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August 7, 2023

Ms. Jo Anne Carr
Planning & Economic Development Director
Town of Jaffrey
10 Goodnow Street
Jaffrey, New Hampshire 03452

Subject: **DRAFT Phase II Environmental Site Assessment**
W.W. Cross Property
39 Webster Street
Jaffrey, New Hampshire
NHDES Site No. 198708007, Project No. 37735

Dear Ms. Carr:

This report has been prepared to present the results of a Phase II Environmental Site Assessment completed for the above referenced property (Site). This work was completed as a part of Jaffrey's EPA funded Brownfields assessment program to support future redevelopment of the Site. Sections 6 and 7 of the report include the conclusions and recommendations developed during the performance of the Phase II Environmental Site Assessment.

Please do not hesitate to contact me at (207) 232-5387 if you have any questions, comments, or require additional information regarding this investigation.

Sincerely,
CREDERE ASSOCIATES, LLC

Judd Newcomb, LG, PG
Geologist/Senior Project Manager

cc: Scott Drew, NHDES
Christine Lombard, EPA
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DRAFT Phase II Environmental Site Assessment

W.W. Cross
39 Webster Street
Jaffrey, New Hampshire
NHDES Site No. 198708007
Project No. 37735

Prepared for and Funded by:
Town of Jaffrey
10 Goodnow Street
Jaffrey, New Hampshire 03452

Prepared by:
Credere Associates, LLC



August 7, 2023

Project Tracking #: **21001639**

EXECUTIVE SUMMARY

Credere Associates, LLC (Credere) was retained by the Town of Jaffrey to conduct this Phase II Environmental Site Assessment (ESA) at the former W.W. Cross property located at 39 Webster Street in Jaffrey, New Hampshire (Site). The Town of Jaffrey funded this work from a U.S. Environmental Protection Agency (EPA) Brownfields Assessment Grant (Grant number: BF00A00997).

The Site comprises one 11.29-acre parcel identified as 39 Webster Street. The Site is improved with one 97,914-square foot commercial/industrial building. The building was built in 1915 and used as the W.W. Cross Factory, which manufactured tacks and fasteners for the upholstery, carpeting and shoe industries. In 2020, a fire impacted the building. The eastern and central portions of the building which were the most fire damaged have since been demolished. The condition of the building has continued to deteriorate since the fire and subsequent partial demolition.

A waste tack landfill is located on the east side of the site building. Two retaining ponds are located on the eastern end of the Site separated by an earthen berm. The remainder of the exterior portions are vegetated/wooded.

The primary purpose of this Phase II ESA is to complete the objectives identified in Credere's December 19, 2022, Site Specific Quality Assurance Project Plan (SSQAPP) in support of redevelopment planning for the Site. From January 1 to March 23, 2023, Credere executed the planned scope of work for the Site in accordance with the December 19, 2022, SSQAPP.

Credere executed the EPA and New Hampshire Department of Environmental Services (DES) approved SSQAPP from January 30 to March 24, 2023. The scope of work consisted of the drilling of 29 soil borings, collection of four composite surface soil samples from within a transformer pen, installation of 3 new groundwater monitoring wells, sampling of 13 groundwater monitoring wells (3 new and 10 existing), performance of an asbestos inventory, and collection of an additional 8 polychlorinated biphenyls (PCBs) building material samples.

Six of the 29 soil borings and one monitoring well inside the building were unable to be completed due to safety concerns over the stability of the building.

Findings of the Phase II ESA include the following:

- In general, the top 5 feet of soil encountered at the Site consisted of very fine to medium sand and silt, and some fine gravel. Sporadically throughout the Site anthropogenic materials, including layers of crushed asphalt, crushed concrete, and unknown fill material, were noted. Boring CA-SB-15 was observed to have multiple layers of anthropogenic materials from 3-10 feet bgs, including clinker and slag. It is unknown how much of the top 5-feet across the site is fill. Soil below 10-feet generally consisted of brown sand with some fine gravel and silt. Groundwater was encountered from 14 to 15 feet bgs.

- New Hampshire Soil Remediation Standard (SRS) exceedances of polycyclic aromatic hydrocarbons (PAHs) were identified in soil samples collected from CA-SB-02, CA-SB-03, and B117R. This area corresponds to the area of known creosote-type material impacts.
- NH SRS exceedances of PAHs were identified in CA-SB-18, CA-SB-22, and CA-SB-23. These soil borings were advanced to assess background conditions at the Site.
- Soil collected from CA-SB-14 (7.5-8) exceeds the cadmium NH SRS. This exceedance corresponds to a previously identified cadmium exceedance at this location within the plating area of the building.
- Exceedances of Ambient Groundwater Quality Standards (AGQS) for tetrachloroethylene (PCE) were identified in groundwater at MW-6D and MW-102. In addition, PCE and trichlorethylene (TCE) exceeded AGQS in upgradient, offsite MW-15I sampled by others.
- An exceedance of AGQS for 1,4-dioxane was identified in groundwater at MW-2 and MW-6D. Exceedances of per- and poly-fluoroalkyl substances (PFAS) were identified in groundwater at MW-203. Exceedances of cadmium were identified in groundwater at MW-102 and MW-6D, and lead in MW-6D.
- Previously untested asbestos containing materials (ACM) and supplemental sampling was completed, although no new asbestos was identified. Previously identified ACMs were confirmed to still remain in the building after the EPA removal actions, and where necessary the quantities of remaining ACM was updated.
- Additional suspect PCB-containing materials were identified and sampled. Three materials were identified above the 1mg/kg threshold to be regulated under the New Hampshire Solid Waste Rules and as an Excluded PCB Bulk Product Waste under TSCA if removed from use at the Site. Three samples required elevated reporting limits due to matrix interference of the sample material. Due to the elevated reporting limit, it is inconclusive if these materials exceed 1 mg/kg. These materials should be conservatively considered to contain a concentration of PCBs above 1 mg/kg but below 50 mg/kg, or resampled.

Based on the results of the Phase II ESA, the following conclusions were developed in relation to the objectives identified as part of the SSQAPP:

- Objective #1 – Further delineate the PCE plume previously identified at the Site in the eastern portion of the building area. This objective has been **ACHIEVED.**
- Objective #2 – Sample for 1,4-dioxane with improved data quality for further understanding of the comingled plume. This objective has been **ACHIEVED.**
- Objective #3 – Further delineate the horizontal and vertical extent of PAHs previously identified under and in the general area of the southwest portion of the Site building. This objective is **UNCOMPLETED**.

- Objective #4 – Further refine the horizontal and vertical delineation of cadmium below the former plating room pit/wastewater treatment area. This objective is **UNCOMPLETED.**
- Objective #5 – Inventory and update the map of ACM locations post the structure fire and EPA Removal Action, conduct addition asbestos sampling as warranted to comply with state regulations, sample potential PCB-containing building materials, and delineate previously identified lead in soil. This objective is **ACHIEVED**.
- Objective #6 – Assess the presence of the historical UST beneath the building. This objective has been **ACHIEVED.**
- Objective #7 – Assess surface soil surrounding the transformer pad for the presence of PCBs. This objective has been **ACHIEVED**.
- Objective #8 – Assess the broader areas of Site surface soils for general impacts related to historical industrial operations. This objective has been **ACHIEVED**.

Based on the conclusions of this Phase II Investigation, Credere makes the following recommendations:

- While GW-2 exceedances were documented in groundwater, best management practices dictate that a vapor mitigation system and/or vapor barrier should be installed in any new building constructed at the Site to prevent potential intrusion of PCE and 1,4-dioxane. If the current remaining building/foundations are to remain in place, vapor intrusion into the renovated building should be further evaluated through subslab vapor sampling.
- Further assessment of the extent of PAH impacted soil beneath the southwest portion of the Site building will need to be conducted once the building has been removed to further define the extent of impacted soil to the north and east of the known creosote-type soil impacts as well as further define the extent of impacts from the known cadmium identified in the plating room.
- Prepare an Analysis of Brownfields Cleanup Alternatives (ABCA)/Remedial Action Plan (RAP; or equivalent) to address contaminated soil and groundwater to below the SRS and AGQS, respectively.
- Based on results of this Phase II ESA, both the Groundwater Management Zones (GMZs) included in both Groundwater Management Permits (GMPs) for the nearby upgradient Elite Laundry site and W.W. Cross may need to be updated. These GMPs are currently being managed by others.
- The 20,000-gallon No. 6 oil AST and associated vermiculite insulation should be removed to facilitate further assessment of the subsurface in this area.
- During any building renovations or demolition, all identified ACM should be abated in accordance with the New Hampshire Code of Administrative Rules Chapter Env-A 1800 – Asbestos Management and Control.
- Identified excluded PCB Bulk Product Waste materials (i.e., with concentrations or laboratory reporting limits greater than 1 mg/kg but less than 50 mg/kg) can remain in

service; however, once removed will need to be disposed at a facility licensed to accept this waste material.

- Due to the presence of LCP within/on the Site building detected during previous investigations completed by others, LCP materials should be managed in accordance with the OSHA Lead in Construction Standards (29 CFR 1926.62) and proper worker notification be implemented.

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1. INTRODUCTION

Credere Associates, LLC (Credere) was retained by the Town of Jaffrey (Jaffrey) to conduct this Phase II Environmental Site Assessment (ESA) at the former W.W. Cross property located at 39 Webster Street in Jaffrey, New Hampshire (Site). Jaffrey used funding from a U.S. Environmental Protection Agency (EPA) Brownfields Assessment Grant (Grant number: BF00A00997) to conduct these assessment activities.

This Phase II ESA was completed in conformance with the ASTM International (ASTM) E 1903-21 Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process and with Credere's EPA and New Hampshire Department of Environmental Services (NHDES) approved Site-Specific Quality Assurance Project Plan (SSQAPP) dated December 19, 2022. A copy of the SSQAPP is included in **Appendix A**.

1.1 PURPOSE AND STATEMENT OF OBJECTIVES

This section was developed to provide clarity and transparency in communicating and interpreting Phase II ESA results. The primary purpose of this Phase II ESA is to complete the objectives identified in Credere's December 19, 2022, SSQAPP in support of redevelopment planning for the Site. The following are the objectives that were established to aid in designing the scope of work:

- Further delineate the tetrachloroethylene (PCE) plume previously identified at the Site in the eastern portion of the building area
- Sample for 1,4-dioxane with improved data quality for further understanding of the comingled plume
- Further delineate the horizontal and vertical extents of polycyclic aromatic hydrocarbons (PAHs) previously identified under and in the general area of the southwest portion of the Site building.
- Further refine the horizontal and vertical delineation of cadmium below the former plating room pit/wastewater treatment area
- Inventory and update the map of asbestos-containing materials (ACM) locations post structure fire and EPA Removal Action, conduct additional asbestos sampling as warranted to comply with state regulations, sample potential polychlorinated biphenyl (PCB)-containing building materials, and delineate previously identified lead in soil
- Assess the presence of the historical underground storage tank (UST) beneath the building
- Assess surface soil surrounding the transformer pad for the presence of polychlorinated biphenyls (PCBs)
- Assess broader areas of Site surface soils for general impacts related to historical industrial operations

2. BACKGROUND INFORMATION

2.1 SITE DESCRIPTION

The Site comprises one 11.29-acre parcel identified as 39 Webster Street. The Site is improved with one 97,914-square foot former commercial/industrial building. The building was built in 1915 and used as the W.W. Cross Factory, which manufactured tacks and fasteners for the upholstery, carpeting and shoe industry. In 2020, a fire impacted the eastern and central portions of the building which have since been demolished.

Paved parking areas are located to the southwest and west of the Site building. A grassy area is located directly east of the Site building that serves as a cap for a waste tack landfill, and two retaining ponds are located on the eastern end of the Site separated by an earthen berm. The remainder of the exterior portions are wooded.

The Site building is connected to Town of Jaffrey water and wastewater services, but they are not currently active. All other utilities have been disconnected to the Site.

2.2 SITE HISTORY

Site History

Prior to 1915, the Site was undeveloped with only a small pond. The Site was first developed with the original Site building (today the northernmost section) by W.W. Cross by 1924. The initial building configuration had the factory occupying the northeastern most portion of the building. By 1941, the Site building had been expanded to the south expanding the factory space and adding additional storage in the southwest. Factory space was further expanded by 1953. These additions created a building footprint similar to today.

By 1953, a boiler room was added to the west of the side building. Between 1955 and 1975, a separate aboveground storage tank (AST) structure was built adjacent to the boiler room. Between 1975 and 1999, an eastern portion of the building was demolished. By 2000, W.W. Cross had vacated the Site. Between 2007 and 2012, the building was used by various commercial businesses after being divided into tenant commercial spaces. On June 21, 2020, a five-alarm fire occurred at the Site severely damaging the eastern portion (roughly an eighth) of the building.

Surrounding Property History

The surrounding areas to the south and west have been a combination of undeveloped land, later developed into the American Legion Hall, and residential properties. By 1915, the surrounding area to the east was undeveloped land utilized by the W.W. Cross company as a "surface impoundment area". By 1982, this land was enclosed with fencing but is still undeveloped. Prior to 1915, the north of the Site was a railroad corridor and then developed property. By 1915, the Bean & Symonds Factory for woodworking had been constructed on the north side of the railroad tracks. By 1970, the woodworking factory has been removed and the property was vacant. By 1980, a retail shopping plaza had been constructed, which remains to the present day.

2.3 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

2.3.1 Offsite W.W. Cross Surface Impoundment

Surface Impoundment Early Correspondence and Post-Closure Plan, E.C. Jordan Co., 1982-1995

The surface impoundment related to prior Site operation is considered offsite under current property boundaries; thus, only a brief general history of the status of this portion of the W.W. Cross operations is provided.

Records related to the surface impoundment area date back to 1982 when discussions regarding the appropriate discharge of effluent from the factory began and Resource Conservation and Recovery Act (RCRA) permitting was initiated. Cyanide and other metals were present in the effluent being discharged via an overhead sluiceway to the lagoons, which required pretreatment and monitoring of groundwater around the lagoons to comply with EPA and NHDES RCRA regulations at the time. The decision was made to reroute effluent to the Jaffrey Wastewater Treatment facility with an approved pretreatment system. The installation of a pre-treatment system and subsequent rerouting of waste occurred in 1983.

After eliminating the effluent discharge to the lagoon, the lagoon required closure. The E.C. Jordan Co. post closure plan dated 1988 outlines procedures for long-term monitoring and maintenance of the closed surface impoundment east of the Site. This Plan was developed to supplement the E.C. Jordan Co. Filter Bed Closure Plan (July 1985). Documentation of the completion of remedial action was provided in Certificate of Closure dated 1987. The closure activity included excavation, removal, and disposal of sludge and contaminated soil, and backfilling, grading, and capping of the filter bed with a low permeability cap. The Post Closure Plan required groundwater and surface water monitoring under Groundwater Management Permits (GMP) GWP8810-45J and GWP-870807-J-001, and cover system monitoring and maintenance.

Groundwater was monitored with financial assurance provided through 2012 when additional soil characterization was done to assess conditions against current standards. NHDES issued a Discharge and Release of Notice of GMP on June 13, 2013, due to the decline of cyanide concentrations in monitoring wells installed in the surface impoundment to below the New Hampshire Soil Remediation Standards (SRSs) at the time.

2.3.2 Waste Tack Pile

Waste Tack Pile Investigation, Loureiro Engineering Associates, Inc., September 28, 1994

Loureiro Engineering Associates, Inc. (Loureiro) was retained by Black and Decker Corporation to conduct a subsurface investigation to assess the characteristics of the tack pile (where waste tacks and nails as well as spent kerosene were reportedly disposed). Tacks were reportedly constructed using primarily steel, with occasional batches of brass (copper/zinc alloy), aluminum and stainless-steel tacks.

Soil samples from seven test pits were collected to assess the nature and extent of environmental impacts related to the waste tacks. Sample results indicated the presence of volatile organic compounds (VOCs), primarily PCE, trichloroethene (TCE) and cis-1,2-dichloroethene (cis-1,2-DCE), petroleum, metals, and cyanide. No metals were present at concentrations characterizing this material as hazardous waste. This investigation confirmed the presence of contaminants in the tack pile but Loureiro concluded that additional investigation was needed to assess the horizontal and vertical extents of waste.

Supplemental Subsurface Investigation Report and Remedial Option Evaluation, Loureiro Engineering Associates, Inc., November 6, 1995

Loureiro conducted a supplemental subsurface investigation to delineate the horizontal and vertical extent of the tack pile and evaluate options for closure including the development of a remedial strategy for the cyanide contaminated material. It was estimated the tack pile comprised 4,500 to 5,500 cubic yards of material, which if removed would be considered a hazardous waste due to cyanide content.

Consolidation of materials outside the sloped area (i.e., nearest the building and near to the pump house) and construction of an impermeable capping system was chosen as the most cost-effective remedial option based on the data.

Hydrogeologic Investigation (Work Plan), Loureiro Engineering Associates, Inc., July 22, 1996

The work plan details the intention to install 13 groundwater monitoring wells, soil sampling and characterization, well development, groundwater sampling, surveying and collection of water-level measurements, and aquifer testing. Loureiro reportedly conducted a hydrogeologic investigation to assess the impact of the tack pile on groundwater at the Site. The results of the implementation of this work plan was incorporated into subsequent documents although a report detailing results from testing has not been identified.

Site Characterization Work Plan, Loureiro Engineering Associates, Inc., January 1998

Loureiro prepared this work plan to comply with NHDES Site Remediation Program. The work plan intended to:

- Assess the levels of cyanide contained through the tack pile
- Assess the extent of the gelatinous cyanide sludge wastes
- Install an additional groundwater monitoring well

This work is known to have been completed although a report detailing results from testing has not been identified.

Remedial Action Plan (RAP), Loureiro Engineering Associates, Inc., May 14, 1999

Loureiro prepared a Remedial Action Plan (RAP) for the closure of the tack pile which provides for:

- Removal of "blue gelatinous material" identified in the vicinity of TP-3
- Construction of a low permeability cap over the landfill
- Groundwater monitoring in accordance with the Groundwater Management Permit

Final Closure Plan, Loureiro Engineering Associates, Inc., July 2, 1999, Rev. August 16, 1999

The Final Closure Plan outlines specifications for the impermeable cap, groundwater and surface water monitoring requirements, cap maintenance and inspection, and documentation requirements. The excavation of the blue gelatinous material was completed in August 1999 and the tack pile cap was installed in December 1999.

GMP Renewal Application, November 30, 2000, and GMP, May 12, 2021, Loureiro

As part of the existing GMP renewal for the Surface Impoundment, addition of the tack pile monitoring requirements was recommended to meet the groundwater monitoring requirements of the RAP. The monitoring of the tack pile was incorporated into the revised GMP GWP-198708007-J-002, which was renewed most recently as GWP-198708007-J-006, and required monitoring of monitoring wells MW-2, MW-4S, MW-4D, MW-5S, MW-5D, MW-6D, MW-6S, MW-7, MW-14, MW-16S, MW-16M, MW-16D, MW-17S, MW-17D, MW-202A, and MW-202B, piezometer PZ-101A, and surface water locations SW-1, SW-3, and SW-4 in April annually with a few locations biannually. Analyses vary by location. The Groundwater Management Zone (GMZ) is depicted on **Figure 2**.

October 2002 through April 2021 Tack Pile Monitoring Results, Loureiro Engineering Associates, Inc.

Loureiro performed groundwater monitoring and an annual RCRA cover system inspection for the tack pile from issuance of the new GMP in 2000 through April 2021. The most recent results were reported on June 18, 2021, for the April 2021 event. Groundwater elevation data indicated groundwater flow was to the east, consistent with past data. It was noted that PCE concentrations have shown an apparent increasing trend based on trend graphs since 2016 in monitoring wells MW-6D and MW-2. Cadmium also shows an increasing graph trend in monitoring wells MW-6D, and a highly variable cadmium trend at PZ-101A. The following exceedances of the Ambient Groundwater Quality Standards (AGQS) remain as of April 2021:

- MW-2 1,4-dioxane
- MW-6S cadmium (below AGQS in 2021, but exceeded two prior rounds)
- MW-6D cadmium, sulfate, PCE, 1,4-dioxane
- MW-7 total cyanide
- PZ-101A cadmium, total cyanide

Based on the 2021 monitoring it was concluded that the Groundwater Management Zone and the current remedial action plan continue to be appropriate, although it was recommended that per-

and polyfluoroalkyl substances (PFAS) be included again in the 2022 monitoring event for wells MW-2, MW-6S, MW-6D, MW-7, MW-14, MW-17S, MW-17D, and MW-202A.

Pond Evaluation and Supplemental Surface Water Sampling, Loureiro, December 13, 2010

A pond evaluation was completed in 2010 to assess potential ecological risk related to cyanide and cadmium concentrations that have been consistently detected immediately adjacent to the pond in MW-6D and PZ-101A and within the pond surface water. Surface water samples were collected and biota were inventoried. The assessment concluded cadmium and free cyanide were below the water quality criteria in the pond but that downstream locations were above the criteria. There were little valuable ecological resources in the pond due to shallow depth and general lack of observed life. Based on the cumulative observed data, use of SW-5 or SW-2 at the discharge of the upper pond was recommended compared to SW-4.

Annual RCRA Cover Inspection Report, Loureiro Engineering Associates, Inc., June 18, 2021

This report submitted by Loureiro details the 2020/2021 annual RCRA cover inspections performed at the Site. Annual cap inspections of the closed former Tack Pile are required. The inspection concluded the tack pile cover was in good condition after removal of recently discarded tires from within the fenced area and replacement of signage.

Water quality monitoring was also evaluated to assess the effectiveness of the cap. It was assessed that groundwater quality at the Site is not considered to be negatively affecting water quality outside the GMZ and the Site is considered in compliance with the current requirements.

DES Response Letter, NHDES, July 12, 2021

The response letter from NHDES detailed their receiving of the April 2021 and 2020/2021 Annual Water Quality Monitoring Report, the Financial Assurance Mechanism Update Annual Post-Closure Cost Estimate 30-Year Interval, and the Annual RCRA Cover Inspection Report all prepared by Loureiro, as well as detailing some changes the NHDES requires to the Financial Assurance Mechanism Update.

2.3.3 Factory Area

Potential Aboveground Storage Tank Closure Violations, NHDES, January 25, 2017

The notice of findings from the NHDES details that an AST has been abandoned at the Site. Potential deficiencies were identified and information about the condition of the tank, and its future removal were requested.

Hazardous Building Materials Inventory, Ransom Consulting, Inc. September 22, 2017

Ransom Consulting, Inc. (Ransom) completed a Hazardous Building Materials Inventory (HBMI) for the Southwest Region Planning Commission (SWRPC) on behalf of the Town of Jaffrey, New Hampshire, for the Site. The HBMI included sampling for ACMs, a lead-based paint survey, field

screening and sampling of surficial soils and sampling for PCB-containing building materials, and a universal waste inventory.

