 1139

ATC Well Sampling Form - Page 1 of 2

Site Name/Location: Northfield Bridge Date: 10/05/01

Sample I.D.: B-104 MW Collection Time 1252

Sampling Sequence: 2 Of 2

ATC Field Staff Collecting This Sample: AG

Climatic Conditions (Temp/Precip): 50s - Cloudy

Depth To Product: NP Feet Depth To Water: 18.63 Feet

Reference Point (TOC or other -Describe) TOC

Ref. Point Elev. Relative To Ground Surface (Use "+" For Aboveground, "-" For Belowground): _____ feet

Measurement Technique (WLM, IP or other -Describe) IP

Presence/Absence Of NAPL And Detection Method: ND

Total Depth Of Boring (Take Measurement After Sampling): _____

Well Yield: High X Low _____ Pumped Dry? _____

Final Water Appearance (At Sample Collection) Clear X Cloudy _____ Opaque _____

Sample Collected from (tubing, bailer, or other-describe) Tubing

Submitted For Analysis By (Method or Methods): VOCs, Total 8-RCRA Metals

Field Test Results (HACH Kits):

Alkalinity: NS Chloride: NS

Iron (II): NS Sulfate: NS

Notes: DUP-2 collected @ 1302

NP = No Product

ND = Not Detected

NS = Not Sampled

Sheen on purge water

--USE REVERSE SIDE OF FORM FOR LOW FLOW SAMPLING PARAMETERS--

Low-Flow Well Sampling Form - Page 2 of 2

Location: Northfield Bridge Depth To 18.68 Top 18.57 Of Screen (Below RP)
 Well Id: B-104 MW Pump Intake Depth: 23.5 Bottom
 Field Personnel: AK Pumping Device: Geopump - Peristaltic
 Reference Point (RP - TOC or other-describe): TOC

Time (24 Hr)	Depth To Water (ft)	Purge Rate mL/min	Pump Speed	Cumulative Volume Purged	Temperature °C	Specific Conductance (uS/cm) 3%	pH ±0.1	ORP / eH (mV) ±10	DO (Mg/L) 10%	Turbidity (NTU) 10%	Comments
1237	18.68	150	med	0.75	12.4	2419	6.80	-57.2	0.33	34.0	clear, strong odor
1242	18.69	150	med	1.5	12.3	2405	6.77	-66.1	0.08	19.2	SAA
1247	18.69	150	med	2.25	11.9	2402	6.77	-72.0	0.00	19.8	SAA
1252	18.68	150	med	3.0	12.2	2401	6.77	-75.0	0.01	18.2	SAA, sheen on purge H ₂ O
1257											
1302											
1307											
1312											
1317											
1322											
1327											

Notes:

Sampled @ 1252, Started purging @ 1232, Stabilized quickly
SAA = same as above
bvF-2 collected @ 1302
* Sheen on purge water
↳ well head air space = 0.2 ppm
 Last Update: Sep 2005