The HBMI identified the following:

- ACMs were identified at the Site building
- Lead-based paint was identified at the Site building
- Elevated lead concentrations were detected during the field-screening and laboratory analysis of surficial soils tested from the "drip line" around the Site building perimeter.
- No PCB bulk product waste (i.e., building materials containing PCBs at concentrations equal to or greater than 50 milligrams per kilogram (mg/kg) under 40 CFR 761) was identified in the building materials tested
- Universal wastes were identified and inventoried at the Site

ASTM Phase I Environmental Site Assessment, Ransom Consulting, Inc., October 31, 2017

Ransom completed a Phase I ESA for the SWRPC on behalf of the Town of Jaffrey, New Hampshire, for the Site. This Phase I ESA was completed in accordance with ASTM International (ASTM) Standard Practice E 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for the purpose of environmental due diligence and identifying Recognized Environmental Conditions (RECs) at the Site. At the request of the users, the findings, conclusions, and recommendations are applicable to the western 40% of the Site which has been identified for possible sale and redevelopment. The eastern 60% of the Site contains known groundwater and soils regulated by the NHDES due to the presence of contamination from historical Site use and was excluded from the recommendations contained within the Phase I ESA.

Based on review of historical sources, environmental databases, interviews, User provided information, Site reconnaissance, and judgment by the Environmental Professional, the Phase I ESA identified the following RECs in connection with the Western 40% of the Site:

- *A non-compliant 20,000-gallon No. 6 oil AST is located in a cement block structure on the Site. The condition and volume of oil remaining in the AST, if any, is unknown and the ground surface below the tank could not be observed for staining related to a reported release of fuel oil. A release of vermiculite (presumed asbestos-containing) was noted on the ground surface adjacent to the cement block.* It should be noted that Credere conducted a site visit on July 22, 2022, and the AST structure could not be accessed to further observed conditions within the building.
- *Historically, an oil UST (size unknown) was located beneath the current central portion of the Site building. No records identifying the removal of this UST were identified during the course of the Phase I ESA, which would date to prior to 1941 when the building was expanded over the UST location. The historical presence of this UST and associated petroleum storage have the potential for adverse impacts to the Site soils and/or groundwater;*

- *Floor drains and sumps historically received process derived wastewater, including oil and hazardous materials (OHM), across the manufacturing/industrial portion of the Site building. Most of these structures were closed in place and have the potential to impact Site soils and/or groundwater beneath and adjacent to these drains/sumps.*
- *The detection of cyanide and/or PCE in groundwater samples from monitoring wells MW-14 and MW-2, including exceedances of AGQSs as recently as 2012 and/or 2014, could indicate the potential for unassessed or unidentified source areas, including areas on the western portion of the Site.*
- *A neighboring former drycleaning facility has adversely impacted groundwater on numerous parcels in the vicinity of the Site, including the detection of impacted groundwater above AGQS immediately abutting the Site and in an inferred upgradient position; the contaminated groundwater plume likely extends onto the Site.*

Ransom recommended a Phase II ESA at the Site, including the advancement of soil borings, installation of groundwater monitoring wells, and laboratory analyses of Site soils and groundwater to assess and evaluate the RECs and areas of environmental concern.

The Phase I ESA also identified the following RECs in connection with the Eastern 60% of the Site:

- *Groundwater contaminant concentrations for several wells with upward concentration trends over the past five to seven years, which may indicate additional possible source areas and subsequently corrective actions could be required in the future.*

The Phase I ESA also identified the following controlled RECs (CRECs) in connection with the Eastern 60% of the Site:

- *Waste tacks and other industrial wastes were deposited over the banking on the eastern portion of the Site from circa 1915 to the mid-1970s. As required by NHDES, targeted soils were excavated and removed from the Site, and adjoining soils were consolidated beneath an engineered cap in the unlined landfill. Access is restricted by fencing; disturbance of this area is controlled by a deed restriction, and groundwater and surface water impacts are monitored under a NHDES GMP.*
- *Untreated process derived wastewater was disposed of on the east abutting property via a surface impoundment area and pond system, from circa 1915 to circa 1981. Remedial efforts were conducted as required by the NHDES, sludge and shallow impacted soils were removed, the impoundment/filtration bed area (off-Site to the east) was capped and fenced. Groundwater and surface water impacts were being monitored under a NHDES GMP until 2013.*

Although not considered RECs, and assessed separately as the eastern and western portions of the building, Ransom identified the following potential environmental AOCs in connection with the Site buildings:

- *Given the unsecured nature of the Site building and the number of OHM containers that were observed to be remaining in the Site building, there is a threat of additional OHM releases.*
- *Additional investigations are necessary to assess whether petroleum and hazardous substance handling over many years of operation in loading/unloading areas may have resulted in releases of OHM in those areas.*
- *Additional investigations are necessary to assess whether potential releases of OHM from relatively high-risk properties located to the north and south have impacted groundwater quality on the Site.*
- *Given the suspect former PCB content of the units, soils adjacent to the fenced enclosure housing three pad-mounted transformers should be assessed for possible past undocumented releases of PCBs.*

Ransom also provided the following non-scope recommendations:

- *An HBMI is being conducted at the Site at the time of this report. Prior to any renovation or demolition, hazardous building materials must be abated/removed and disposed of as required.*
- *Assessment of the OHM containers remaining at the Site and their removal and disposal*
- *The 20,000-gallon No. 6 oil AST should be removed.*
- *Copies of potential agreements made between the historical responsible party, NHDES, and the current or past owners should be obtained and reviewed to assess what contractual limitations of liability and corrective action obligations may be available to a prospective purchaser.*

Site-Specific Quality Assurance Project Plan, Ransom Consulting, Inc., August 2018

Ransom completed a SSQAPP for a Phase II ESA. The SSQAPP detailed the sampling strategy, design, sample locations, analytical methods, and schedule for the work. The Phase II ESA performed by Ransom is detailed below.

Notification of Groundwater Quality Violation, Ransom Consulting, Inc., October 24, 2018

Ransom formally notified the NHDES of violation of the groundwater quality at the Site based on VOC detections analyzed as part of the Phase II ESA detailed below.

Phase II Environmental Site Assessment, Ransom Consulting, Inc., March 19, 2019

Ransom completed a Phase II ESA for the western 40% of the parcel for the SWRPC. To evaluate the RECs and potential environmental concerns identified in their October 31, 2017, Phase I ESA, the following areas of concern were developed:

- AOC 1 – Wastewater Disposal Systems (Drains and Sewer)
- AOC 2 – Former Plating Area

- AOC 3 – Former Fuel Oil UST Area
- AOC 4 – Inactive Fuel Oil AST Area
- AOC 5 – Facility Loading/Unloading Areas
- AOC 6 – Off-Site Sources

The Phase II ESA included advancement of soil borings (B1-B26) and the collection and analyses of soil samples, installation of eight monitoring wells, and the collection and laboratory analyses of groundwater samples. The following are the results of the Phase II:

- PAHs documented in the soil may be indicative of a release in the area of the non-compliant 20,000-gallon No.6 oil AST in that area (B5 and B22). Although there were no AGQS exceedances, VOCs were detected in the groundwater sample MW105.
- Evidence of petroleum was identified in the vicinity of the historical oil UST, but no violations of standards were documented.
- Floor drains and sumps that historically received process derived wastewater were confirmed to have resulted in release of cadmium in soil at location B2 and cyanide in groundwater at MW102, primarily associated with the plating area. PCE impacts to groundwater in MW102 and MW104 were also suspected be related to floor drains or an offsite source.
- Contaminated groundwater (cyanide and PCE) in monitoring wells located on the eastern portion of the Site (e.g., MW-14 and MW-2) that could indicate the potential for unassessed or unidentified source areas was confirmed based on similar contaminants detected further west beneath the building, particularly PCE in MW102 and MW104.
- Contaminants from a neighboring former dry-cleaning facility were undetermined

Additionally, PAHs were identified in the following three areas with unknown specific sources:

- Vicinity of B3 south of building
- B12 and B25 near southwest loading dock
- Along railroad on north side of the Site

Ransom recommended additional investigation work to further delineate the extent of the following:

- Cadmium, cyanide, and PCE impacts to soils and/or groundwater in proximity to the former plating and wastewater treatment areas near MW102/B2
- PCE impacts to groundwater surrounding MW104 and MW102
- PAH impacts to soil near B12 and B26 and naphthalene impacts to groundwater at MW108
- PAH impacts to soil in the area of the inactive No. 6 oil AST (B5 and B22)

Site-Specific Quality Assurance Project Plan, Ransom Consulting, Inc., May 14, 2019

Ransom completed a SSQAPP for additional investigation work to address recommendations. The SSQAPP detailed the sampling design, sample locations, analytical methods, and schedule for the work. The Supplemental Phase II ESA performed by Ransom is detailed in the subsection below.

Supplemental Phase II Environmental Site Assessment, Ransom Consulting, Inc., March 31, 2020

Ransom completed a supplemental Phase II ESA for the western 40% of the parcel for the SWRPC. To evaluate the additional recommended investigation from the March 19, 2019, Phase II ESA as listed above, the following AOCs were developed:

- AOC A – PCE impacts to groundwater
- AOC B – Further investigation of cadmium, cyanide, and PCE impacts
- AOC C – Delineation of PAHs in Soil/Further investigation of petroleum in groundwater

The Supplemental Phase II included advancement of soil borings (B101 – B115) and the collection and analyses of soil samples, installation of three additional monitoring wells, and the collection and laboratory analyses of groundwater samples. The following are the findings/conclusions of the Supplemental Phase II ESA:

- AOC A - Relatively low concentrations of dissolved PCE were inferred to be migrating onto the Site from the northwest based on the lack of PCE above the AGQS and presence of 1,2-cis-DCE in the upgradient wells, suggesting this area to be a downgradient lobe of a plume. This area of the Site is inferred to be separate from a low-level on-site plume with PCE and TCE impacts near MW102 and MW104. No residual PCE source area has been identified on the Site, although impacted groundwater from the onsite plume does slightly exceed the PCE AGQS.
- AOC B - No additional source areas for cadmium or cyanide were documented suggesting a localized source beneath the former plating room. A minor PCE source proximal to the former plating room and wastewater treatment area was inferred to likely be associated with past industrial operations.
- AOC C - The extent of PAHs (and VOCs in one location) in Site soils above SRSs has been delineated in shallow fill soils in the general area of the southwest corner of the building and was likely associated with creosote or coal tar type impacts to shallow soils. PAH impacts above SRSs were also noted in fill soils to the east of the inactive heating oil AST and were previously identified as proximal to a sewer manhole and in shallow surface soils along the north-abutting railroad corridor. No PAHs or VOCs impacts to groundwater exceeding AGQS were identified.

Ransom recommended the following based on the results of this Supplemental Phase II:

- Assessment of soils beneath the inactive heating oil AST in coordination with the removal and closure of that system
- Several additional borings to confirm the spatial extent of PAH impacted soils near the southwest portion of the building
- Additional assessment of the eastern 60% of the property including at minimum beneath the east portion of the building and adjacent to the electrical transformers
- Completion of a RAP consistent with the requirements of Env-Or 600, which could include monitoring of attenuation, management of soils in place under an AUR and/or limited soils removal and disposal
- Groundwater monitoring under a GMP will be required for impacts to groundwater above AGQS. An additional round of groundwater sampling is recommended to help clarify which wells should be included in future monitoring events.
- A soils management plan (SMP) should be completed and approved by NHDES for soils management during Site redevelopment.
- Appropriate pre-acquisition environmental due diligence and an application should be made to the New Hampshire Brownfields Covenant Program should be made to provide additional liability relief.

2.3.4 EPA Removal Action

The EPA became involved at the Site in 2021 due to the building fire which impacted a significant quantity of known asbestos-containing material at the Site and created a threat to public health. The following contains a summary of previous reports regarding the EPA work at the Site.

Pollution/Situation Report #1, EPA, October 27, 2021

The Pollution/Situation Report from EPA detailed their involvement with the Site after the June 2020 fire that damaged the building. As part of the EPA's involvement, approximately 100 cubic yards of ACM fire debris was observed at the Site because it posed a risk of migrating offsite to the nearby community. The work between October 25 to October 29, 2021, included the establishment of Site work zones and confirmation that all electrical lines and transformers were deenergized.

Pollution/Situation Report #2, EPA, November 8, 2021

From November 1 to 5, 2021, EPA finished setting up work equipment at the Site, removed all overhead de-energized cables and began consolidating ACM fire debris into piles.

Pollution/Situation Report #3, EPA, November 15, 2021

From November 8 to 12, 2021, EPA continued consolidating ACM fire debris, began structural stabilization of the north, west, and south footprint of the fire impacted areas of the building, and completed demolition of the western and southern extents.

Pollution/Situation Report #4, EPA, November 28, 2021

From November 16 to 19, 2021, EPA continued perimeter air monitoring and dust control measures, continued consolidating ACM fire debris, continued structural stabilization of the northern building and demolition everywhere else, and received T&D bids from subcontractors.

From November 22 to 24, 2021, EPA continued perimeter air monitoring and dust control measures, continued consolidating ACM fire debris, and completed demolition.

Pollution/Situation Report #5, EPA, December 14, 2021

From November 29 to December 10, 2021, EPA continued perimeter air monitoring and dust control measures, continued consolidating ACM fire debris, and coordinated with receiving waste facility and trucking company.

Pollution/Situation Report #6, EPA, January 3, 2022

From December 13 to December 17, 2021, EPA continued perimeter air monitoring and dust control measures, completed consolidation of ACM fire debris, and completed all demo and segregated all non-ACM material that will remain on site.

From December 20 to 22, 2021, EPA prepared the Site for the holiday shutdown.

Pollution/Situation Report #7, EPA, May 25, 2022

From April 8 through 10, 2022, EPA remobilized after the winter shutdown, continued perimeter air monitoring, and prepared ACM debris piles for load out.

From April 11 through 17, 2022, EPA continued perimeter air monitoring and dust control measures and loaded 19 trucks for disposal.

From April 18 through 21, 2022, EPA continued perimeter air monitoring and dust control measures and loaded 13 trucks for disposal and 6 trucks for scrap metal recycling.

From April 25 through 28, 2022, EPA installed a fence to limit access, conducted final cleaning of the Site and demobilized. The Site was officially demobilized on April 28, 2022.

2.3.5 Sitewide

Site-Specific Quality Assurance Project Plan, Credere, December 19, 2022

To aid in the execution of the Phase II ESA activities, Credere prepared an SSQAPP that described the Site conditions, established a preliminary conceptual Site model (CSM), defined the assessment's objectives, outlined proposed samples and justification, provided field activity methodology, and established the regulatory criteria for the Site. The scope and methodology outlined in the SSQAPP are summarized in **Section 3** of this report. This SSQAPP was reviewed

and approved by the EPA and NHDES prior to initiation of Phase II ESA field activities at the Site. A copy of the SSQAPP is included in **Appendix A**.

2.4 REDEVELOPMENT SCENARIO

The Site is intended to be redeveloped for likely a mixed-use scenario; however, specific design plans have not yet been developed. It is assumed the building will be demolished given the extent of the fire damage to the building and the subsequent building deterioration.

3. SCOPE OF WORK & METHODOLOGY

The following sampling program was developed to investigate environmental media at the Site and meet the objectives identified in **Section 1.1**. Sampling was conducted in accordance with Credere's EPA and NHDES approved December 19, 2022, SSQAPP, which is included in **Appendix A**. A photo log of field activities is included as **Appendix B**.

3.1 GEOPHYSICAL SURVEY & UTILITY CLEARANCE

Ground Penetrating Radar Systems Incorporated (GPRS) conducted a geophysical ground penetrating radar (GPR) survey to clear all proposed boring locations or subsurface utilities/obstructions. They also conducted a survey of the area where the historical UST is depicted as being located on the 1924 Sanborn Map to attempt to identify if the tank remains below the building slab.

3.2 SOIL BORING/HAND AUGER ADVANCEMENT & SOIL SAMPLING

Direct Push Borings
On February 6 and 7, 2023, New England Geotech of Jamestown, Rhode Island advanced soil borings B111R, B117R, CA-SB-01, CA-SB-02, CA-SB-03, CA-SB-04, CA-SB-05, CA-SB-06, CA-SB-07, CA-SB-14, CA-SB-16, CA-SB-18, CA-SB-19, CA-SB-20, CA-SB-21, CA-SB-22, CA-SB-23, CA-SB-24, CA-SB-25, CA-SB-26, CA-SB-27 at the Site. The rationale for each boring is as follows:

- Borings CA-SB-01 through C-SB-07 were advanced to 5 feet bgs to further delineate horizontal PAH impacts to soil from known creosote-type material releases. One sample was collected from each of these borings from 0-2 feet bgs.

- Boring CA-SB-14 was advanced to further delineate contamination identified below the former plating room and to further assess cyanide and cadmium that had been previously identified. Refusal was encountered at 8 feet bgs. One sample was collected from 7.5 to 8 feet bgs.

- Boring CA-SB-16 was advanced to further delineate identified PCE impacts at the Site. One sample was collected from the boring from directly above refusal.

- Borings CA-SB-18 through CA-SB-27 were advanced to 5 feet bgs to assess background metals and PAH concentrations across the Site. One sample was collected from each boring from 0-2 feet below any asphalt or concrete.
- Borings B111R and B117R were advanced to 10 and 5 feet respectively below ground surface (bgs) to vertically delineate PAHs at two locations previously documented to have the highest PAHs for correlation to visual observations. One (1) sample each was collected borings B111R and B117R from 6-8 feet and 2-4 feet bgs, respectively.

Soil borings CA-SB-08 through CA-SB-13 could not be completed due to safety concerns related to the stability of the already compromised building structure.

The above listed borings were advanced using a Geoprobe 7822DT track mounted direct-push drill rig. Soil cores were collected continuously using dedicated macrocore liners. The collected soil cores were individually logged, and any visual or olfactory evidence of contamination, if present, was noted. Collected soil was field screened for VOCs using a Thermo Environmental 580B PID equipped with a 10.6 eV lamp and calibrated to a 10 parts per million by volume (ppm_v) standard using isobutylene gas and a response factor of 1.0.

Hollow Stem Auger Borings
On March 1, 2023, Technical Drilling Services of Sterling, Massachusetts advanced soil borings CA-SB-15 and CA-SB-17 to further delineate identified PCE impacts at the Site. Hollow stem auger drilling was selected for these two borings to ensure the ability to install the 2" wells with proper sand pack. One sample was collected from each boring from directly above refusal. The borings were advanced using a Dietrich D50 track rig hollow stem auger drill rig. Soil cores were collected from borings in continuous 2-foot intervals using a decontaminated split-spoon sampler. Split-spoon samples were individually logged, and visual or olfactory evidence of contamination, if present, was noted. Collected soil was field screened for VOCs using a Thermo Environmental 580B PID equipped with a 10.6 eV lamp and calibrated to 10 ppm_v isobutylene gas standard with a response factor of 1.0.

Soil Sampling Analysis
For all collected soil samples, representative material was sampled directly from the split spoon or soil boring while wearing clean nitrile gloves. Soil samples collected for VOC analysis were sampled directly from the split spoon core to minimize loss of volatiles, using dedicated laboratory provided soil syringes. Soil collected for other analyses was homogenized in a decontaminated stainless-steel bowl before being placed in laboratory provided glassware.

Samples were sent to Absolute Resource Associates of Portsmouth, New Hampshire, a New Hampshire certified laboratory, under proper chain-of-custody and analyzed for the analytes listed below:

- CA-SB-01 to CA-SB-07 and B111R and B117R - PAHs, PCBs, and total petroleum hydrocarbons (TPH)
- CA-SB-14 - Cadmium and cyanide
- CA-SB-15, CA-SB-16 (including duplicate), and CA-SB-17 – VOCs
- CA-SB-18 – VOCs, PAHs, and RCRA 8 Metals
- CA-SB-19 – CA-SB-27 – PAHs and RCRA 8 Metals

Table 1 includes the sampling justification and the laboratory methods run on each sample. Descriptions of the materials encountered during drilling at each boring location are provided on

the soil boring logs provided in **Appendix C**. **Figure 2** shows the location of all borings completed during this Phase II ESA and those drilled during past phases of work.

3.3 COMPOSITE SOIL SAMPLING

Composite soil samples CA-CP-1 through CA-CP-4 were collected from 8-aliquots collected from 0-0.5 bgs on each side of the transformer pad to assess for the presence of PCBs in surface soil (see **Figure 2**). Representative material was sampled directly from the ground using appropriately decontaminated hand tools (hand auger and trowel) while wearing clean nitrile gloves. Soil from each of the 8 aliquots was homogenized in a decontaminated stainless-steel bowl before being placed in laboratory provided glassware. Samples were sent to Absolute Resource Associates of Portsmouth, New Hampshire for analysis of PCBs. Details of the soil sample locations are provided on the surface soil sample log in **Appendix C**. A summary of soil samples collected, and their specific justifications is provided in **Table 1**.

3.4 MONITORING WELL INSTALLATION AND GROUNDWATER SAMPLING

Soil borings CA-SB-15, CA-SB-16, and CA-SB-17 were completed as monitoring wells CA-MW-302, CA-MW-303, and CA-MW-304, respectively. They were installed to further delineate identified PCE and 1,4-dioxane impacted groundwater at the Site. Monitoring well CA-MW-301 was intended to be installed at CA-SB-14 as a deeper couplet with MW102. Refusal at CA-SB-14 was encountered at 8 feet bgs, which is consistent with the depth of MW102. No well was installed because the intended objective could not be achieved.

Wells were installed with 10 feet of 2-inch diameter 0.010-inch machine slotted PVC screen and enough solid PVC riser to reach the ground surface. The well annuli were filled with 0S Holliston (effective size of ~0.60 millimeters) washed silica sand, and a bentonite seal was installed above each screen. Wells were finished at the surface with flush mount bolt-down road box in a concrete pad. A summary of well construction details is provided in **Table 2**, and well construction logs are provided in **Appendix C**.

The newly installed wells were developed using over-pumping and surging methods. Wells were purged until the groundwater was visually clear with turbidity readings below 10 nephelometric turbidity units (NTUs) and at least three well volumes were removed.

3.5 MONITORING WELL SURVEY, WELL GAUGING, AND MONITORING WELL SAMPLING

Stadia Survey

On March 1, 2023, Credere conducted a relative elevation survey of the newly installed monitoring wells using the base of the electrical pole to the central south of the building as the benchmark with arbitrary elevation of 100 feet above mean sea level (AMSL). During the relative elevation survey, Credere measured the depth to groundwater in each monitoring well.

The top of casing well elevation data derived during the stadia survey was used to calculate relative groundwater elevations for each monitoring well and determine a groundwater flow direction for the monitoring well network. Results of the elevation survey, well gauging measurements, and calculated groundwater elevations are summarized in **Table 2** and a Groundwater Contour Plan is included as **Figure 3**.

Well Gauging and Groundwater Sampling

On March 23, 2023, static water levels in monitoring well CA-MW-302, CA-MW-303, and CA-MW-304 were gauged with an electronic interface tape capable of detecting the presence of groundwater and accumulations of free-floating hydrocarbons, if present.

On March 23 and 24, 2023, static water levels were measured and groundwater samples were collected from the newly installed monitoring wells CA-MW-302, CA-MW-303, and CA-MW-304 as well as pre-existing monitoring wells MW-102, MW-103, MW-105, MW-106, MW-108, MW-203, MW-2, and MW-6D. Groundwater samples were collected using low flow sampling methodology to minimize drawdown and provide representative groundwater samples. Groundwater was purged with a peristaltic pump. Purged groundwater was monitored continuously for temperature, pH, oxidation-reduction potential (ORP), specific conductivity, and dissolved oxygen (DO) using a multi-parameter meter and an in-line flow through cell. Turbidity was monitored separately using a turbidity meter. Readings were recorded at approximate five-minute intervals, or at a spacing to allow for a complete exchange of water through the flow through cell until parameters stabilized[*] over a period of three consecutive readings.

Groundwater samples were collected after stabilization at CA-MW-302, CA-MW-303, CA-MW-304, MW-102, MW-103, MW-105, MW-106, MW-108, MW-203, MW-2, and MW6D. A groundwater sample from MW-14 was not collected due to the presence of ice and snow prohibiting our ability to locate and access the well.

Groundwater samples were collected in order of decreasing volatility (i.e., VOCs, followed by 1,4 dioxane, metals, etc.). Samples were collected by filling laboratory provided containers directly from the pump tubing. Collected samples were placed on ice and submitted to Alpha Analytical of Westborough, MA for laboratory analysis under proper chain-of-custody protocols and were analyzed for VOCs, 1,4 dioxane, dissolved RCRA 8 metals, and cyanide. Samples CA-MW-302, CA-MW-303, CA-MW-304, MW-102, and MW-106 were also analyzed for PFAS.

Groundwater sampling logs are provided in **Appendix C**. Monitoring well locations are depicted on **Figure 2.**

3.6 ASBESTOS SAMPLING

On January 30, 2023, a potential ACM inventory utilizing the prior asbestos survey was performed to assess the materials that remain in place after the fire and EPA removal action. A New

[*] Stabilization criteria obtained from the U.S. EPA's *Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells*, Rev. September 19, 2017.

Hampshire Certified Asbestos Inspector performed the work. A copy of the Asbestos Inspector certification is included in **Appendix D**. The asbestos inventory was completed to identify any previously untested ACM as well as complete supplemental sampling to comply with State and Federal regulations and standard industry practice.

Eight (8) samples of suspect ACM were collected. One was a new material sampled in triplicate, and six were previously identified materials that had an additional sample collected to comply with regulations. The sampling was performed in accordance with NHDES Chapter Env-A 1800 – Asbestos Management and Control. Samples were analyzed by EMSL Analytical, Inc. of South Portland, Maine, using Polarized Light Microscopy (PLM) according to EPA Method 600/R-93/116. A summary of ACM samples collected from the Site is provided in **Table 5**.

3.7 PCB-CONTAINING BUILDING MATERIAL SAMPLING

On January 30, 2023, Credere surveyed the Site buildings to locate previously untested materials that were, based on Credere's experience, likely to contain concentrations of Toxic Substances Control Act (TSCA)-regulated PCBs exceeding the PCB bulk product waste criteria as defined by 40 CFR 761.3. This data would be used to properly manage any building materials containing PCBs during future renovations or demolition of the Site building.

A total of eight samples (CA-PCB-1 through CA-PCB-8) of suspect PCB-containing building materials were collected using dedicated disposable sampling tools. Credere collected 20 grams of each suspect material for analysis. The collected quantity of sample was confirmed with a digital scale at the time of sampling.

Collected samples were submitted to ARA for analysis of PCBs by EPA Method 8082 using Soxhlet extraction method 3540C. A summary of PCB-containing building material samples collected from the Site is provided in **Table 6**.

4. RESULTS

The following subsections present the regulatory criteria that the sample results were compared to along with a summary of analytical results obtained from field work portion of this Phase II ESA.

4.1 REGULATORY CRITERIA

Sample results were compared to the following applicable state and federal standards and/or guidelines.

Soil

Soil analytical results were compared to the current New Hampshire Code of Administrative Rules Chapter Env-Or 600 – Contaminated Site Management Table 600-2 SRSs and Appendix E Method 1 Soil Standards from NHDES RCMP.

Groundwater

Groundwater analytical results were compared to the current New Hampshire Code of Administrative Rules Chapter Env-Or 600 – Contaminated Site Management Table 600-1 AGQS and Table 2, Method 1 Groundwater Standards for NHDES RCMP for GW-2 standards.

Asbestos-Containing Materials

Laboratory analytical results for asbestos bulk samples were compared to the 1% limit specified in New Hampshire Chapter Env-A 1800 – Asbestos Management and Control.

PCB-Containing Building Materials

PCB-containing building material analytical results were compared to the TSCA Title 40 CFR Part 761.3 definition of PCB Bulk Product Waste threshold criteria [≥50 milligrams per kilogram (mg/kg)]. According to 40 CFR §761.20(a), materials with PCB concentrations ≥50 mg/kg require removal and proper disposal. Materials that contain total PCB concentrations <50 mg/kg are not regulated by TSCA for removal as long as they remain in use. However, when these materials are removed from use (e.g., during renovation or demolition), they must be disposed at a facility that is licensed to accept this waste in accordance with 40 CFR §761.61(a)(5)(i)(B)(2)(ii). Building materials with total PCBs at concentrations less than 1 mg/kg are unrestricted for future use and/or disposal (40 CFR §761.61(a)(4)(i)(A)).

4.2 GEOPHYSICAL SURVEY & UTILITY CLEARANCE

GPRS scanned the entire sawtooth room with a 3-foot grid to located the former UST. A maximum GPR depth penetration of 5-6-feet bgs was achieved, although metal grating walkways in the building did not allow for GPR penetration in all areas. No definitive anomalies the size of a UST were identified although an area of interest was marked out, a 4'x8' portion of the floor with a metal rim that appeared to be hollow. Documentation from GPRS is included in **Appendix F**. In

addition, GPRS scanned proposed soil boring locations in order to avoid contact with underground utilities during drilling and boring locations were adjusted as needed.

4.3 SOIL OBSERVATIONS AND SCREENING RESULTS

In general, the top 5 feet of soil encountered at the Site consisted of very fine to medium sand and silt, and some fine gravel. Sporadically throughout the Site anthropogenic materials, including layers of crushed asphalt, crushed concrete, and unknown fill material, were noted. Boring CA-SB-15 was observed to have multiple layers of anthropogenic materials from 3-10 feet bgs, including clinker and slag. It is unknown how much of the top 5-feet across the site is fill. Soil below 10-feet generally consisted of brown sand with some fine gravel and silt. Borings CA-SB-15, CA-SB-16, and CA-SB-17 were advanced to refusal, ranging from 18 to 19 feet bgs. Refusal was not encountered in any other borings other than CA-SB-14. Groundwater was encountered in borings CA-SB-15 and C-SB-16, (ranging from 14 to 15 feet bgs).

PID results in the borings were below ambient background levels. The following borings were noted to have evidence of contamination and/or fill materials:

- Boring B111R was noted to have a bituminous odor and slight sheen at approximately 5 feet bgs although an elevated PID reading was not noted.
- Boring B117R was noted to have a brown crushed fill material at approximately 3 feet bgs.
- Boring CA-SB-02 was noted to have asphalt at approximately 1 foot bgs.
- Boring CA-SB-14 was noted to have crushed concrete at approximately 3 feet bgs.
- Boring CA-SB-15 was noted to have crushed asphalt at approximately 4 feet bgs, crushed asphalt mixed with clinker and slag at approximately 7 feet bgs, and crushed concrete at approximately 8 and 10 feet bgs.
- Boring CA-SB-18 was noted to have crushed asphalt at approximately 2 feet bgs.

No other evidence of contamination beyond the known creosote type material was documented.

A summary of soil screening results and observations is provided in the soil boring logs included within **Appendix C** and in **Table 1**.

4.4 SOIL ANALYTICAL RESULTS

Soil analytical results are summarized in **Table 3**, and laboratory analytical reports are provided in **Appendix E**. Soil sample locations are shown on **Figure 2**. Note the parenthetical values following the sample location ID indicate the depth bgs (in feet) from which the sample was collected.

Volatile Organic Compounds

VOC compounds were not detected above laboratory reporting limits in any of the soil samples collected where VOCs were analyzed (i.e., CA-SB-15, CA-SB-16, CA-SB-17, and CA-SB-18).

Total Petroleum Hydrocarbons

TPH concentrations above the laboratory reporting limit were detected in soil samples CA-SB-02 (0.5-2.5) and CA-SB-03 (0.5-2.5); however, the detected concentrations were below the SRS.

Polycyclic Aromatic Hydrocarbons

PAH concentrations above the laboratory reporting limit were detected in soil samples CA-SB-01, CA-SB-02, CA-SB-03, B117R, CA-SB-18, CA-SB-20, CA-SB-21, CA-SB-22, and CA-SB-23. Soil analytical results exceeding NH SRSs are summarized as follows:

- CA-SB-02 (0.5-2.5): benzo(a)anthracene (3.9 mg/kg), benzo(b)fluoranthene (4.5 mg/kg), benzo(a)pyrene (3.7 mg/kg), and indeno(1,2,3-cd)pyrene (2.2 mg/kg)
- CA-SB-03 (0-2): benzo(a)anthracene (4.5 mg/kg), benzo(b)fluoranthene (4.0 mg/kg), benzo(a)pyrene (4.0 mg/kg), indeno(1,2,3-cd)pyrene (2.6 mg/kg), and dibenzo(a,h)perylene (0.91 mg/kg)
- B117R (2-4): benzo(a)anthracene (2.4 mg/kg), benzo(b)fluoranthene (1.6 mg/kg), benzo(a)pyrene (2.0 mg/kg), and indeno(1,2,3-cd)pyrene (1.0 mg/kg)
- CA-SB-18 (0-2): benzo(a)anthracene (3.0 mg/kg), benzo(b)fluoranthene (2.8 mg/kg), benzo(a)pyrene (2.8 mg/kg), and indeno(1,2,3-cd)pyrene (1.6 mg/kg)
- CA-SB-22 (0-2): benzo(a)anthracene (9.5 mg/kg), benzo(b)fluoranthene (8.7 mg/kg), benzo(a)pyrene (8.2 mg/kg), indeno(1,2,3-cd)pyrene (6.0 mg/kg), and dibenzo(a,h)perylene (2.1 mg/kg)
- CA-SB-23 (0-2): benzo(a)pyrene (0.96 mg/kg)

PCBs

PCB concentrations above the laboratory reporting limit were detected in soil samples CA-SB-02(0.5-2.5), CA-CP-1, CA-CP-2, and CA-CP-3. However, the detected concentrations were below its SRS of 1 mg/kg.

Metals

Arsenic, barium, chromium, and lead above the laboratory reporting limit were detected in all samples submitted for laboratory analysis and cadmium was detected in two locations. Soil results exceeding NH SRSs are summarized as follows:

- Cadmium was detected exceeding its SRS of 33 mg/kg in sample CA-SB-14 (7.5-8) (170 mg/kg).

Total Cyanide

Total cyanide was not detected above laboratory reporting limits in the one soil sample [CA-SB-14 (7.5-8)] submitted for analysis.

4.5 GROUNDWATER WATER ANALYTICAL RESULTS

Groundwater analytical results are summarized in **Table 4**, and laboratory analytical reports are provided in **Appendix E**. Monitoring well locations are shown on **Figures 2 and 3**. Results are shown in **Figure 4** and broken down by analysis below:

Volatile Organic Compounds

VOCs were detected above laboratory reporting limits in samples MW-2, MW-6D, MW-102, MW-103, MW-203, CA-MW-302, CA-MW-303, and CA-MW-304. Groundwater analytical results exceeding NH AGQSs include the following:

- MW-2: 1,4-dioxane [1.59 micrograms per liter (µg/L)]
- MW-6D: PCE (7.3 µg/L) and 1,4-dioxane (0.382 µg/L)
- MW-102: PCE (5.5 µg/L)

Per- and Polyfluorinated Alkyl Substances

Per- and polyfluorinated alkyl substances (PFAS) were detected above laboratory reporting limits in samples MW-203, CA-MW-302, CA-MW-303, and CA-MW-304. Detected concentrations were above the AGQS in the following:

- MW-203: perfluorooctanoic acid (PFOA; 0.0127 µg/L), and perfluorooctanesulfonic acid (PFOS; 0.018 µg/L).

RCRA 8 Dissolved Metals

Dissolved metals were detected above the laboratory reporting limits in the following samples MW-2, MW-6D, MW-102, MW-103, MW-203, CA-MW-302, CA-MW-303, and CA-MW-304. Groundwater analytical results exceeding NH AGQSs are summarized as follows:

- Cadmium in samples CA-MW-102 (63,970 µg/L) and MW-6D (19.13 µg/L)
- Lead in sample MW-6D (16.2 µg/L)

Cyanide

Cyanide was detected above the laboratory reporting limits in the following samples MW-6D, MW-203, and MW-302. However, all detected concentrations were below the AGQS.

4.6 ASBESTOS SAMPLING RESULTS

Results of the asbestos building material survey are summarized in **Table 5** and the laboratory report is provided in **Appendix E** (Note: samples collected during the 2017 HBMI as well as an updated list of remaining ACM after the partial building demolition conducted by the EPA are detailed in **Section 5.5**). Asbestos was not detected in any of the samples collected during this Phase II ESA. **Figure 6** shows the location of each laboratory analyzed sample.

4.7 PCB-CONTAINING BUILDING MATERIALS SAMPLING RESULTS

Results of the PCB containing building material sample are summarized in **Table 6**, and the complete laboratory analytical report is included in **Appendix E**. The PCB material sampling locations are shown on **Figure 6**.

PCB concentrations in samples CA-PCB-3, CA-PCB-4, and CA-PCB-7 were detected above the 1 mg/kg threshold to be regulated under the New Hampshire Solid Waste Rules and as an Excluded PCB Bulk Product Waste under TSCA if removed from use at the Site.

Laboratory results indicate that samples CA-PCB-1, CA-PCB-2, and CA-PCB-8 required elevated reporting limits due to matrix interference of the sample material. Due to the elevated reporting limit, it is inconclusive if these materials exceed 1 mg/kg. This matrix interference can suggest that the material is a fully dissolves and "gels" with the solvent during extraction. Due to the elevated reporting limit, these materials should be conservatively considered to contain a concentration of PCBs above 1 mg/kg but below 50 mg/kg, or resampled.

No samples contained PCB concentrations exceeding the TSCA Bulk Product Waste criteria of ≥50 mg/kg.

4.8 DATA USABILITY ASSESSMENT

The contracted laboratories, ARA and Alpha, provided analytical data in accordance with Credere's Generic Quality Assurance Project Plan (QAPP, RFA#19043, rev. 1). ARA and Alpha provided the following information in their analytical reports:

- Data results sheets
- Method blank results
- Surrogate recoveries and acceptance limits
- Duplicate results/acceptance limits
- Spike/duplicate results/acceptance limits
- Laboratory control sample (LCS) results
- Description of analytical methods and results
- Other pertinent results/limits as deemed appropriate

As outlined in the SSQAPP, at the completion of the field tasks and upon receipt of the analytical results, a data usability analysis was conducted to document the precision, bias, accuracy, representativeness, comparability, and completeness of the results. The complete Data Usability Assessment (DUA) is included in **Appendix G**.

In general, the data reviewed for this project are usable for making project decisions. Data are considered representative with regard to the sample design. Qualified results were reviewed

relative to the associated comparison criteria to assess if bias impacts the usability of decisions to be made with the results. Qualified results were not in proximity to a respective standard and the usability was not impacted by any qualifications.

Data were also reviewed with regard to the data quality objectives (DQO). Reporting limits were sufficiently lower than the regulatory criteria (with the exception of PCBs as discussed above) and the DQOs are considered met.

5. UPDATED CONCEPTUAL SITE MODEL

An initial CSM was developed for the SSQAPP based on findings from the Phase I ESA. This updated CSM includes a description of the physical setting of the Site, chemicals of potential concern (COPCs), the extent of contamination, exposure pathways, and potential human and environmental receptors, based on the findings of this Phase II ESA.

5.1 SITE DESCRIPTION

A detailed Site description including the physical location, current Site use, and existing Site utilities, is included in **Section 2.1**.

5.2 SITE HISTORY

A description of the history and potential environmental impact at the Site is included in **Section 2.2**.

5.3 PHYSICAL SETTING

Topography

According to the topographic map, the Site is located approximately 990 feet above mean sea level (AMSL). Based on Credere's Site observations, and the United States Geological Survey (USGS) Topographic Map of the Monadnock Mountain Quadrangle, topography at the Site and vicinity in non-paved areas slopes downgradient to the east southeast. An excerpt from the USGS map is included as **Figure 1**.

Geology

Surficial Geology

Surficial geology at the Site was observed during prior environmental investigations to consist of fine to medium sands, with little fine to medium gravels and silt. Soil density and cobbles were noted to increase with depth. Overburden thickness ranged on average between 10-12 feet bgs throughout the Site. Shallower refusal was encountered in some locations, particularly beneath the building; however, it is unknown if these shallower refusals were geologic refusal or related to limitations on the drilling equipment used for interior borings. Borings intended to assess this limitation during this Phase II ESA could not be completed due to the structural instability of the building. A creosote type material was noted as a "thin black layer" with creosote odor, and a lens of black in some soils around the southwestern corner of the building.

Soil encountered during this Phase II ESA was observed to consist of dry, fine to medium sand and silt with little fine gravel with occasional fill and debris, including crushed asphalt, crushed concrete, clinker, and slag, observed in areas adjacent to the building.

Bedrock Geology

According to the Bedrock Geologic Map of New Hampshire, the Site is underlain by Spaulding Tonalite, weakly foliated to non-foliated, spotted biotite quartz diorite, tonalite, granodiorite, and granite. Previous work did not investigate bedrock.

Refusal on bedrock was confirmed during advancement of borings CA-SB-15 and CA-SB-16 in the eastern portion of the Site at 18 feet bgs during this fieldwork.

Hydrology

The Site and vicinity are located within the surficial drainage basin of the Cheshire Pond to the northeast of the Site. An unnamed stream flows north into the two onsite ponds on the eastern end of the Site, and then north out of those ponds into Cheshire Pond. Cheshire Pond empties into the Contoocook River, which flows south to the Mountain Brook Reservoir. Surface water likely infiltrates the ground in vegetated areas of the Site, and excess surface water likely flows overland to the onsite ponds.

During prior investigations, depth to groundwater for the wells ranged between ~3 to ~10 feet bgs, with the shallowest depth to groundwater observed in MW-106, in the western portion of the Site; 20-25 feet bgs near to the eastern end of the building (MW-2 and MW-14); and only 4 to 7 feet bgs east of the tack pile and adjacent to the ponds (MW-5 and MW-6).

During this investigation, depth to groundwater for the wells ranged between ~1.5 to ~25 feet bgs with the shallowest depth to groundwater continuing to be observed in MW-106 in the western portion of the Site (1.44 feet bgs), 25.11 feet bgs in MW-2 near the eastern end of the building, and 5.32 feet bgs east of the tack pile and adjacent to the ponds (MW-6D).

Calculated groundwater elevations from the cumulative round of groundwater measurements collected on March 23-24, 2023, were used to infer the groundwater flow direction to the east-southeast. A groundwater contour map is provided as **Figure 3.**

5.4 SOURCE AREAS & CURRENT CONTAMINANTS OF POTENTIAL CONCERN

Based on the results of this Phase II ESA, the current source areas and COPCs for the Site are identified below.

Source Areas

The following source areas have been identified at the Site:

- Tack pile landfill
- CVOCs and 1,4-dioxane upgradient of tack pile
- Creosote – type material identified in the general area of the southwest corner of the Site building.
- Former plating room/wastewater treatment area in the center of the building.

- Historical industrial operations at the Site (site-wide)
- Offsite PCE plume that extends onto the Site from the west
- Current 20,000-gallon No. 6 fuel oil AST/building
- Site building components/hazardous building materials

Contaminants of Potential Concern

Based on the recent and historical findings above source areas, current COPCs include the following:

- Chlorinated VOCs (CVOCs), i.e., PCE and daughter products
- 1,4-Dioxane
- PAHs
- Metals (particularly cadmium & arsenic)
- Cyanide
- Total petroleum hydrocarbons (TPH)
- PFAS
- Asbestos
- Lead

PCBs were not detected above the SRS in the locations of creosote/oil that were suspected to possibly contain PCBs. Therefore, PCBs are dismissed as COPCs.

5.5 NATURE AND EXTENT OF CONTAMINATION

Based on the findings of this Phase II ESA of the Site, the extents of COPCs are summarized below:

Tack Pile Landfill

During historical Site operations the tack pile was created where waste tacks and nails as well as spent kerosene was reportedly disposed of. Prior environmental assessments identified the presence of CVOCs, petroleum, metals, and cyanide within the tack pile. Cyanide was identified sporadically within the tack pile and at concentrations that would characterize the waste as hazardous waste. Efforts to delineate the cyanide proved successful. In 1999, portions of the cyanide impacted areas of the tack pile were excavated for offsite disposal, and the remainder of the tack pile was remediated through consolidation and the installation of an impermeable cap. The extent of the tack pile is shown on **Figure 2**.

CVOCs, cadmium, and cyanide are documented to have leached from the tack pile to monitoring well MW-7 located on the southern extent of the tack pile (cyanide) and MW-6S and MW-6D (cadmium and PCE) in the downgradient position. MW-7 cyanide concentrations have remained

relatively consistent with only a slight increase over time. Despite the impermeable cap, concentrations of cadmium and PCE have been increasing since approximately 2014, particularly in the monitoring well MW-6D deeper interval well. In March 2023 cadmium and PCE were noted to have decreased since 2021 (cadmium decreased from 26.57 µg/L to 19.13 µg/L, and PCE decreased from 16 µg/L to 7.3 µg/L) although they are still over the AGQS. The increasing concentration suggests horizontal storm water infiltration and/or groundwater flow through the tack pile may be contributing to migration. Lastly, PCE is also present in the upgradient monitoring well MW-2 and other wells beneath the mill building, indicating another contributing source of CVOCs may be present, which is further discussed in the following CVOC section. Data supporting this discussion is summarized on **Figure 5** along with the extent of current AGQS exceedances for cyanide, PCE and 1,4-dioxane.

The piezometer, PZ-101A, in the pond adjoining monitoring wells MW-6S/6D contains elevated concentrations of cadmium and periodic spikes of cyanide. It is assumed this piezometer is sampling pore water within pond sediment that is discharging from groundwater to the pond. Concentrations are generally similar to those in monitoring well MW-6D. Cyanide concentrations at the piezometer are higher, but these concentrations may be the result of periodic elevated turbidity in the samples. An ecological risk assessment completed in 2010 concluded there was little valuable ecological resources in the pond due to depth and general lack of observed life; therefore, ecological exposure in the ponds was not a concern. However, the sediment in the ponds has not been assessed to date to determine the presence of potential cyanide that may be contributing to the spikes in pore water results. There is no current human exposure to pond sediments as they are overgrown and generally inaccessible; therefore, sediment does not warrant additional assessment at this time. However, any future redevelopment that may impact these ponds would warrant assessment.

The tack pile also has the potential to contribute CVOCs to soil vapor. No vapor assessment has been done to date at the Site. As there are no buildings currently present over the tack pile and since the tack pile would not likely structurally support any future building, there is no exposure to vapor specifically at the tack pile. Vapor in the adjoining building will be discussed in the following general CVOC section.

Biannual groundwater monitoring since 2002 indicates exceedances of AGQS of 1,4-dioxane, cadmium, sulfate, PCE, and total cyanide in various wells including MW-2, MW-6S, MW-6D, MW-7, and the piezometer PZ-101A. Recent groundwater results and historical maximum concentrations of this groundwater monitoring are summarized on **Figure 5**. Despite the apparent increasing concentrations, the tack pile cap inspections indicate the cap is intact and preventing exposure to the tack pile contents and ongoing monitoring has been compliant with the GMP. Therefore, no further assessment of this area beyond the continued monitoring under the GMP is warranted at this time.

CVOCs and 1,4-Dioxane Upgradient of Tack Pile

Prior environmental assessment at the Site has identified PCE in groundwater above the AGQS in wells beneath the central and eastern portion of the building (MW102 and MW104), east of the

building (MW-2) and was detected (below AGQS) in the upgradient Site position (MW106, MW101, and MW201). Historically, MW-15I also had elevated PCE (most recently 17 µg/L) and TCE (6 µg/L) in May 2022 (see July 2022, Annual Groundwater Summary Report for the Former Elite Laundry Site). Based on the differing historically detected CVOCs between MW-15I, MW105 and MW106 (PCE, TCE and cis-1,2-DCE), and the eastern portion of the Site (MW102, MW104 and MW-2 where only PCE is detected), these are believed to be separate sources of CVOCs with a plume near MW15I coming from an offsite source, and the other originating beneath the Site building. Though, MW105 and MW106 did not contain detection of CVOCs during the 2023 sampling round so these results do not further confirm this CSM. Data supporting this discussion is summarized on **Figure 4.**

The offsite source is suspected to be either the neighboring former drycleaner to the northwest, Elite Laundry, or the neighboring wood working shop previously located to the adjacent north. The presence of cis-1,2-DCE (although below AGQS) at MW-15I suggests dechlorination in the downgradient extent of this plume. No vinyl chloride or TCE was detected.

The onsite source is likely the previously detailed plating room, or another unidentified source area below the building related to historical operations. Onsite monitoring wells indicate a source of CVOCs containing PCE and trace TCE (2018 only) is present, with no cis-1,2-DCE suggesting the wells are located closer to the CVOC source or are associated with a less attenuated source. PCE has been detected in soil at only trace concentrations at B3, B14, and B110 along the southern side of the building, no PCE was detected in the newly collected samples as part of this Phase II ESA. PCE in B14 corresponds to elevated PID readings (125 ppm), but PID readings were <1 ppm in B3 and B110. No VOCs were detected in soil in the two well locations despite PID readings (171 ppm max in B2/MW102 and 17 ppm B21/MW104) in those borings. The plume was further refined through installation and sampling of CA-MW-302, CA-MW-303, and CA-MW-304 in/outside the eastern portion of the building, which contained detections of PCE ranging from 1.4 to 3 µg/L that are below the AGQS. Therefore, the PCE plume appears limited to the plating room area (MW102), extending east through MW104 and then flowing through the tack pile with additive PCE before reaching the highest concentration in the downgradient MW-6D location. The approximate extent of this PCE plume originating form the Site is shown on **Figure 5**.

1,4-dioxane was an increasing concentration in MW-2 and MW-6D with an increase to above the AGQS in recent years (since 2019) in these two wells. This Phase II ESA investigation found MW-2 and MW-6D had a decrease in concentrations although still above the AGQS. Monitoring wells in the western portion of the Site did not detect 1,4-dioxane except for in CA-MW-303, below the eastern portion of the building, which was below the AGQS. As the highest 1,4-dioxane concentrations do not correlate to the PCE highest concentrations (e.g., 1,4-dioxane was not detected in the upgradient-most location MW102 and MW104), the 1,4-dioxane plume does not appear to correlate to the CVOC plume. Although there is no known source, the existing well network delineates 1,4-dioxane concentrations above the AGQS. The approximate extent is shown on **Figure 4**.

CVOC concentrations identified to date do not exceed the GW-2 standards that would indicate concentrations high enough to attenuate/migrate to indoor air. As the building is not currently occupied nor is it expected to be redevelop-able in its current condition, exposure to vapor would be limited to a future redevelopment.

Creosote Type Material – PAHs

An area of creosote-type soil impacts below and outside the southwestern portion of the building corresponds with identified PAH detections in soil. Previously, the boundaries of this material had been partially delineated; however, the horizontal extents to the west, north, south, and particularly the southeast of the building, had not been defined. The highest concentrations focus around B111 and B117 at the surface (0-2 feet bgs). The vertical extent of this material is delineated with analytical data and can generally be assumed to be visually delineated from prior boring logs documenting a transition from fill materials to tan soil between 2 to 5 feet bgs. It is noted, however, that PAHs above the SRS were identified at B117R from 2-4 feet bgs. As part of this investigation, the southeastern boundary of the material has been delineated by PAH results below the SRS in samples from CA-SB-04 through CA-SB-07. The southwestern boundary remains a data gap as although no creosote-type material was visually identified in CA-SB-02 and CA-SB-03, TPH was identified below the SRS and PAHs over the SRS were identified. No soil sampling was conducted in the southernmost boring B7. The vertical extent of this material at B117R also remains a data gap.

The northern extent of the delineation also remains a data gap as borings CA-SB-08 and CA-SB-09 were unable to be completed due to structural instability of the building. These locations should be further evaluated following building demolition or repair.

PAHs have an affinity to bond to soil and do not readily dissolve in water or volatilize in air; therefore, migration to groundwater or soil vapor is not currently considered a concern for this release area.

Plating Room

A plating and wastewater treatment room was located in the center of the Site building. A release of cadmium was previously identified in soil at location B2 (253 mg/kg). Cadmium was identified at this same location, CA-SB-14 (170 mg/kg), during this Phase II investigation, which was intended to confirm the vertical thickness of overburden/refusal beneath this location. Most notable, cadmium was detected in groundwater in MW102 during the 2023 sampling round at a concentration of 63,970 µg/L, which is four orders of magnitude above the AGQS and previously detected concentration. Confirmation of this concentration remains a data gap; however, this concentration has been adequately delineated to this well based on surrounding groundwater concentration.

Cyanide was previously identified in groundwater at MW102, although not during this investigation. Soil at the corresponding boring B2 had no identified cyanide. Previous investigations generally indicate cadmium is horizontally confined to the one B2 location within the plating room.

As borings CA-SB-10, CA-SB-11, CA-SB-12, and CA-SB-13 were unable to be completed due to structural instability of the building, a more refined delineation to support remedial planning is still considered a data gap that should be completed after removal of the building. The current extent of cadmium is shown on **Figure 4**.

Arsenic was identified above the SRS at B18, and is delineated by B19 to the east, and B1 and B2 to the north. The extent to the southwest and south remains a data gap (CA-SB-05 and CA-SB-06 were not sampled for arsenic). Without a known source, arsenic is anomalous in this location relative to other results across the Site.

General Historical Operations

On Site Ponds

Throughout the active industrial history of the Site, two ponds have existed on the Site. These ponds sit between the Waste Tack Pile, and the (offsite) surface impoundment area to the east that received wastewater prior to the 1980s. In the 1940s the wastewater sluiceway berm had been constructed, which bisected the two ponds, and emptied into the offsite impoundment area. The sluiceway was reportedly open with the potential to overflow, particularly if it was backed up or clogged, which would have released to the ponds. The pond sediment represents a data gap with potential impacts to both site soils and groundwater. As discussed above, an ecological risk assessment concluded there was little valuable ecological resources in the pond due to shallow depth and general lack of observed life; therefore, ecological exposure in the ponds is not a concern. However, the sediment in the ponds has not been assessed to date to determine the presence of potential contaminants related to historical operations. There is no current human exposure to the pond sediments as they are overgrown and generally inaccessible and do not warrant assessment at this time; however, any future redevelopment that may impact these ponds would warrant further assessment.

Historical UST

During past historical record review, an oil UST of unknown size was identified below the current day central portion of the Site building (see **Figure 2**). Prior environmental assessment has not identified petroleum contamination associated with this historical UST. During a GPR survey completed as part of this investigation, a historical UST or a tank grave was not identified and previous borings in this area did not identify evidence of contamination. .

Current 20,000-gallon No. 6 oil AST

A non-compliant 20,000-gallon No. 6 oil AST has been identified onsite contained within a cement block structure. The condition of the AST, condition and material of the flooring, and volume of any oil remaining are all data gaps. This building is listed as containing a large quantity of loose vermiculite insulation which has been identified as asbestos-containing. Analytical results from prior soil borings/monitoring wells B5/MW105, B22, B114, and B115 indicate minor petroleum constituents in soil and groundwater; but no evidence of a significant release from the AST or identified concentrations above the SRS or AGQS with the exception of marginal exceedances of

PAHs in B5 and just benzo(a)pyrene in B22. Based on these results, no further assessment of the AST vicinity is warranted; however, the AST will require proper decommissioning as part of redevelopment.

Transformer Pen

A transformer pen is located southeast of the Site building. Two large transformers remain onsite that are labeled to contain 204 gallons of No. 10-C transformer oil analyzed to contain less than 50 parts per million PCBs. More modern transformers are labeled to contain less than 1 ppm PCBs; therefore, this label is presumed to mean the oil was replaced from a prior PCB type either as a result of a leak or general maintenance, with oil less than 50 ppm or that the oil may contain PCBs between 0 and 50 ppm. In either case, there is potential for the oil to contain PCBs that would be regulated by EPA and/or NHDES if released to surrounding soil.

Based on the age and condition of the transformers, and the potential for the transformer oil to have been replaced, there is the potential for a leak or spills of PCB-containing transformer oil to have occurred over time. Additionally, since the mill operated dating back to the 1920s, older PCB-containing transformers that were replaced may have preceded these transformers. PCB results of composite soil samples identified concentrations at CA-CP-1, CA-CP-2, CA-CP-3, and CA-CP-4 (as represented by the duplicate result), although all were below the SRS.

PCBs typically sorb to soil, and with limited migration other than by foot traffic in and out of the transformer pen, and/or wind dispersion, would most likely be confined to the pen. As PCB's generally are not soluble unless at very high concentrations, migration of PCBs to groundwater is not anticipated at this time.

PFAS

PFAS were detected in groundwater samples collected from MW-6S and MW-7 on the eastern portion of the Site as part of the April 2021 monitoring event. PFAS were also detected in groundwater samples collected from MW-203, CA-MW-302, CA-MW-303, and CA-MW-304. Concentrations marginally above the AGQS were identified at MW-203 in the center of the Site. Where PFAS doesn't appear in other onsite monitoring wells, it appears that the source of PFAS may be from historical operations at the Site; however, additional sampling may be required.

Hazardous Building Materials

ACMs, lead paint, and PCB-containing building materials known to exist at the Site. A 2017 HBMI identified ACM at the Site which the June 2020 structure fire caused the deterioration and subsequent release of some of these materials, particularly the roofing materials. The EPA conducted partial demolition of the Site building to help to stabilize the portions that remain and disposed of fire and demolition debris as well as disposed of asbestos on those areas.

Identified ACMs from the 2017 HBMI were confirmed to still remain in the building after the EPA removal actions and include the following (note, some square footages have changed to reflect EPA conducting removal actions):

- multiple mastics, 720 square feet (sf) in the office area, 75 sf in Room 22, 25 sf in the office entryway,
- window glazing, 2 windows in the office area, , 6 windows on the exterior,
- 9" x 9" floor tiles, 660 sf in Room 4, 80 sf in Room 2
- caulk on the exterior of the boiler room, 105 linear feet
- Vermiculite in the AST bunker, 2,933 cubic feet
- Roofing materials including wall flashing, penetration flashing, perimeter flashing, sawtooth flashing, skylight flashing, and sawtooth for a remaining quantity of 18,868 sf.
- 13 Fire doors

Laboratory results indicate the following materials contained detectable concentrations of PCBs above 1 mg/kg but below 50 mg/kg:

- white paint in Room 16A
- blue over silver paint in Room 16A
- residual mixed mastics in the former gym office

Unless they are resampled, the following materials are conservatively considered to contain a concentration of PCBs above 1 mg/kg but below 50 mg/kg:

- dark gray over white foundation paint on the interior foundation walls
- multi-layered paint in Room 4 bathroom
- black mastic in Room 4 bathroom

Lead-containing and lead-based paint were both identified during the 2017 HBMI performed at the Site. Proper measures should be taken by employers to protect worker health according to the OSHA lead in construction standards in 29 CFR 1926.62.

Lead in soil

Lead was identified in surface soil during the 2017 HBMI through a combination of field-based XRF assessment and limited laboratory analysis of soil samples. The concentrations were discontinuous and sporadic, ranging from <10 mg/kg, to 1,728 mg/kg, indicating a highly heterogeneous distribution of lead. The lead was presumed to be from the release of lead paint to the structure drip line but is suspect due to heterogenous condition. Clinker was later identified as a major component throughout the soil on the north side of the building. Low level lead appears to be a background condition at the site associated with fill materials. Exceedances at the Site are likely to be a combination of clinker, paint impacts, and background conditions.

5.6 EXPOSURE PATHWAYS AND POTENTIAL RECEPTORS

Exposure pathways describe how a human or environmental receptors encounter contaminants that may be present at the Site. Potential migration pathways through groundwater, surface water, air,

soils, sediments, and biota were considered for each COPC and source. A migration pathway is considered an exposure pathway if there is a mechanism of contaminant release from primary or secondary sources, a transport medium, and a point of potential contact with receptors. Both current and potential future releases and migration pathways to receptors are considered.

Inhalation:	This pathway is primarily associated with groundwater contamination within 30 feet of an occupied structure when groundwater elevation is less than 15 feet below surface grade, or when depth to groundwater is unknown. This pathway is applicable when receptors may inhale impacted media in the form of contaminated vapor. This pathway is also applicable when contaminated soil and/or groundwater are exposed via an excavation.
Dermal Absorption:	Exposure via dermal absorption occurs when receptors are exposed to chemical concentrations present in soil, groundwater, surface water, or hazardous building materials through direct contact with the skin.
Active Ingestion:	The active ingestion pathway represents exposure which may occur through the active ingestion of contaminant concentrations via a drinking water supply well, through agricultural products, or through direct consumption of soil (e.g., typically by children or improper hygiene/health and safety of soil workers).
Incidental Uptake:	This pathway is applicable when receptors may incidentally inhale or ingest impacted media in the form of contaminated dust, chips, or airborne asbestos fibers.

Potential Receptors are categorized by duration of exposure and intensity of use at the Site. The receptor categories described in the CSM include the following:

Resident:	The residential receptor category is defined by high durational exposure and high intensity usage that may occur through gardening, digging, and recreational sports. This group includes the occupants of a residential property or a residential neighborhood, or a daycare.
Commercial Workers:	Commercial receptors are those which are present at the Site for long durations but with low intensity exposure such as indoor office workers.
Recreational/ Park/ Passive User:	Park users are characterized by low duration, i.e., less than two hours per day, and low intensity usage such as that which would occur during activities such as walking, shopping, and bird watching.
Excavation or Construction Worker:	Excavation or construction workers are present at the Site for short durations though intensity of use is high, such as during non-routine activities including construction or utility work. Examples include utility and construction contractors and landscapers.

5.7 CONCEPTUAL SITE MODEL SUMMARY

COPCs associated with the Site are TPH, PAHs, metals (particularly cadmium, lead & arsenic), and cyanide in soil; VOCs, 1,4-dioxane, PFAS, metals (particularly cadmium), and cyanide in groundwater; asbestos and PCBs in building materials, and lead paint. Under current conditions, exposure to COPCs in soil may be infrequent, as Site use is currently vacant and not accessible to the public, and the Site would continue to be vacant in near term if obtained by the Town. Exposure to VOCs, metals, and PCBs in groundwater is limited as municipal water is available to the Site and groundwater at the Site is not consumed. The primary exposure pathways currently include dermal absorption and incidental uptake of soil or hazardous building materials by potential receptors including the owner (commercial workers) or trespassers.

Under potential redevelopment conditions, exposure would increase to future occupants/users of the Site. Potential future receptors include construction workers during demolition or construction, patrons of the new development (recreational/passive users), and commercial workers after redevelopment. Exposure pathways include incidental uptake of contaminated dust by all receptors, dermal absorption through contact with impacted media by all receptors, and active ingestion by future occupants or construction workers employing poor hygiene.

6. CONCLUSIONS

Credere has performed a Phase II ESA at the former W.W. Cross Site located at 39 Webster Street, Jaffrey, New Hampshire, the property, in conformance with the scope and limitations of ASTM E 1903-21 for the following objectives:

- Further delineate the PCE plume previously identified at the Site in the eastern portion of the building area
- Sample for 1,4-dioxane with improved data quality for further understanding of the comingled plume
- Further delineate the horizontal and vertical extents of PAHs previously identified under and in the general area of the southwest portion of the Site building.
- Further refine the horizontal and vertical delineation of cadmium below the former plating room pit/wastewater treatment area
- Inventory and update the map of ACM locations post the structure fire and EPA Removal Action, conduct additional asbestos sampling as warranted to comply with state regulations, sample potential PCB-containing building materials, and delineate previously identified lead in soil
- Assess the presence of the historical UST beneath the building
- Assess surface soil surrounding the transformer pad for the presence of PCBs
- Assess broader areas of Site surface soils for general impacts related to historical industrial operations

Credere's conclusions as pertaining to the investigation results are presented below:

Objective #1 – Further delineate the PCE plume previously identified at the Site in the eastern portion of the building area

Exceedances of NHDES AGQS for PCE were identified at MW-6D and MW-102, with detections below the AGQS identified at MW-2, MW-103, MW-203, CA-MW-302, CA-MW-303, and CA-MW-304. This objective was achieved as the plume of PCE is better defined with the recent groundwater sampling data set. While the source of this plume is likely the Plating Room, low concentrations of PCE exist between this room and tack pile area. Additionally, it appears that the offsite/upgradient source of PCE has not significantly comingled with this source.

Objective #2 – Sample for 1,4-dioxane with improved data quality for further understanding of the comingled plume

Exceedances of NHDES AGQS for 1,4-dioxane was identified at MW-2, with detections below the AGQS identified at CA-MW-303, and CA-MW-304. This objective was achieved and it appears that 1,4-dioxane is generally localized to the vicinity of MW-2 and MW-6D. Concentrations have demonstrated decreasing concentrations since 2019.

Objective #3 – Further delineate the horizontal and vertical extents of PAHs previously identified under and in the general area of the southwest portion of the Site building.

Exceedances of NHDES SRSs for PAHs were identified at CA-SB-02 and CA-SB-03 as well as from 2-4 feet bgs at B117R. CA-SB-08 and CA-SB-09 were unable to be completed due to concerns as to the stability of the building. The horizontal extent of PAHs was able to be delineated to the southwest beyond the constraints of the building, however could not be fully delineated to the north due to current building instability concerns. PAH exceedances are known at locations B12, B26, B104, B107, B109, B110, B111/R, B117/R, CA-SB-02 and CA-SB-03.

Objective #4 – Further refine the horizontal and vertical delineation of cadmium below the former plating room pit/wastewater treatment area

Due to safety concerns as to the stability of the building when shaken by a drill rig this objective was unable to be fully completed; however, the vertical extent of cadmium was confirmed to the depth of refusal. The horizontal extents remain a data gap.

Objective #5 – Inventory and update the map of ACM locations post the structure fire and EPA Removal Action, conduct additional asbestos sampling as warranted to comply with state regulations, sample potential PCB-containing building materials, and delineate previously identified lead in soil

The known ACM within the building was inventoried and updated after the structure fire and EPA removal action. Additional asbestos sampling was conducted as necessary to comply with state regulations as well as additional suspect PCB-containing building materials. The recent sampling did not identify the presence of any other ACM. ACM impacts that remain include mastics in the office area, 9" floor tiles in Rooms 2 and 4, 13 fire doors throughout the building, window glazing, caulk, and roofing materials on the exterior, and vermiculite in the AST bunker.

Three materials were identified above the 1mg/kg threshold to be regulated under the New Hampshire Solid Waste Rules and as an Excluded PCB Bulk Product Waste under TSCA if removed from use at the Site. These include white paint in Room 16A, blue over silver paint in Room 16A, and residual mixed mastics in the former gym office. Three samples required elevated reporting limits due to matrix interference of the sample material. Due to the elevated reporting limit, it is inconclusive if these materials exceed 1 mg/kg. These materials should be conservatively considered to contain a concentration of PCBs above 1 mg/kg but below 50 mg/kg, or resampled. These include dark gray over white foundation paint on the interior foundation walls, multi-layered paint in the Room 4 bathroom, and black mastic in the Room 4 bathroom.

Lead was identified below the SRS across the Site. As such, the lead in soil impacts are confined to previously identified locations on the northern side of the building.

Objective #6 – Assess the presence of the historical UST beneath the building

A GPR survey was performed where the historical UST was likely to be located. No anomalies large enough to represent a UST were identified in the GPR study area in the Sawtooth suggesting that no tanks are present in this area of the building. This objective has been achieved.

Objective #7 – Assess surface soil surrounding the transformer pad for the presence of PCBs

Surface soil samples collected from surrounding the transformer pad were found to have detectable levels of PCBs in most of the samples although none were found to be over the SRS. This objective has been achieved and it does not appear that a significant release of PCBs has occurred in the area of the transformers.

Objective #8 – Assess broader areas of Site surface soils for general impacts related to historical industrial operations

SRS exceedances of PAHs were identified in shallow soil (0-2') at CA-SB-18 CA-SB-22, and CA-SB-23. Detections of PAHs below SRS were also identified in shallow samples collected from identified at CA-SB-20 and CA-SB-21. Background samples (CA-SACM-18 through CA-SB-27) had detections of arsenic, barium, chromium, and lead below SRS. As such, it appears that historical industrial operations have impacted shallow Site soil with PAHs above SRS in places and metals below SRS. These soils will require management during future redevelopment of the Site. The PAH detections in background samples do not coincide with observed anthropogenic materials, excluding them from being considered a background condition in accordance with Env-Or 602.03. This objective has been achieved.

7. RECOMMENDATIONS

Based on the findings and conclusions of this investigation, Credere makes the following recommendations:

- A vapor mitigation system and/or vapor barrier should be installed in any new building constructed at the Site as a good practice to prevent potential intrusion of PCE and 1,4-dioxane. If the current remaining building/foundations are to remain in place, vapor intrusion into the renovated building should be further evaluated through subslab vapor sampling.
- Further assessment of the extent of PAH impacted soil beneath the southwest portion of the will need to be conducted once the building has been removed, to further define the extent of impacted soil to the north and east of the known creosote-type soil impacts.
- Prepare an Analysis of Brownfields Cleanup Alternatives (ABCA)/Remedial Action Plan (RAP; or equivalent) to address contaminated soil and groundwater to below the SRS and AGQS, respectively.
- During any building renovations or demolition, all identified ACM should be abated in accordance with the New Hampshire Code of Administrative Rules Chapter Env-A 1800 – Asbestos Management and Control. If during demolition any untested suspect materials are encountered (i.e., the furnace), they should be sampled and analyzed for asbestos or presumed positive to allow for proper abatement.
- Identified excluded PCB Bulk Product Waste materials (i.e., with concentrations or laboratory reporting limits greater than 1 mg/kg but less than 50 mg/kg) can remain is service; however, once removed will need to be disposed at a facility licensed to accept this waste material. If during renovation/demolition any untested or hidden suspect materials are encountered, they should also be sampled and analyzed for PCBs or presumed positive to allow for proper handling. It is not recommended to resample and reanalyze materials with matrix interference as the laboratory does not think a more accurate outcome can be achieved.
- Due to the presence of LCP within/on the Site building, LCP materials should be managed in accordance with the OSHA Lead in Construction Standards (29 CFR 1926.62) and proper worker notification be implemented.

8. LIMITATIONS

This report has been prepared by Credere for the Town of Jaffrey to provide project stakeholders with information upon which they can rely concerning the existence or likely existence of various environmental contaminants on or adjacent to the property.

This report does not reflect:

1. Conditions in untested areas and the characteristics of untested media.
2. Variations in chemical concentrations that can occur between sample locations.
3. The total understanding of historical Site activities, uses, equipment, or fixtures that may have contributed or are currently contributing to Site environmental impacts, particularly relating to building material history.
4. Knowledge of the potential presence of sources other than what was visible at the time the survey was conducted.
5. The potential presence of analytes that were not analyzed or that may be present below the Laboratory Reporting Limits for the methods tested.
6. Potential variation in the Site conditions that may have occurred at a time other than when the Site survey was completed.

If any conditions different from those described herein are encountered at a later time, Credere requests an opportunity to review such differences and modify the assessment and conclusions of this report. This report was prepared expressly for the purpose described. The information in this report may not be suitable for any other use without adaptation for the specific purpose intended. Any such reuse of this report, without adaptation, shall be at the sole risk and liability of the party undertaking the reuse.

The ACM survey portion of this project was completed in accordance with relevant, applicable, and appropriate standards, and was performed by exercising the degree of care and skill ordinarily exercised by a Certified Asbestos Inspector. However, there is a possibility that hidden, inaccessible, or otherwise unassessed ACM may exist at the Site. If suspect ACM is identified during any future Site operations including maintenance, renovations, housekeeping, or general demolition, the party performing these activities should first refer to this report. If conclusive results cannot be obtained, additional sampling and analysis should be conducted by a duly qualified or Certified Asbestos Inspector prior to the initiation of any activities that may impact or in any way disturb potential unassessed ACM.

9. SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

The following individual(s) meet the qualifications for individuals completing or overseeing all appropriate inquiries, and possess sufficient specific education, training, and experience necessary to exercise professional judgment to develop opinions and conclusions regarding the existence of environmental conditions on the Site. Any work completed on this ESA by an individual who is not considered an environmental professional was completed under the supervision or responsible charge of the environmental professional.

Judd Newcomb, PG, LG
Geologist/Senior Project Manager

Allison Drouin, PG, LG
Senior Geologist/Project Manager

Rip Patten, PE
Vice President

10. REFERENCES

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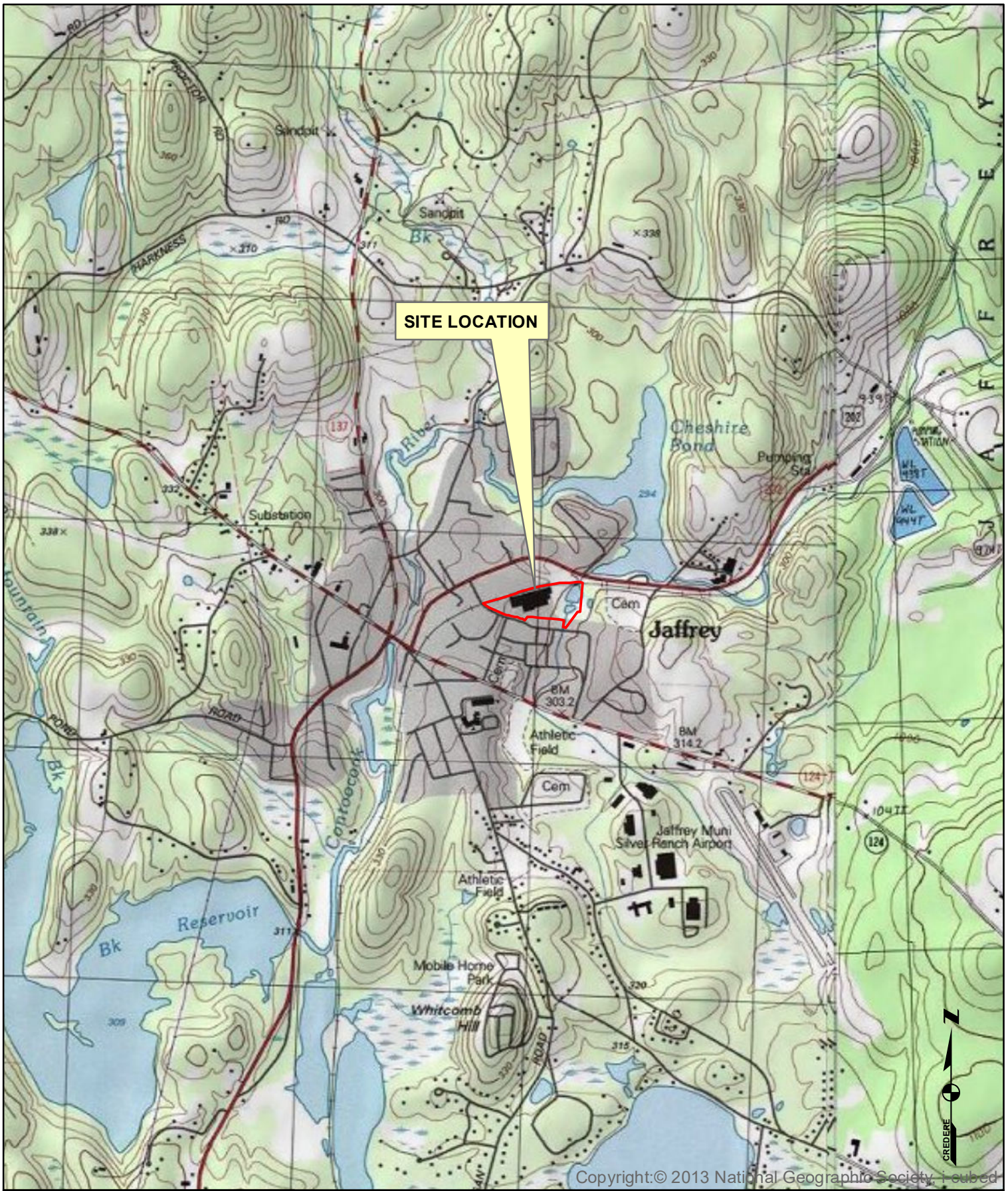
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FIGURES



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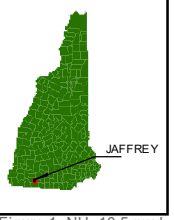
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FIGURE 1
SITE LOCATION MAP

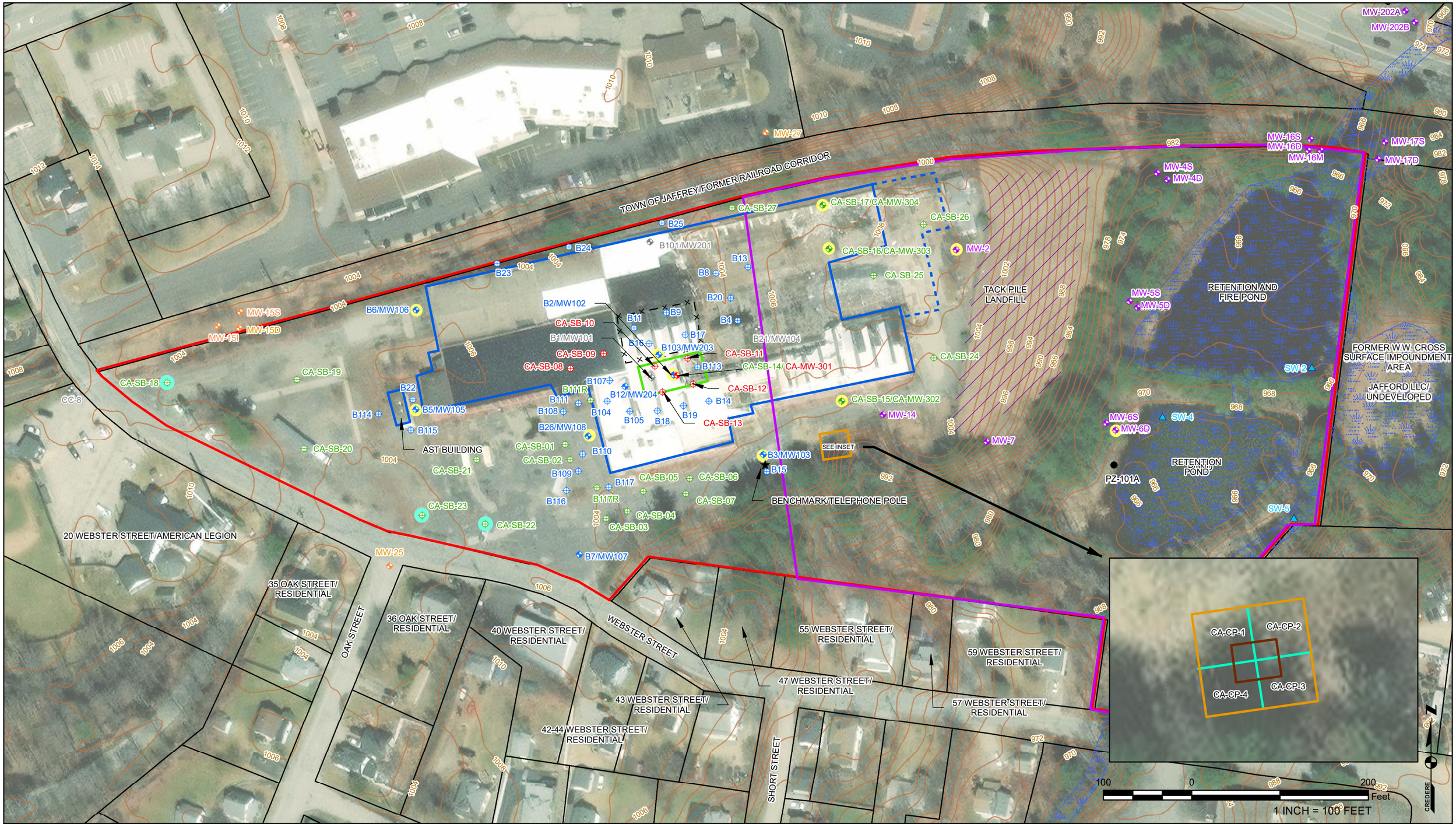
W.W CROSS PROPERTY
39 WEBSTER STREET
JAFFERY, NEW HAMPSHIRE

1,300 0 2,600 Feet

1 INCH = 2,000 FEET



Document Path: T:\Data\NH\Town\Jaffrey\21001639 W. W. Cross Property\Figure 1_NH_10.5.mxd



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FIGURE 2
DETAILED SAMPLING MAP

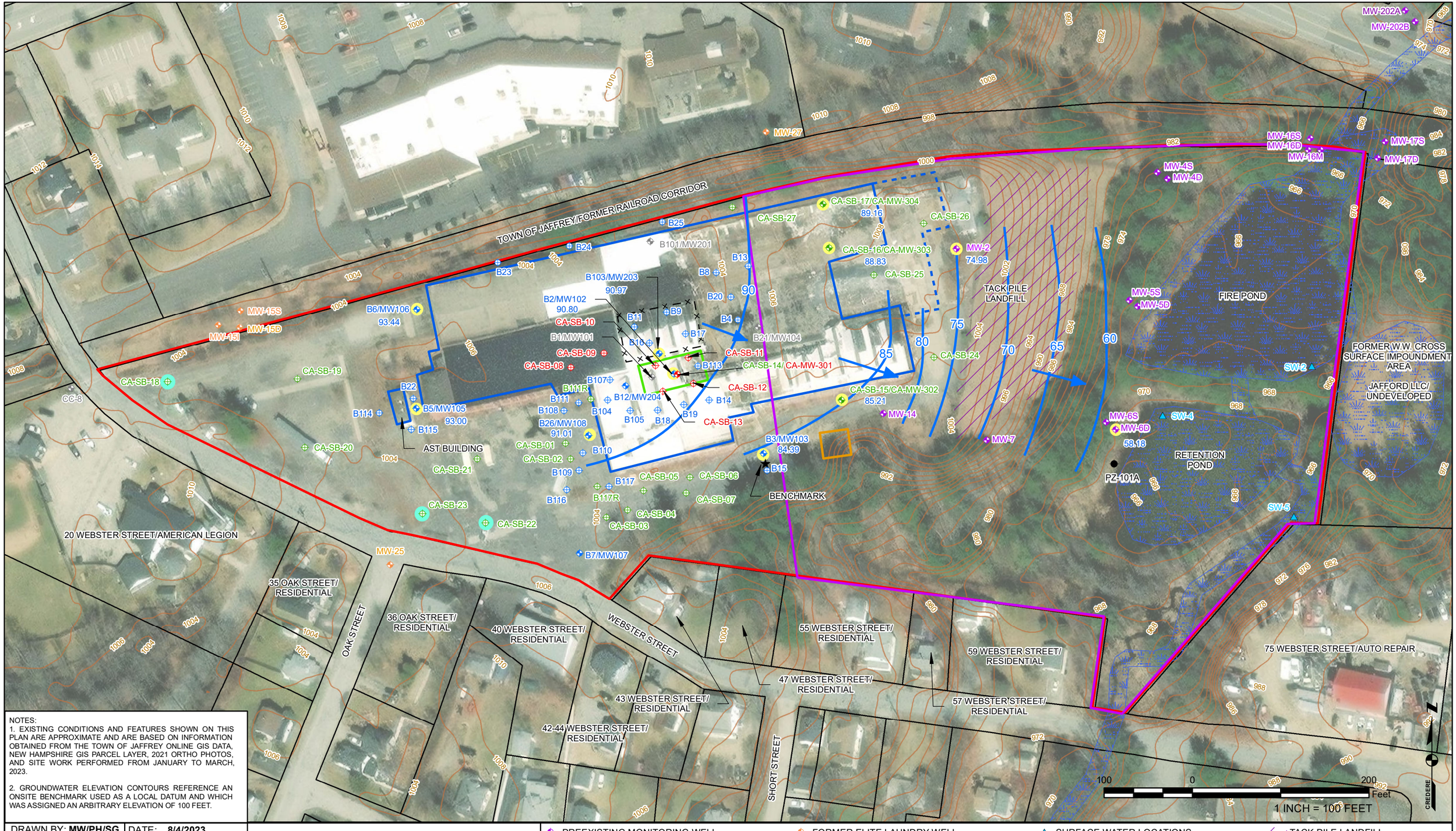
W.W. CROSS
39 WEBSTER STREET
JAFFREY, NEW HAMPSHIRE

- PREEXISTING MONITORING WELL
- BENCHMARK/TELEPHONE POLE
- NON-CREOSOTE PAH IMPACTS
- SAMPLED BY CREDERE MARCH 2023
- UNCOMPLETED SOIL BORING/MONITORING WELL
- UNCOMPLETED SOIL BORING
- FORMER ELITE LAUNDRY WELL
- MONITORING WELLS UNABLE TO BE LOCATED
- RANSOM ENV. SOIL BORING
- RANSOM ENV. SOIL BORING/MONITORING WELL
- PIEZOMETER
- CREDERE SOIL BORING
- CREDERE SOIL BORING/MONITORING WELL
- SURFACE WATER LOCATIONS
- FORMER BUILDING FOOTPRINT
- SITE BOUNDARY
- SITE BUILDING
- TRANSFORMER PAD
- FORMER PLATING/WASTEWATER TREATMENT
- GROUNDWATER MANAGEMENT ZONE
- TACK PILE LANDFILL
- GPR AREA
- WETLANDS
- PARCEL BOUNDARY
- 2-FT TOPO. CONTOUR (FT AMSL)
- EXISTING TRANSFORMER PAD
- COMPOSITE SAMPLING BOUNDARIES

NOTES:
EXISTING CONDITIONS AND FEATURES SHOWN ON THIS PLAN ARE APPROXIMATE AND ARE BASED ON INFORMATION OBTAINED FROM THE TOWN OF JAFFREY ONLINE GIS DATA, NEW HAMPSHIRE GIS PARCEL LAYER, 2021 ORTHO PHOTOS, AND SITE WORK PERFORMED FROM JANUARY TO MARCH, 2023.

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NOTES:
1. EXISTING CONDITIONS AND FEATURES SHOWN ON THIS PLAN ARE APPROXIMATE AND ARE BASED ON INFORMATION OBTAINED FROM THE TOWN OF JAFFREY ONLINE GIS DATA, NEW HAMPSHIRE GIS PARCEL LAYER, 2021 ORTHO PHOTOS, AND SITE WORK PERFORMED FROM JANUARY TO MARCH, 2023.

2. GROUNDWATER ELEVATION CONTOURS REFERENCE AN ONSITE BENCHMARK USED AS A LOCAL DATUM AND WHICH WAS ASSIGNED AN ARBITRARY ELEVATION OF 100 FEET.

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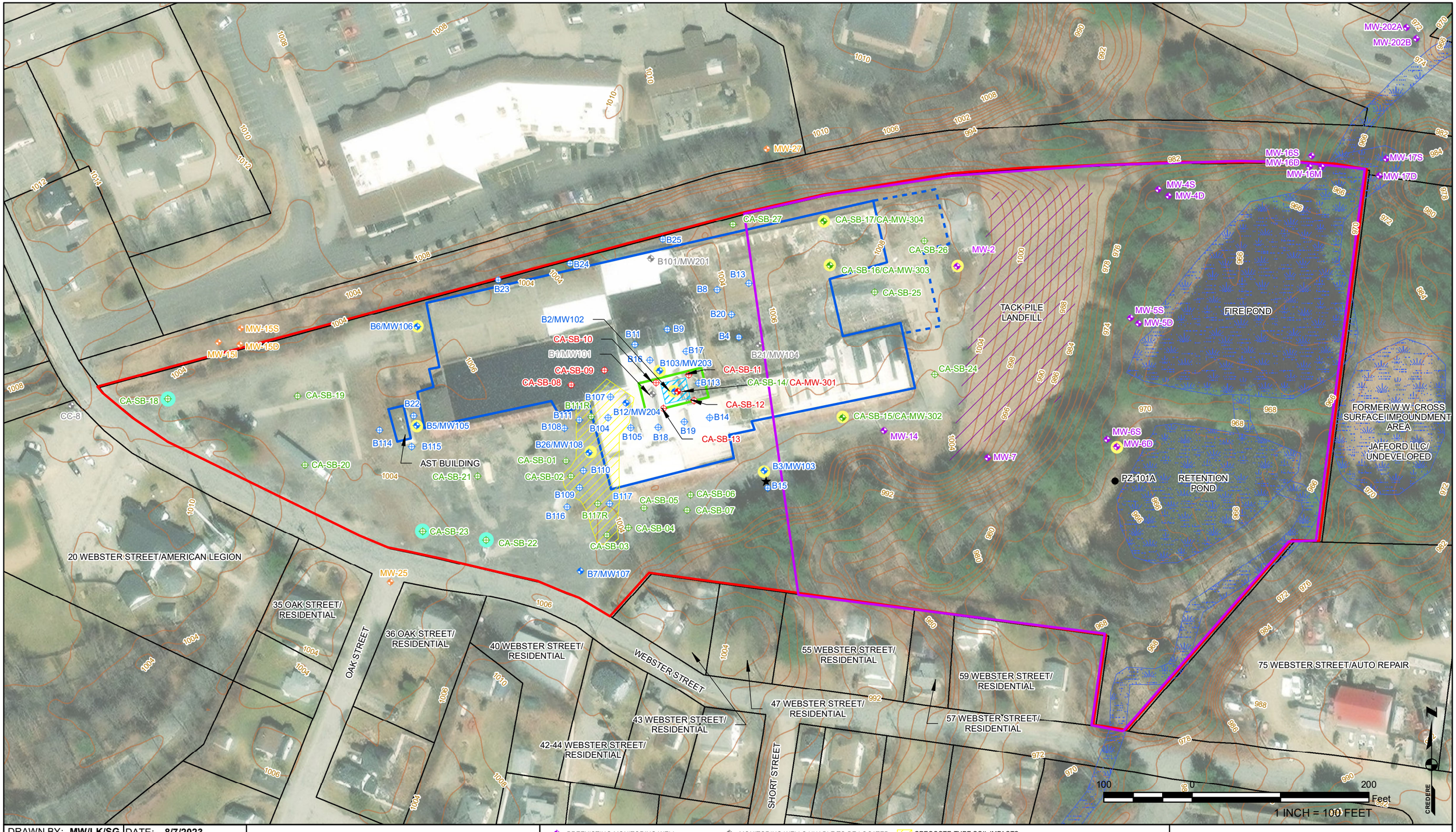
FIGURE 3
GROUNDWATER CONTOUR MAP

W.W. CROSS
39 WEBSTER STREET
JAFFREY, NEW HAMPSHIRE

- PREEXISTING MONITORING WELL
- BENCHMARK
- NON-CREOSOTE PAH IMPACTS
- SAMPLED BY CREDERE MARCH 2023
- UNCOMPLETED SOIL BORING/MONITORING WELL
- UNCOMPLETED SOIL BORING
- FORMER ELITE LAUNDRY WELL
- MONITORING WELLS UNABLE TO BE LOCATED
- RANSOM ENV. SOIL BORING
- RANSOM ENV. SOIL BORING/MONITORING WELL
- PIEZOMETER
- CREDERE SOIL BORING
- CREDERE SOIL BORING/MONITORING WELL
- SURFACE WATER LOCATIONS
- FORMER BUILDING FOOTPRINT
- SITE BOUNDARY
- SITE BUILDING
- TRANSFORMER PAD
- FORMER PLATING/WASTEWATER TREATMENT
- GROUNDWATER MANAGEMENT ZONE
- TACK PILE LANDFILL
- GPR AREA
- WETLANDS
- PARCEL BOUNDARY
- 2-FT TOPO. CONTOUR (FT AMSL)
- 5-FOOT GROUNDWATER CONTOUR
- GROUNDWATER FLOW DIRECTION

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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FIGURE 4
SOIL IMPACT MAP

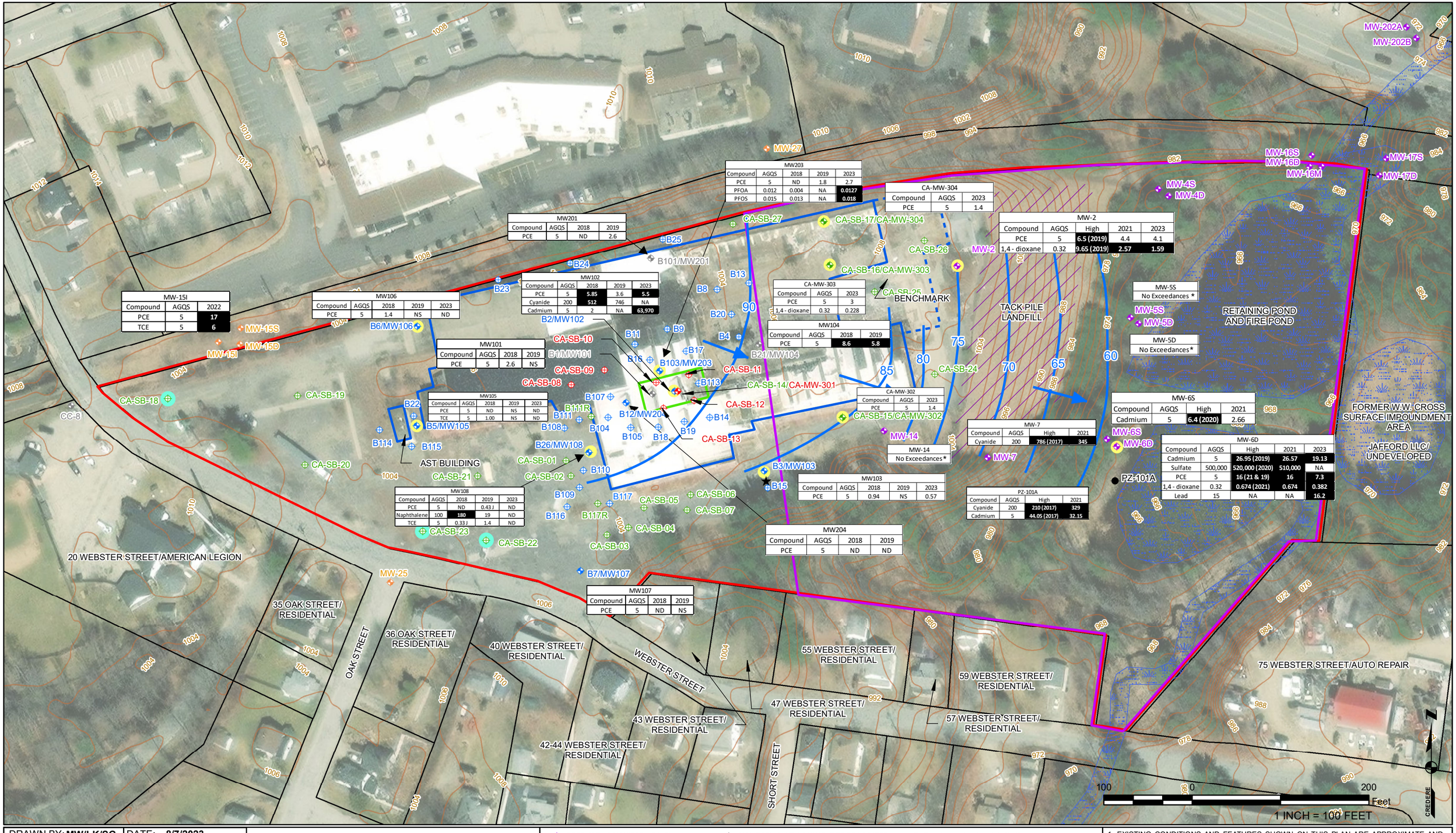
W.W. CROSS
39 WEBSTER STREET
JAFFREY, NEW HAMPSHIRE

- PREEXISTING MONITORING WELL
- BENCHMARK/TELEPHONE POLE
- NON-CREOSOTE PAH IMPACTS
- SAMPLED BY CREDERE MARCH 2023
- INCOMPLETE SOIL BORING/MONITORING WELL
- INCOMPLETE SOIL BORING
- FORMER ELITE LAUNDRY WELL
- MONITORING WELLS UNABLE TO BE LOCATED
- RANSOM ENV. SOIL BORING
- RANSOM ENV. SOIL BORING/MONITORING WELL
- PIEZOMETER
- CREDERE SOIL BORING
- CREDERE SOIL BORING/MONITORING WELL
- FORMER BUILDING FOOTPRINT
- SITE BOUNDARY
- CREOSOTE-TYPE SOIL IMPACTS
- SITE BUILDING
- FORMER PLATING AND WASTEWATER TREATMENT
- GROUNDWATER MANAGEMENT ZONE
- TACK PILE LANDFILL
- CADMIUM SOIL IMPACTS
- WETLANDS
- PARCEL BOUNDARY
- 2-FT TOPO. CONTOUR (FT AMSL)

NOTES:
EXISTING CONDITIONS AND FEATURES SHOWN ON THIS PLAN ARE APPROXIMATE AND ARE BASED ON INFORMATION OBTAINED FROM THE TOWN OF JAFFREY ONLINE GIS DATA, NEW HAMPSHIRE GIS PARCEL LAYER, 2021 ORTHO PHOTOS, AND SITE WORK PERFORMED FROM JANUARY TO MARCH 2023.

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Document Path: T:\Data\NH\Town\Jaffrey\21001639 W. W. Cross Property\Figure 4 - Soil Exceedances_8-4.mxd



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FIGURE 5
GROUNDWATER EXCEEDANCES

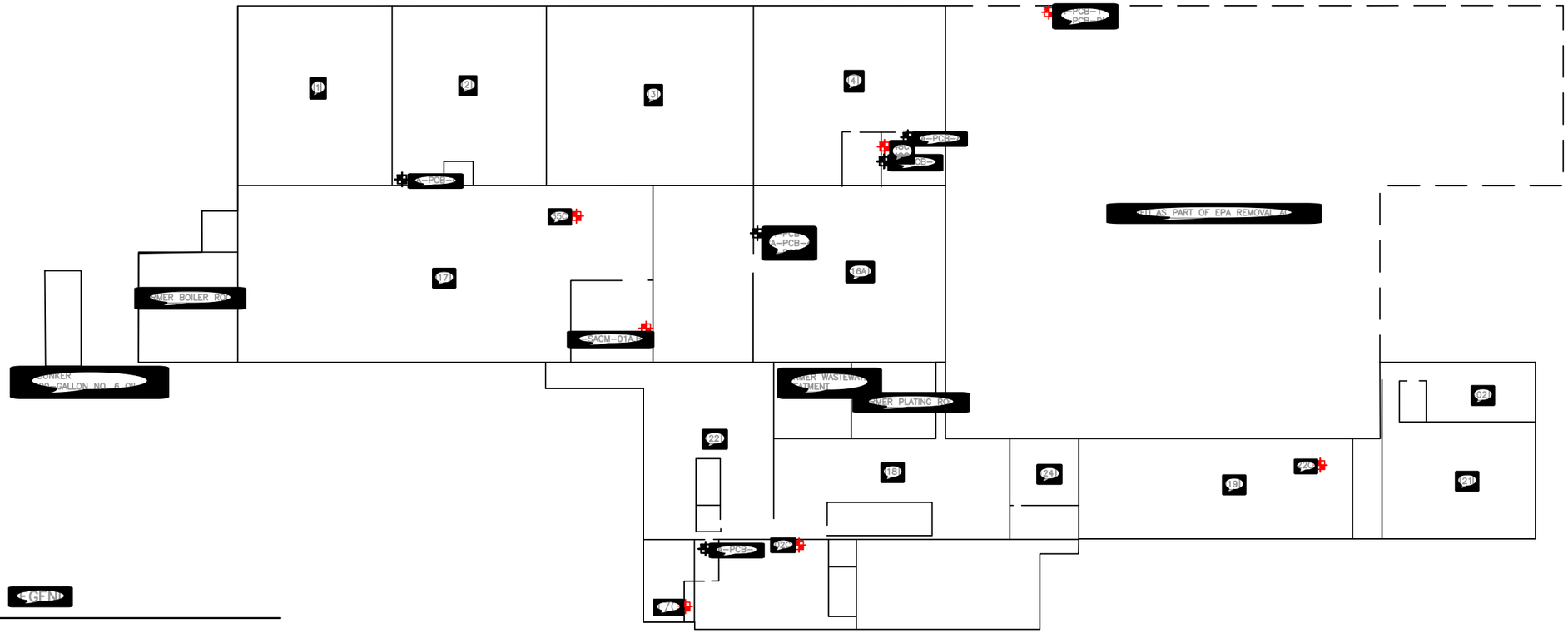
W.W. CROSS
39 WEBSTER STREET
JAFFREY, NEW HAMPSHIRE

- PREEXISTING MONITORING WELL
- BENCHMARK/TELEPHONE POLE
- NON-CREOSOTE PAH IMPACTS
- SAMPLED BY CREDERE MARCH 2023
- INCOMPLETE SOIL BORING/MONITORING WELL
- INCOMPLETE SOIL BORING
- FORMER ELITE LAUNDRY WELL
- MONITORING WELLS UNABLE TO BE LOCATED
- RANSOM ENV. SOIL BORING
- RANSOM ENV. SOIL BORING/MONITORING WELL
- PIEZOMETER
- CREDERE SOIL BORING
- CREDERE SOIL BORING/MONITORING WELL
- FORMER BUILDING FOOTPRINT
- 5-FOOT GROUNDWATER CONTOUR
- GROUNDWATER FLOW DIRECTION
- SITE BOUNDARY
- SITE BUILDING
- FORMER PLATING AND WASTEWATER TREATMENT
- GROUNDWATER MANAGEMENT ZONE
- TACK PILE LANDFILL
- WETLANDS
- PARCEL BOUNDARY
- 2-FT TOPO. CONTOUR (FT AMSL)

1. EXISTING CONDITIONS AND FEATURES SHOWN ON THIS PLAN ARE APPROXIMATE AND ARE BASED ON INFORMATION OBTAINED FROM THE TOWN OF JAFFREY ONLINE GIS DATA, NEW HAMPSHIRE GIS PARCEL LAYER, 2021 ORTHO PHOTOS, AND SITE WORK PERFORMED FROM JANUARY TO MARCH, 2023.
2. GROUNDWATER ELEVATION CONTOURS REFERENCE AN ONSITE BENCHMARK USED AS A LOCAL DATUM AND WHICH WAS ASSIGNED AN ARBITRARY ELEVATION OF 100 FEET.
3. ASTERISK (*) INDICATES MONITORING WELL WITH NO EXCEEDANCES PER HISTORICAL SAMPLING PRIOR TO 2023.
4. GROUNDWATER EXCEEDANCES TABLES SHOW THE HISTORICAL HIGHEST CONCENTRATION IDENTIFIED AT EACH WELL BASED ON PAST REPORTS.

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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GEND

SOS SAMPLE LOCA

SAMPLE LOCA

ES

CREDERE ASSOCIATES, LLC

Community Economy Environment

FIGURE 6
HBMS SAMPLE LOCATION MAP

NOT TO SC

TABLES

Table 1
Sample Reference Table
W.W. Cross Property, NHDES Site No. 198708007
39 Webster Street, Jaffrey, New Hampshire

Media Collected	Sample Location	Location Rationale	Sample ID	Analytical Method	Pertinent Sample Observations
Soil	CA-SB-01	To further delineate horizontal PAH impacts to soil from known creosote-type material	CA-SB-1 (0.5-2.5) SB-DUP-1	PAHs (EPA Method 8270E) PCBs (EPA Method 8082A) TPH (EPA Method 8015C)	No field observations indicating contamination.
	CA-SB-02		CA-SB-2 (0.5-2.5)		Asphalt observed at around 1 ft bgs.
	CA-SB-03		CA-SB-03 (0.5-2.5)		No field observations indicating contamination.
	CA-SB-04		CA-SB-04 (0.5-2.5)		No field observations indicating contamination.
	CA-SB-05		CA-SB-05 (0.5-2.5)		No field observations indicating contamination.
	CA-SB-06		CA-SB-06 (0.5-2.5)		No field observations indicating contamination.
	CA-SB-07		CA-SB-07 (0.5-2.5)		No field observations indicating contamination.
	CA-SB-08		NS		Unable to be completed due to building safety concerns.
	CA-SB-09		NS		Unable to be completed due to building safety concerns.
	B111R	To vertically delineate PAHs at two location previously documented to have the highest PAHs for correlation to visual observations	B111R(6-8)		Bituminous odor & slight sheen noted around 5 ft bgs.
	B117R		B117R(2-4)		Brown crushed fill material noted at around 3 ft bgs.
	CA-SB-10	To further delineate contamination identified below the former plating room and to further assess cyanide and cadmium	NS	Cadmium (EPA Method 6020A) Cyanide (EPA Method 9014)	Unable to be completed due to building safety concerns.
	CA-SB-11		NS		Unable to be completed due to building safety concerns.
	CA-SB-12		NS		Unable to be completed due to building safety concerns.
	CA-SB-13		NS		Unable to be completed due to building safety concerns.
	CA-SB-14		CA-SB-14 (7.5-8)		Crushed concrete observed at around 3 ft bgs.
	CA-SB-15	To further delineate identified PCE impacts at the Site	CA-SB-15 (17-18/17.5)	VOCs (EPA Method 8260D)	Crushed asphalt observed at around 4 ft bgs, crushed asphalt mixed with clinker & slag around 7 ft bgs, and crushed concrete at 8 and 10 ft bgs.
	CA-SB-16		CA-SB-16 (16-18/17) SB-DUP-3		No field observations indicating contamination.
	CA-SB-17		CA-SB-17 (17.5-18.5/17)		No field observations indicating contamination.
	CA-SB-18	To assess background metals and PAH concentrations across the Site.	CA-SB-18 (0-2)	VOCs (EPA Method 8260D) PAHs (EPA Method 8270E) RCRA 8 Metals (EPA Method 6020A and 7471B)	No field observations indicating contamination.
	CA-SB-19		CA-SB-19 (0-2)	PAHs (EPA Method 8270E) RCRA 8 Metals (EPA Method 6020A and 7471B)	No field observations indicating contamination.
	CA-SB-20		CA-SB-20 (0-2)		No field observations indicating contamination.
	CA-SB-21		CA-SB-21 (1-3)		No field observations indicating contamination.
	CA-SB-22		CA-SB-22 (0-2)		No field observations indicating contamination.
	CA-SB-23		CA-SB-23 (0-2)		No field observations indicating contamination.
	CA-SB-24		CA-SB-24 (0-2)		No field observations indicating contamination.
	CA-SB-25		CA-SB-25 (0-2)		No field observations indicating contamination.
	CA-SB-26		CA-SB-26 (0-2)		No field observations indicating contamination.
	CA-SB-27		CA-SB-27 (0-2)		No field observations indicating contamination.
	CA-CP-1	8 point composite to assess surface soil surrounding transformer pad	CA-CP-1	PCBs (EPA Method 8082A)	No field observations indicating contamination.
	CA-CP-2		CA-CP-2		No field observations indicating contamination.
	CA-CP-3		CA-CP-3		No field observations indicating contamination.
	CA-CP-4		CA-CP-4		No field observations indicating contamination.

Table 1
Sample Reference Table
W.W. Cross Property, NHDES Site No. 198708007
39 Webster Street, Jaffrey, New Hampshire

Media Collected	Sample Location	Location Rationale	Sample ID	Analytical Method	Pertinent Sample Observations
Water	CA-MW-301	To reinstall the monitoring well and assess contamination identified below the former plating room.	NS	VOCs (EPA Method 8260D) 1,4 dioxane SIM (EPA Method 8270D with SIM) RCRA 8 dissolved metals (EPA Method 6020A and 7470A, FIELD FILTERED) Cyanide (Method 4500CN-E,C) PFAS (EPA Method 537.1)	Well unable to be reinstalled due to shallow refusal.
	CA-MW-302	To further delineate identified PCE and 1,4-dioxane impacts at the Site	CA-MW-302		No field observations indicating contamination.
	CA-MW-303		CA-MW-303		No field observations indicating contamination.
	CA-MW-304		CA-MW-304		No field observations indicating contamination.
	MW-102		MW-102		Well was sampled no purge due to unsteady flow rate.
	MW-103		MW-103	VOCs (EPA Method 8260D) 1,4 dioxane SIM (EPA Method 8270D with SIM) RCRA 8 dissolved metals (EPA Method 6020A and 7470A, FIELD FILTERED) Cyanide (Method 4500CN-E,C)	No field observations indicating contamination.
	MW-105		MW-105		No field observations indicating contamination.
	MW-106		MW-106	VOCs (EPA Method 8260D) 1,4 dioxane SIM (EPA Method 8270D with SIM) RCRA 8 dissolved metals (EPA Method 6020A and 7470A, FIELD FILTERED) Cyanide (Method 4500CN-E,C) PFAS (EPA Method 537.1)	No field observations indicating contamination.
	MW-108		MW-108	VOCs (EPA Method 8260D) 1,4 dioxane SIM (EPA Method 8270D with SIM) RCRA 8 dissolved metals (EPA Method 6020A and 7470A, FIELD FILTERED) Cyanide (Method 4500CN-E,C)	No field observations indicating contamination.
	MW-203		MW-203		Well was sampled no purge due to unsteady flow rate.
	MW-2		MW-2		No field observations indicating contamination.
	MW-6D		MW-6D		No field observations indicating contamination.
	MW-14		MW-14		Well unable to be located due to ice and snow.
Building Materials	CA-SACM-01, etc	To assess for the presence of previously unidentified asbestos-containing building materials in the Site building as well as supplemental sampling to comply with state and federal regulations	CA-SACM-1 etc.	Polarized Light Microscopy EPA 600/R-93/116	No field observations.
	CA-PCB-1 to CA-PCB-8	To assess for the presence of previously unidentified PCB-containing building materials in the Site building	CA-PCB-1 to CA-PCB-8	PCB in solids by Soxhlet 8082	No field observations.

Notes:

1 - All samples were chilled to 4°C (+/- 2°C) and submitted to the laboratory on ice. Additional details regarding analytical method, sample preservation, sample volume and hold times can be found in Table 7-3 of Credere's Generic QAPP For Brownfields Work in Maine, New Hampshire, Massachusetts, and Vermont RFA #19043, revision 1, June 2020

SB - soil boring

MW - monitoring well

bgs - below ground surface

VOC - volatile organic compounds

PFAS - per- and polyfluoroalkyl substances

RCRA - resource conservation and recovery act

PCB - polychlorinated biphenyls

Table 2
Monitoring Well Construction Details and Groundwater Elevations
W.W. Cross Property, NHDES Site No. 198708007
39 Webster Street, Jaffrey, New Hampshire

Monitoring Well ID	Gauging Date	Approximate Screened Interval (feet bgs)	Top of Well Elevation[1] (feet)	Depth to Bottom (feet below TOG)	Depth to Water (feet below TOG)	Water Level Elevation (feet)	Depth to Hydrocarbon (feet below TOC)
MW-2	3/24/2023	20.5 to 30.5	100.09	30.50	25.11	74.98	NP
MW-6D		2 to 12	63.50	20.46	5.32	58.18	NP
MW-102	3/23/2023	2 to 9.5	98.97	10.56	8.17	90.80	NP
MW-103		2 to 12	93.64	11.25	9.25	84.39	NP
MW-105		2 to 12	95.39	11.40	2.39	93.00	NP
MW-106		1.5 to 10	94.88	9.15	1.44	93.44	NP
MW-108		2 to 12	94.87	10.95	3.86	91.01	NP
MW-203		2.5 to 12.3	98.62	11.98	7.65	90.97	NP
CA-MW-302		8 to 18	101.53	17.75	16.32	85.21	NP
CA-MW-303	3/24/2023	9 to 19	100.11	18.00	11.28	88.83	NP
CA-MW-304		9 to 19	99.97	19.15	10.81	89.16	NP

Notes:
bgs - below ground surface
TOG - top of grade
NP - No measurable hydrocarbons present
1 - Elevation survey was referenced to an onsite benchmark assigned an arbitrary datum of 100 feet. The benchmark is the base of the central south telephone pole.

Table 3
Summary of Soil Analytical Results
W.W. Cross Property, NHDES Site No. 198708007
39 Webster Street, Jaffrey, New Hampshire

Sample Location:		CA-SB-01		CA-SB-DUP-1		CA-SB-02		CA-SB-03		CA-SB-04		CA-SB-05		CA-SB-06		CA-SB-07		B111 R		B117 R		CA-SB-14		CA-SB-15		CA-SB-16		CA-SB-DUP-3		CA-SB-17		CA-SB-18		CA-SB-19		CA-SB-20		CA-SB-21		CA-SB-22		CA-SB-23	
Sample Depth:		0.5-2.5'				0.5-2.5'		0-2'		0-2'		0-2'		0-2'		0-2'		6-8'		2-4'		7.5-8		17-18/17.5		16-18'				17.5-18.5/18'		0-2'		0-2'		0-2'		0-2'		0-2'	
Date Collected:		2/7/2023				2/7/2023		2/7/2023		2/7/2023		2/7/2023		2/7/2023		2/7/2023		2/7/2023		2/7/2023		2/6/2023		2/1/2023		2/6/2023				2/7/2023		2/6/2023		2/6/2023		2/6/2023		2/6/2023		2/6/2023	
Parameter*	**NHDES Regulatory Criteria1 (mg/kg)**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
VOCs (EPA Method 8260D) (mg/kg)																																									
All compounds	NA	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		ND	U	ND	U	ND	U	ND	U	ND	U	NS		NS		NS		NS		NS	
TPH (EPA Method 8015C) (mg/kg)																																									
TPH C10-C36	10,000	190	U	200	U	**310**		**470**		210	U	190	U	190	U	190	U	230	U	200	U	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
PAHs (EPA Method 8270E) (mg/kg)																																									
naphthalene	28	0.49	U	0.49	U	0.48	U	**0.83**		0.53	U	0.49	U	0.48	U	0.48	U	0.58	U	0.51	U	NS		NS		NS		NS		NS		**2.8**		0.51	U	0.50	U	0.50	U	0.48	U	0.51	U
2-methylnaphthalene	96	0.49	U	0.49	U	0.48	U	**0.88**		0.53	U	0.49	U	0.48	U	0.48	U	0.58	U	0.51	U	NS		NS		NS		NS		NS		**1.8**		0.51	U	0.50	U	0.50	U	0.48	U	0.51	U
acenaphthylene	340	0.49	U	0.49	U	0.48	U	**0.98**		0.53	U	0.49	U	0.48	U	0.48	U	0.58	U	0.51	U	NS		NS		NS		NS		NS		**0.75**		0.51	U	0.50	U	0.50	U	**1.5**		0.51	U
acenaphthene	340	0.49	U	0.49	U	0.48	U	**0.48**		0.53	U	0.49	U	0.48	U	0.48	U	0.58	U	0.51	U	NS		NS		NS		NS		0.52	U	0.51	U	0.50	U	0.50	U	0.48	U	0.51	U
dibenzofuran	7.8	0.49	U	0.49	U	0.48	U	**0.96**		0.53	U	0.49	U	0.48	U	0.48	U	0.58	U	0.51	U	NS		NS		NS		NS		NS		**1.2**		0.51	U	0.50	U	0.50	U	**0.87**		0.51	U
phenanthrene	NE	0.49	U	**0.79**		**4.0**		**14**		0.53	U	0.49	U	0.48	U	0.48	U	0.58	U	**3.5**		NS		NS		NS		NS		NS		**12**		0.51	U	0.50	U	0.50	U	**22**		0.51	U
fluorene	77	0.49	U	0.49	U	0.48		**2.1**		0.53	U	0.49	U	0.48	U	0.48	U	0.58	U	0.51	U	NS		NS		NS		NS		NS		**2.3**		0.51	U	0.50	U	0.50	U	**1.6**		0.51	U
anthracene	1,000	0.49	U	0.49	U	**0.79**		**2.1**		0.53	U	0.49	U	0.48	U	0.48	U	0.58	U	**0.82**		NS		NS		NS		NS		NS		**1.6**		0.51	U	0.50	U	0.50	U	**3.2**		0.51	U
fluoranthene	960	**0.93**		**1.5**		**8.6**	J-	**12**		0.53	U	0.49	U	0.48	U	0.48	U	0.58	U	**6.8**		NS		NS		NS		NS		NS		**8.6**		0.51	U	**1.1**		**0.64**		**25**		**1.2**	
pyrene	720	**0.84**		**1.3**		**6.8**		**10**		0.53	U	0.49	U	0.48	U	0.48	U	0.58	U	**5.0**		NS		NS		NS		NS		NS		**7.0**		0.51	U	**0.82**		**0.56**		**23**		**1.3**	
benzo(a)anthracene	1	0.49	U	**0.57**		**3.9**		**4.5**		0.53	U	0.49	U	0.48	U	0.48	U	0.58	U	**2.4**		NS		NS		NS		NS		NS		**3.0**		0.51	U	**0.55**		0.50	U	**9.5**		**0.52**	
chrysene	120	**0.48**		**0.67**		**4.2**		**5.1**		0.43	U	0.39	U	0.39	U	0.38	U	0.46	U	**2.3**		NS		NS		NS		NS		NS		**3.3**		0.51	U	**0.64**		**0.42**		**10**		**0.82**	
benzo(b)fluoranthene	1	0.49	U	**0.54**		**4.5**	J-	**4.0**		0.53	U	0.49	U	0.48	U	0.48	U	0.58	U	**1.6**		NS		NS		NS		NS		NS		**2.8**		0.51	U	**0.58**		0.50	U3	**8.7**		**0.94**	
benzo(k)fluoranthene	12	0.49	U	**0.56**		**3.5**		**3.8**		0.53	U	0.49	U	0.48	U	0.48	U	0.58	U	1.7		NS		NS		NS		NS		NS		**2.6**		0.51	U	**0.61**		0.50	U	**8.7**		**0.87**	
benzo(a)pyrene	0.7	**0.39**		**0.56**		**3.7**		**4.0**		0.43	U	0.39	U	0.39	U	0.38	U	0.46	U	**2.0**		NS		NS		NS		NS		NS		**2.8**		0.51	U	**0.63**		**0.41**		**8.2**		**0.96**	
indeno(1,2,3-cd)pyrene	1	0.49	U	0.49	U	**2.2**		**2.6**		0.53	U	0.49	U	0.48	U	0.48	U	0.58	U	**1.0**		NS		NS		NS		NS		NS		**1.6**		0.51	U	0.50	U	0.50	U	**6.0**		**0.75**	
dibenzo(a,h)perylene	0.7	0.39	U	0.39	U	**0.64**		**0.91**		0.43	U	0.39	U	0.39	U	0.38	U	0.46	U	0.41	U	NS		NS		NS		NS		NS		**0.65**		0.51	U	0.40	U	0.40	U	**2.1**		0.41	U
benzo(g,h,i)perylene	NE	0.49	U	0.49	U	**2.3**		**3.1**		0.53	U	0.49	U	0.48	U	0.48	U	0.58	U	**1.2**		NS		NS		NS		NS		NS		**2.0**		ND	U	0.50	U	0.50	U	**6.8**		**0.85**	
PCBs (EPA Method 8082A) (mg/kg)																																									
PCB-1260	1	0.090	U	0.095	U	**0.097**		0.10	U	0.100	U	0.095	U	0.10	U	0.097	U	0.11	U	0.10	U	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
Total PCBs	1	0.090	U	0.095	U	**0.097**		0.10	U	0.100	U	0.095	U	0.10	U	0.097	U	0.11	U	0.10	U	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
RCRA 8 Metals (EPA Method 6020A and 7471B) (mg/kg)																																									
arsenic	11	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		**5.2**		2.7	U	**3.8**		**4.2**		**3.9**		**6.9**	
barium	1,000	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		**29**		**20**		**19**		**20**		**19**		**31**	
cadmium	33	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		**170**		NS		NS		NS		0.53	U	0.54	U	0.50	U	0.54	U	0.52	U	0.55	U
chromium (Total)	130	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		**12**		**5.7**		**7.6**		**8.3**		**9.6**		**8.4**	
lead	400	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		**6.7**		**3.9**		**10**		**3.0**		**4.8**		**8.7**	
Total Cyanide (EPA Method 9014) (mg/kg)																																									
cyanide	22	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		0.53	U	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	

Table 3
Summary of Soil Analytical Results
W.W. Cross Property, NHDES Site No. 198708007
39 Webster Street, Jaffrey, New Hampshire

Sample Location:		CA-SB-24		CA-SB-25		CA-SB-26		CA-SB-27		CA-CP-1		CA-CP-2		CA-DUP-4		CA-CP-3		CA-CP-4	
Sample Depth:		**0-2'**		**0-2'**		**0-2'**		**0-2'**		**0-2'**		**0-2'**				**0-2'**		**0-2'**	
Date Collected:		**2/6/2023**		**2/6/2023**		**2/7/2023**		**1/30/2023**		**1/30/2023**		**1/30/2023**				**1/30/2023**		**1/30/2023**	
Parameter*	**NHDES Regulatory Criteria1 (mg/kg)**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
VOCs (EPA Method 8260D) (mg/kg)																			
All compounds	NA	NS		NS		NS		NS		NS		NS		NS		NS		NS	
TPH (EPA Method 8015C) (mg/kg)																			
TPH C10-C36	10,000	NS		NS		NS		NS		NS		NS		NS		NS		NS	
PAHs (EPA Method 8270E) (mg/kg)																			
naphthalene	28	0.50	U	0.52	U	0.50	U	0.53	U	NS		NS		NS		NS		NS	
2-methylnaphthalene	96	0.50	U	0.52	U	0.50	U	0.53	U	NS		NS		NS		NS		NS	
acenaphthylene	340	0.50	U	0.52	U	0.50	U	0.53	U	NS		NS		NS		NS		NS	
acenaphthene	340	0.50	U	0.52	U	0.50	U	0.53	U	NS		NS		NS		NS		NS	
dibenzofuran	7.8	0.50	U	0.52	U	0.50	U	0.53	U	NS		NS		NS		NS		NS	
phenanthrene	NE	0.50	U	0.52	U	0.50	U	0.53	U	NS		NS		NS		NS		NS	
fluorene	77	0.50	U	0.52	U	0.50	U	0.53	U	NS		NS		NS		NS		NS	
anthracene	1,000	0.50	U	0.52	U	0.50	U	0.53	U	NS		NS		NS		NS		NS	
fluoranthene	960	0.50	U	0.52	U	0.50	U	0.53	U	NS		NS		NS		NS		NS	
pyrene	720	0.50	U	0.52	U	0.50	U	0.53	U	NS		NS		NS		NS		NS	
benzo(a)anthracene	1	0.50	U	0.52	U	0.50	U	0.53	U	NS		NS		NS		NS		NS	
chrysene	120	0.40	U	0.41	U	0.40	U	0.42	U	NS		NS		NS		NS		NS	
benzo(b)fluoranthene	1	0.50	U	0.52	U	0.50	U	0.53	U	NS		NS		NS		NS		NS	
benzo(k)fluoranthene	12	0.50	U	0.52	U	0.50	U	0.53	U	NS		NS		NS		NS		NS	
benzo(a)pyrene	0.7	0.40	U	0.41	U	0.40	U	0.42	U	NS		NS		NS		NS		NS	
indeno(1,2,3-cd)pyrene	1	0.50	U	0.52	U	0.50	U	0.53	U	NS		NS		NS		NS		NS	
dibenzo(a,h)perylene	0.7	0.40	U	0.41	U	0.40	U	0.42	U	NS		NS		NS		NS		NS	
benzo(g,h,i)perylene	NE	0.50	U	0.52	U	0.50	U	0.53	U	NS		NS		NS		NS		NS	
PCBs (EPA Method 8082A) (mg/kg)																			
PCB-1260	1	NS		NS		NS		NS		**0.29**		**0.30**		**0.43**		**0.48**		0.12	U
Total PCBs	1	NS		NS		NS		NS		**0.29**		**0.30**		**0.43**		**0.48**		0.12	U
RCRA 8 Metals (EPA Method 6020A and 74711																			
arsenic	11	**4.3**		**7.8**		**5.3**		**5.0**		NS		NS		NS		NS		NS	
barium	1,000	**62**		**66**		**35**		**18**		NS		NS		NS		NS		NS	
cadmium	33	**0.82**		0.54	U	0.53	U	0.57	U	NS		NS		NS		NS		NS	
chromium (Total)	130	**11**		**21**		**11**		**8.3**		NS		NS		NS		NS		NS	
lead	400	**15**		**6.2**		**3.4**		**6.3**		NS		NS		NS		NS		NS	
Total Cyanide (EPA Method 9014) (mg/kg)																			
cyanide	22	NS		NS		NS		NS		NS		NS		NS		NS		NS	

Table 3
Summary of Soil Analytical Results
W.W. Cross Property, NHDES Site No. 198708007
39 Webster Street, Jaffrey, New Hampshire

NOTES:

*Only analytes with detections are shown, all other sample analyses results were below the laboratory reporting limits.

1 - New Hampshire Code of Administrative Rules Chapter 600 Soil Remediation Standards, Table 600-2, effective January 1, 2021

mg/kg - milligrams per kilogram

NE - not established

NS - not sampled

U - Results were below the laboratory reporting limits, laboratory reporting limit shown

VOC - volatile organic compounds

PCB - polychlorinated biphenyl

TPH - total petroleum hydrocarbons

PAH - polycyclic aromatic hydrocarbons

Bold Exceeds laboratory reporting limit

Black shading with white text **Exceeds or equal to both New Hampshire SRS and NHDES RCMP**

Table 4
Summary of Groundwater Analytical Results
W.W. Cross Property, NHDES Site No. 198708007
39 Webster Street, Jaffrey, New Hampshire

Parameter*	NHDES AGQS (2) (µg/L)	NHDES GW-2 (2) (µg/L)	Sample Location: MW-2		MW-6D		MW-102		MW-103		MW-105		MW-106		MW-108		MW-203	
			Sample ID:															
			Date Collected: 3/24/2023		3/24/2023		3/23/2023		3/23/2023		3/23/2023		3/23/2023		3/23/2023		3/23/2023	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs (EPA Method 8260D) (µg/L)																		
Tetrachloroethene (PCE)	5	240	**4.1**		**7.3**		**5.5**		**0.57**		0.5	U	0.5	U	0.5	U	**2.7**	
Acetone	6,000	NE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
1,4 dioxane SIM (EPA Method 8270D with SIM) (µg/L)																		
1,4-Dioxane	0.32	NE	**1.59**		**0.382**		0.142	U	0.142	U	0.142	U	0.142	U	0.142	U	0.142	U
PFAS (EPA Method 537.1) (µg/L)																		
Perfluorobutanoic Acid (PFBA)	NE	NE	NS		NS		NS		NS		NS		0.002	U	NS		**0.019**	
Perfluoropentanoic Acid (PFPeA)	NE	NE	NS		NS		NS		NS		NS		0.002	U	NS		**0.0202**	
Perfluorobutanesulfonic Acid (PFBS)	NE	NE	NS		NS		NS		NS		NS		0.002	U	NS		**0.00229**	J-
Perfluorohexanoic Acid (PFHxA)	NE	NE	NS		NS		NS		NS		NS		0.002	U	NS		**0.0138**	J-
Perfluoroheptanoic Acid (PFHpA)	NE	NE	NS		NS		NS		NS		NS		0.002	U	NS		**0.00858**	
Perfluorohexanesulfonic Acid (PFHxS)	0.018	NE	NS		NS		NS		NS		NS		0.002	U	NS		**0.00729**	
Perfluorooctanoic Acid (PFOA)	0.012	NE	NS		NS		NS		NS		NS		0.002	U	NS		**0.0127**	
Perfluorooctanesulfonic Acid (PFOS)	0.015	NE	NS		NS		NS		NS		NS		0.002	U	NS		**0.018**	
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	NE	NE	NS		NS		NS		NS		NS		0.002	U	NS		0.002	U
Perfluorononanoic Acid (PFNA)	0.011	NE	NS		NS		NS		NS		NS		0.002	U	NS		0.002	U
Perfluorotridecanoic Acid (PFTrDA)	NE	NE	NS		NS		NS		NS		NS		0.002	U	NS		0.002	U
RCRA 8 dissolved metals (EPA Method 6020A and 7470A) (µg/L)																		
barium	2,000	2,000	**19.9**		10	U	**682**		**10.9**		10	U	10	U	10	U	**70.6**	
chromium (Total)	100	100	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
cadmium	5	5	**0.27**		**19.13**		**63.970**		**2.75**		0.2	U	0.2	U	0.2	U	**2.88**	
lead	15	15	10	U	**16.2**		**10.6**		10	U	10	U	10	U	10	U	10	U
Cyanide (Method 4500CN-E,C) (µg/L)																		
Cyanide	200	200	5	U	**33**		NS		5	U	5	U	5	U	5	U	**9**	

Table 4
Summary of Groundwater Analytical Results
W.W. Cross Property, NHDES Site No. 198708007
39 Webster Street, Jaffrey, New Hampshire

Parameter*	NHDES AGQS (2) (µg/L)	NHDES GW-2 (2) (µg/L)	Sample Location: CA-MW-302 / Sample ID: CA-MW-302 / Date Collected: 3/23/2023		Sample Location: CA-MW-303 / Sample ID: CA-MW-303 / Date Collected: 3/24/2023		Sample Location: CA-MW-304 / Sample ID: CA-MW-304 / Date Collected: 3/24/2023		Sample Location: CA-MW-304 / Sample ID: MW-DUP-1 / Date Collected: 3/24/2023	
			Result	Qualifer	Result	Qualifer	Result	Qualifer	Result	Qualifer
VOCs (EPA Method 8260D) (µg/L)										
Tetrachloroethene (PCE)	5	240	**1.4**		**3.0**		**1.4**		**1.4**	
Acetone	6,000	NE	5.0	U	5.0	U	**5.4**		**5.8**	
1,4 dioxane SIM (EPA Method 8270D with SIM) (µg/L)										
1,4-Dioxane	0.32	NE	0.142	U	**0.228**		0.142	U	0.142	U
PFAS (EPA Method 537.1) (µg/L)										
Perfluorobutanoic Acid (PFBA)	NE	NE	**0.00647**		**0.0201**		**0.00521**		**0.00442**	
Perfluoropentanoic Acid (PFPeA)	NE	NE	**0.0202**		**0.0549**		**0.0235**		**0.0238**	
Perfluorobutanesulfonic Acid (PFBS)	NE	NE	0.002	U	**0.00246**		**0.00364**		**0.00353**	
Perfluorohexanoic Acid (PFHxA)	NE	NE	**0.0159**		**0.0239**		**0.00853**		**0.00865**	
Perfluoroheptanoic Acid (PFHpA)	NE	NE	**0.00653**		**0.00677**		**0.00667**		**0.00695**	
Perfluorohexanesulfonic Acid (PFHxS)	0.018	NE	0.002	U	0.002	U	0.002	U	0.002	U
Perfluorooctanoic Acid (PFOA)	0.012	NE	**0.00543**		**0.00795**		**0.00459**		**0.00412**	
Perfluorooctanesulfonic Acid (PFOS)	0.015	NE	**0.0133**		**0.00431**		**0.00207**		**0.00212**	
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	NE	NE	0.002	U	**0.0155**	J+	0.002	U	0.002	U
Perfluorononanoic Acid (PFNA)	0.011	NE	0.002	U	0.002		0.002	U	0.002	U
Perfluorotridecanoic Acid (PFTrDA)	NE	NE	**0.00339**		0.002	U	0.002	U	0.002	U
RCRA 8 dissolved metals (EPA Method 6020A and 7470A) (µg/L)										
barium	2,000	2,000	**23.8**		**70.1**		**14.2**		**13.3**	
chromium (Total)	100	100	10	U	10	U	10	U	10	U
cadmium	5	5	**0.65**		**0.36**		0.2	U	0.2	U
lead	15	15	10	U	**13.9**		10	U	10	U
Cyanide (Method 4500CN-E,C) (µg/L)										
Cyanide	200	200	**11**		5	U	5	U	5	U

Table 4
Summary of Groundwater Analytical Results
W.W. Cross Property, NHDES Site No. 198708007
39 Webster Street, Jaffrey, New Hampshire

NOTES:

µg/L - micrograms per liter
1 - New Hampshire Code of Administrative Rules Chapter Env-Or 600, Table 600-2 Ambient Groundwater Quality Standards, effective 9/30/2019
2 - New Hampshire Risk Characterization Management Policy Table 2, Method 1 Groundwater Standards GW-2, revised September 2018
*Only analytes with detections are shown, all othe
ND - Results for all analyzed compounds were below the laboratory reporting limits, laboratory limit varies by compound
U - Results were below t
NE - not established
VOCs - Volatile Organic Compounds
SVOCs - Semi-volatile Organic Compounds
PCBs - Polychlorinated biphenyls
PFAS - per- and polyfluoroalkyl substances
SIM - selective ion monitoring
Bold Exceeds laboratory reporting limit
Exceeds or equal to applicable regulatory guidelines
Reporting limit exceeds AGQS

Table 5
Asbestos Sample Summary and Results
W.W. Cross Property, NHDES Site No. 198708007
39 Webster Street, Jaffrey, New Hampshire

Sample Number	Location	Material	Asbestos Content	Approximate Quantity of ACM (unit)
CA-SACM-01 (A,B)	Room 17	Tar Paper	None detected	NA
			None detected	
02C	Gym Area	Joint Compound, white	None detected	NA
17C	Office Area	Joint Compound, white	None detected	NA
22C	Gym Locker Rooms	Joint Compound, white	None detected	NA
35C	Room 17	Joint Compound, white	None detected	NA
48C	Room 4 Bathroom	Plaster Skimcoat, white	None detected	NA
49C	Room 4 Bathroom	Plaster Basecoat, Beige	None detected	NA

Notes:
NA - Not applicable
SACM - Suspect Asbestos Containing Material

Total # of Samples: 8
Total Analyzed: 8

Table 6
PCB Sample Summary and Results
W.W. Cross Property, NHDES Site No. 198708007
39 Webster Street, Jaffrey, New Hampshire

Sample Name	Location	Material	Substrate	Regulatory Criteria* (mg/kg)	Total PCBs^ (mg/kg)
CA-PCB-1	North Interior Foundation Wall	Foundation Paint, dark gray over white	Concrete	<50	9.8 U
CA-PCB-DUP					20 U
CA-PCB-2	Room 4 Bathroom	Paint, Multi-layers	Plaster		3.7 U
CA-PCB-3	Room 16A	Paint, White	Concrete		**2.12**
CA-PCB-4	Room 16A	Paint, Blue over Silver	Concrete		**1.2**
CA-PCB-5	Room 16A	Paint, Silver	Concrete		**0.45**
CA-PCB-6	Room 2	Paint, Off-White	Concrete/Brick		**0.79**
CA-PCB-7	Former Gym Office	Residual Mixed Mastics	Concrete		**13**
CA-PCB-8	Room 4 Bathroom	Mastic, Black	Concrete		9.2 U

ND - None detected
PCB - polychlorinated biphenyl
mg/kg - milligrams per kilogram
U - not detected above laboratory reporting limit, reporting limit indicated
* - 40 CFR 761.3 definition of a PCB bulk product waste (50 mg/kg). NH Solid Waste Rules (1 mg/kg)
^ - Individual aroclor concentrations are provided in the laboratory analytical report.
Bold - exceeds laboratory reporting limit

Result exceeds or is considered to exceed 50 mg/kg and be PCB bulk product waste due to possible dilution (i.e., multiple layers of paint) or laboratory variability

Result exceeds 1 mg/kg and requires proper management/disposal if removed from use

APPENDIX A

SITE-SPECIFIC QUALITY ASSURANCE PROJECT PLAN

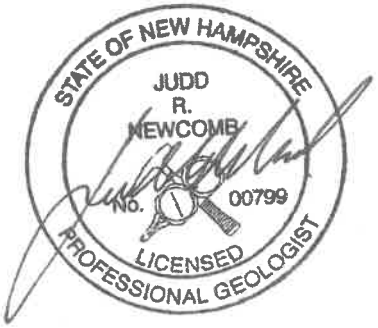
DES Waste Management Division
29 Hazen Drive; PO Box 95
Concord, NH 03302-0095

SITE SPECIFIC QUALITY ASSURANCE PROJECT PLAN

W.W. Cross Property
39 Webster Street
Jaffrey, New Hampshire
NHDES Project No.: 0037735

Project Type: Brownfields
NHDES Site Number: 198708007

Prepared For:
Town of Jaffrey
10 Goodnow Street
Jaffrey, New Hampshire 03452
Phone: (603) 532-7445
Contact: Ms. Jo Anne Carr



Prepared By:
Credere Associates, LLC
776 Main Street
Westbrook, ME 04902
Phone: (207) 828-1272 ext. 15
Contact: Judd Newcomb, LG, PG
jnewcomb@crederellc.com

January 12, 2023

1. TITLE AND APPROVAL PAGE

SITE-SPECIFIC QUALITY ASSURANCE PROJECT PLAN (SSQAPP)
ADDENDUM TO CREDERE GENERIC QAPP FOR BROWNFIELDS WORK IN MAINE, NEW HAMPSHIRE, MASSACHUSETTS, AND VERMONT RFA #19043

PROPERTY:
W.W. Cross Property
39 Webster Street
Jaffrey, New Hampshire
EPA Brownfields Assessment Grant #00A00997
NHDES Site No. 198708007; SITEEVALHW Project #37735

PREPARED BY:
Credere Associates, LLC
776 Main Street, Westbrook, Maine 04092
(207) 828-1272

December 19, 2022

Below is a listing of the names, titles, signatures, and signature dates of officials approving this Site-Specific Quality Assurance Project Plan (SSQAPP) Addendum:

CHRISTINE LOMBARD Digitally signed by CHRISTINE LOMBARD Date: 2023.01.12 09:59:13 -05'00'

Christine Lombard — Date
EPA Brownfields Project Officer

Jessica Iverson — 1/12/23

Jessica Iverson — Date
EPA Quality Assurance Officer

Scott Drew — 1/4/2022

Scott Drew, PG — Date
NHDES Project Manager

Jo Anne Carr — 1/3/23

Jo Anne Carr — Date
Town of Jaffrey, Brownfields Grantee

Judd R. Newcomb — 12/19/22

Judd Newcomb, LG, PG — Date
Credere Associates, LLC Project Manager

Rip Patten — 12/19/22

Rip Patten, PE — Date
Credere Associates, LLC QC Program Manager

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2. INTRODUCTION

Credere Associates, LLC (Credere) was retained by the Town of Jaffrey (Jaffrey) to prepare this Site-Specific Quality Assurance Project Plan (SSQAPP) for the former W.W. Cross Property located at 39 Webster Street in the Town of Jaffrey, New Hampshire (Site). The Town of Jaffrey is using funding from a U.S. Environmental Protection Agency (EPA) Brownfields Assessment Grant (#00A00997) to conduct these assessment activities.

This SSQAPP presents the following information:

- Problem definition including a Site description and summary of background information for the Site
- Project description and timeline
- Preliminary conceptual site model (CSM)
- Assessment objectives and proposed sampling design and rationale
- Site-specific field sampling and analytical methodology
- Regulatory standards applicable to the Site for each proposed sampling media

This SSQAPP was prepared to be used in concert with Credere's Generic Quality Assurance Project Plan (QAPP) for Brownfields Work in Maine, New Hampshire, Massachusetts, and Vermont, EPA Quality Assurance Tracking: Request for Assistance (RFA) #19043, Revision 3 dated June 2022, which was prepared for all of Credere's EPA Brownfields work. The quality assurance and quality control (QA/QC) procedures outlined in Credere's Generic QAPP will be followed for this investigation program including sample collection, handling, and analysis of samples; chain-of-custody; and data management, documentation, validation, and usability assessment. Sampling as outlined in this SSQAPP will not occur until receipt of approval from EPA and the New Hampshire Department of Environmental Services (NHDES).

The following figures are included to add clarity to the plan:

- **Figure 1** – Site Location Plan
- **Figure 2** – Proposed Sampling Plan
- **Figure 3 –** Groundwater Exceedances
- **Figure 4** – Project Organization Flow Chart

3. PROBLEM DEFINITION

3.1 SITE DESCRIPTION

The Site comprises one 11.29-acre parcel identified as 39 Webster Street. The Site is improved with one 97,914-square foot commercial/industrial building. The building was built in 1915 and used as the W.W. Cross Factory, which manufactured tacks and fasteners for the upholstery, carpeting and shoe industry. In 2020, the building suffered a fire and the eastern and central portions of the building have been demolished.

Paved parking areas are located to the southwest and west of the Site building. A grassy area is located directly east of the site building that serves as a cap for a waste tack landfill, and two retaining ponds are located on the eastern end of the Site separated by an earthen berm. The remainder of the exterior portions are wooded.

3.2 SITE UTILITIES

As the Site building is vacant and fire damaged, utilities have been discontinued to the Site. Public water/wastewater service is not currently active but are available from the Town of Jaffrey.

Historical Sanborn maps depict extensive hydrant utilities throughout the Site, which may serve as preferential pathways including a conduit to the onsite ponds where a pumphouse formerly pumped water for fire suppression.

3.3 SITE HISTORY

Site History

Prior to 1915, the Site was undeveloped with only a small pond. The Site was first developed with the original Site building (today the northernmost section) by W.W. Cross by 1924. The initial building configuration had the factory occupying the northeastern most portion of the building. By 1941, the Site building had been expanded to the south expanding the factory space and adding additional storage in the southwest. Factory space was further expanded by 1953. These additions created a building footprint similar to today.

By 1953, a boiler room was added to the west of the side building. Between 1955 and 1975, a separate aboveground storage tank (AST) structure was built adjacent to the boiler room. Between 1975 and 1999, an eastern portion of the building was demolished. By 2000, W.W. Cross had vacated the Site. Between 2007 and 2012, the building was used by various commercial businesses after being divided into tenant commercial spaces. On June 21, 2020, a five-alarm fire was discovered at the Site affecting an eighth of the building.

Surrounding Area

The surrounding areas to the south and west have been a combination of undeveloped land, later developed into the American Legion Hall, and residential properties. By 1915, the surrounding area to the east was undeveloped land utilized by the W.W. Cross company as a "surface impoundment area". By 1982, this land was enclosed with fencing but is still undeveloped. Prior

to 1915, the north of the Site was a railroad corridor and then developed property. By 1915, the Bean & Symonds Factory for woodworking had been constructed on the north side of the railroad tracks. By 1970, the woodworking factory has been removed and the property was vacant. By 1980, a retail shopping plaza had been constructed, which remains to present day.

3.4 PRIOR SITE INVESTIGATIONS AND NHDES DOCUMENTATION

3.4.1 Offsite W.W. Cross Surface Impoundment

Surface Impoundment Early Correspondence and Post-Closure Plan, E.C. Jordan Co., 1982-1995

The surface impoundment related to prior Site operation is considered offsite under current property boundaries; thus, only a brief general history of the status of this portion of the W.W. Cross operations is provided.

Records related to the surface impoundment area date back to 1982 when discussions regarding the appropriate discharge of effluent from the factory began and Resource Conservation and recovery Act (RCRA) permitting was initiated. Cyanide and other metals were present in the effluent being discharged via an overhead sluiceway to the lagoons, which required pretreatment and monitoring of groundwater around the lagoons to comply with EPA and NHDES RCRA regulations at the time. The decision was made to reroute effluent to the Jaffrey Wastewater Treatment facility, but only after use of an approved pretreatment system. This pre-treatment and rerouting of waste occurred in 1983.

After eliminating the effluent to the lagoons, the lagoon required closure. E.C. Jordan Co. prepared the post closure plan dated 1988 to outline procedures for long-term monitoring and maintenance of the closed surface impoundment east of the Site. This Plan was developed to supplement the Filter Bed Closure Plan prepared by the same company (July 1985). Documentation of the completion of remedial action was provided in Certificate of Closure dated 1987. The closure activity included excavation, removal, and disposal of sludge and contaminated soil, and backfilling, grading, and capping of the filter bed with a low permeability cap. The Post Closure Plan required groundwater and surface water monitoring under Groundwater Management Permits (GMP) GWP8810-45J and later GWP-870807-J-001, and cover system monitoring as well as maintenance.

Groundwater was monitored with financial assurance provided through 2012 when additional soil characterization was done to assess conditions against current standards. As cyanide concentrations from the surface impoundment were below the Soil Remediation Standards (SRSs) at the time, NHDES issued a Discharge and Release of Notice of GMP on June 13, 2013. Based on this condition, no impacts to the Site related to the surface impoundment area are anticipated.

3.4.2 Waste Tack Pile

Waste Tack Pile Investigation, Loureiro Engineering Associates, Inc., September 28, 1994

Loureiro Engineering Associates, Inc. (Loureiro) was retained by Black and Decker Corporation to conduct a subsurface investigation to determine the characteristics of the tack pile where waste

tacks and nails as well as spent kerosene were reportedly disposed. Tacks were reportedly constructed using primarily steel, with occasional batches of brass (copper/zinc alloy), aluminum and stainless-steel tacks.

Samples from seven test pits were collected to assess the nature and extent of environmental impacts related to the waste tacks. Sample results indicated the presence of volatile organic compounds (VOCs), primarily tetrachloroethene (PCE), trichloroethene (TCE) and cis-1,2-dichloroethene (cis-1,2-DCE), petroleum, metals, and cyanide. No metals were present at concentrations characterizing this material as hazardous waste due to metals concentrations. This investigation confirmed the presence of contaminants in the tack pile but required further investigation.

Supplemental Subsurface Investigation Report and Remedial Option Evaluation, Loureiro Engineering Associates, Inc., November 6, 1995

Loureiro conducted a supplemental subsurface investigation to delineate the horizontal and vertical extent of the tack pile to evaluate options for closure and develop a remedial strategy for the cyanide contaminated material. It was estimated the tack pile comprised 4,500 to 5,500 cubic yards of material, which if removed would be considered a hazardous waste due to cyanide content.

Consolidation of materials outside the sloped area (i.e., nearest the building and near to the pump house) and construction of an impermeable capping system was chosen as the most cost effective remedial option based on the data.

Hydrogeologic Investigation, Loureiro Engineering Associates, Inc., July 22, 1996

Loureiro conducted a hydrogeologic investigation to assess the impact of the tack pile on groundwater at the Site. The report details the intention to install 13 groundwater monitoring wells, soil sampling and characterization, well development, groundwater sampling, surveying and collection of water-level measurements, and aquifer testing. The results of the implementation of this work plan was incorporated into subsequent documents.

Site Characterization Work Plan, Loureiro Engineering Associates, Inc., January 1998

Loureiro prepared this work plan to comply with NHDES Site Remediation Program. The work plan intended to:

- Determine the levels of cyanide contained through the tack pile
- Determine the extent of the gelatinous cyanide sludge wastes
- Install an additional groundwater monitoring well

Remedial Action Plan (RAP), Loureiro Engineering Associates, Inc., May 14, 1999

Considering the results of the above two work plans (Hydrogeologic Investigation & Site Characterization Work Plan), Loureiro prepared a Remedial Action Plan (RAP) for the closure of the tack pile. This work plan details:

- Removal of the "blue gelatinous material" in the vicinity of TP-3
- Construction of an impermeable cap over the landfill
- Groundwater monitoring in accordance with the Groundwater Management Permit

Final Closure Plan, Loureiro Engineering Associates, Inc., July 2, 1999, Rev. August 16, 1999

A Final Closure Plan was prepared by Loureiro, which outline the specifications for the impermeable cap, groundwater and surface water monitoring requirements, cap maintenance and inspection, and documentation requirements. The excavation of the blue gelatinous material was completed in August 1999 and the tack pile cap was installed in December 1999.

GMP Renewal Application, November 30, 2000, and GMP, May 12, 2021, Loureiro

As part of the existing GMP renewal for the Surface Impoundment, addition of the tack pile monitoring requirements was recommended to meet the groundwater monitoring requirements of the RAP. The monitoring of the tack pile was incorporated into the revised GMP GWP-198708007-J-002, which was renewed most recently as GWP-198708007-J-006, and required monitoring of monitoring wells MW-2, MW-4S, MW-4D, MW-5S, MW-5D, MW-6D, MW-6S, MW-7, MW-14, MW-16S, MW-16M, MW-16D, MW-17S, MW-17D, MW-202A, and MW-202B, piezometer PZ-101A, and surface water locations SW-1, SW-3, and SW-4 in April annually with a few locations biannually. Analyses vary by location. Groundwater Management Zone (GMZ) is depicted on **Figure 2**.

October 2002 through April 2021 Tack Pile Monitoring Results, Loureiro Engineering Associates, Inc.

Loureiro performed groundwater monitoring and an annual RCRA cover system inspection for the tack pile from issuance of the new GMP in 2000 through April 2021. The most recent results were reported on June 18, 2021, for the April 2021 event. Groundwater elevation data indicated groundwater flow was to the east, consistent with past data. It was noted that PCE concentrations have shown an apparent increasing trend based on trend graphs since 2016 in MW-6D and MW-2. Cadmium also shows an increasing graph trend in MW-6D, but a highly variable cadmium trend at PZ-101A. The following exceedances of the Ambient Groundwater Quality Standards (AGQS) remain as of April 2021:

- MW-2 1,4-dioxane
- MW-6S cadmium (below AGQS in 2021, but exceeded two prior rounds)
- MW-6D cadmium, sulfate, PCE, 1,4-dioxane
- MW-7 total cyanide
- PZ-101A cadmium, total cyanide

Based on the 2021 monitoring it was determined that the Groundwater Management Zone and the current remedial action plan continue to be appropriate, although it is recommended that per- and

polyfluoroalkyl substances (PFAS) be included again in the 2022 monitoring event for wells MW-2, MW-6S, MW-6D, MW-7, MW-14, MW-17S, MW-17D, and MW-202A.

Pond Evaluation and Supplemental Surface Water Sampling, Loureiro, December 13, 2010

A pond evaluation was completed in 2010 to assess potential ecological risk related to cyanide and cadmium concentrations that have been consistently detected immediately adjacent to the pond in MW-6D and PZ-101A and within the pond surface water. Surface water samples were collected and biota were inventoried. The assessment concluded cadmium and free cyanide were below the water quality criteria in the pond but that downstream locations were slightly elevated above the criteria. There were little valuable ecological resources in the pond due to shallow depth and general lack of observed life. Based on the cumulative observed data, use of SW-5 or SW-2 at the discharge of the upper pond was recommended compared to SW-4.

Annual RCRA Cover Inspection Report, Loureiro Engineering Associates, Inc., June 18, 2021

This report submitted by Loureiro details the 2020/2021 annual RCRA cover inspections performed at the Site. Annual cap inspections of the closed former Tack Pile are required. The inspection concluded the tack pile was in good condition after removal of recently discarded tires from within the fenced area and replacement of signage.

Water quality monitoring was also evaluated to assess the effectiveness of the cap. It was determined that groundwater quality at the Site is not considered to be negatively affecting water quality outside the GMZ and the Site is considered in compliance with the current requirements.

DES Response Letter, NHDES, July 12, 2021

The response letter from NHDES detailed their receiving of the April 2021 and 2020/2021 Annual Water Quality Monitoring Report, the Financial Assurance Mechanism Update Annual Post-Closure Cost Estimate 30-Year Interval, and the Annual RCRA Cover Inspection Report all prepared by Loureiro, as well as detailing some changes the NHDES requires to the Financial Assurance Mechanism Update.

3.4.3 Factory Area

Potential Aboveground Storage Tank Closure Violations, NHDES, January 25, 2017

The notice of findings from the NHDES details that an AST has been abandoned at the Site. Potential deficiencies were identified and information about the condition of the tank, and its future removal were requested.

Hazardous Building Materials Inventory, Ransom Consulting, Inc. September 22, 2017

Ransom Consulting, Inc. (Ransom) completed a Hazardous Building Materials Inventory (HBMI) for the Southwest Region Planning Commission (SWRPC) on behalf of the Town of Jaffrey, New Hampshire, for the Site. The HBMI included sampling for asbestos-containing materials (ACMs),

a lead-based paint survey, field screening and sampling of surficial soils and sampling for polychlorinated biphenyl (PCB)-containing building materials, and a universal waste inventory.

The HBMI identified the following:

- ACMs were identified at the Site building
- Lead-based paint was identified at the Site building.
- Elevated lead concentrations were detected during the field-screening and laboratory analysis of surficial soils tested from the "drip line" around the Site building perimeter.
- No PCB bulk product waste (i.e., building materials containing PCBs at concentrations equal to or greater than 50 milligrams per kilogram (mg/kg) under 40 CFR 761) was identified in the building materials tested
- Universal wastes were identified and inventoried at the Site

ASTM Phase I Environmental Site Assessment, Ransom Consulting, Inc., October 31, 2017

Ransom completed a Phase I ESA for the SWRPC on behalf of the Town of Jaffrey, New Hampshire, for the Site. This Phase I ESA was completed in accordance with ASTM International (ASTM) Standard Practice E 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for the purpose of environmental due diligence and identifying Recognized Environmental Conditions (RECs) at the Site. At the request of the users, the findings, conclusions, and recommendations are applicable to the western 40% of the Site which has been identified for possible sale and redevelopment. The eastern 60% of the Site contains known groundwater and soils regulated by the NHDES due to the presence of contamination from historical Site use and has been excluded from the recommendations contained within the Phase I ESA.

Based on review of historical sources, environmental databases, interviews, User provided information, Site reconnaissance, and judgment by the Environmental Professional, the Phase I ESA identified the following RECs in connection with the Western 40% of the Site:

- A non-compliant 20,000-gallon No. 6 oil AST is located in a cement block structure on the Site. The condition and volume of oil remaining in the AST, if any, is unknown and the ground surface below the tank could not be observed for staining related to a reported release of fuel oil. A release of vermiculite (presumed asbestos-containing) was noted on the ground surface adjacent to the cement block. *It should be noted that Credere conducted a site visit on July 22, 2022, and the AST structure could not be accessed to further observed conditions within the building.*
- Historically, an oil underground storage tank (UST) (size unknown) was located beneath the current central portion of the Site building. No records identifying the removal of this UST were identified during the course of the Phase I ESA, which would date to prior to 1941 when the building was expanded over the UST location. The historic presence of this UST and associated petroleum storage have the potential for adverse impacts to the Site soils and/or groundwater;

- Floor drains and sumps historically received process derived wastewater, including OHM, across the manufacturing/industrial portion of the Site building. Most of these structures were closed in place and have the potential to impact Site soils and/or groundwater beneath and adjacent to these drains/sumps.
- The detection of cyanide and/or PCE in groundwater samples from monitoring wells MW-14 and MW-2, including exceedances of AGQSs as recently as 2012 and/or 2014, could indicate the potential for unassessed or unidentified source areas, including areas on the western portion of the Site.
- A neighboring former drycleaning facility has adversely impacted groundwater on numerous parcels in the vicinity of the Site, including the detection of impacted groundwater above AGQS immediately abutting the Site and in an inferred upgradient position; the contaminated groundwater plume likely extends onto the Site.

Ransom recommended a Phase II ESA at the Site, including the advancement of soil borings, installation of groundwater monitoring wells, and laboratory analyses of Site soils and groundwater to assess and evaluate the RECs and areas of environmental concern.

The Phase I ESA also identified the following RECs in connection with the Eastern 60% of the Site:

- Groundwater contaminant concentrations for several wells with upward concentration trends over the past five to seven years, which may indicate additional possible source areas and subsequently corrective actions could be required in the future.

The Phase I ESA also identified the following CRECs in connection with the Eastern 60% of the Site:

- Waste tacks and other industrial wastes were deposited over the banking on the eastern portion of the Site from circa 1915 to the mid-1970s. As required by NHDES, targeted soils were excavated and removed from the Site, and adjoining soils were consolidated beneath an engineered cap in the unlined landfill. Access is restricted by fencing; disturbance of this area is controlled by a deed restriction, and groundwater and surface water impacts are monitored under a NHDES GMP.
- Untreated process derived wastewater was disposed of on the east abutting property via a surface impoundment area and pond system, from circa 1915 to circa 1981. Remedial efforts were conducted as required by the NHDES, sludge and shallow impacted soils were removed, the impoundment/filtration bed area (off-Site to the east) was capped and fenced. Groundwater and surface water impacts were being monitored under a NHDES GMP until 2013.

Although not considered RECs, and assessed separately as the eastern and western portions of the building, Ransom identified the following potential environmental AOCs in connection with the Site buildings:

- Given the unsecured nature of the Site building and the number of OHM containers that were observed to be remaining in the Site building, there is a threat of additional OHM releases.
- Additional investigations are necessary to assess whether petroleum and hazardous substance handling over many years of operation in loading/unloading areas may have resulted in releases of OHM in those areas.
- Additional investigations are necessary to assess whether potential releases of OHM from relatively high-risk properties located to the north and south have impacted groundwater quality on the Site.
- Given the probably former PCB content of the units, soils adjacent to the fenced enclosure housing three pad-mounted transformers should be assessed for possible past undocumented releases of PCBs.

Ransom also provided the following non-scope recommendations:

- An HBMI is being conducted at the Site at the time of this report. Prior to any renovation or demolition, hazardous building materials must be abated/removed and disposed of as required.
- Assessment of the OHM containers remaining at the Site and their removal and disposal
- The 20,000-gallon No. 6 oil AST should be removed.
- Copies of potential agreements made between the historical responsible party, NHDES, and the current or past owners should be obtained and reviewed to assess what contractual limitations of liability and corrective action obligations may be available to a prospective purchaser.

Site-Specific Quality Assurance Project Plan, Ransom Consulting, Inc., August 2018

Ransom completed a SSQAPP for a Phase II ESA. The SSQAPP detailed the sampling strategy, design, sample locations, analytical methods, and schedule for the work. The Phase II ESA performed by Ransom is detailed below.

Notification of Groundwater Quality Violation, Ransom Consulting, Inc., October 24, 2018

Ransom formally notified the NHDES of violation of the groundwater quality at the Site based on VOC detections analyzed as part of the Phase II ESA detailed below.

Phase II Environmental Site Assessment, Ransom Consulting, Inc., March 19, 2019

Ransom completed a Phase II ESA for the western 40% of the parcel for the SWRPC. To evaluate the RECs and potential environmental concerns identified in their October 31, 2017, Phase I ESA, the following areas of concern were developed

- AOC 1 – Wastewater Disposal Systems (Drains and Sewer)
- AOC 2 – Former Plating Area

- AOC 3 – Former Fuel Oil UST Area
- AOC 4 – Inactive Fuel Oil AST Area
- AOC 5 – Facility Loading/Unloading Areas
- AOC 6 – Off-Site Sources

The Phase II included advancement of soil borings and the collection and analyses of soil samples, installation of eight monitoring wells, and the collection and laboratory analyses of groundwater samples. The following are the results of the Phase II:

- Polycyclic aromatic hydrocarbons (PAHs) documented in the soil may be indicative of a release in the area of the non-compliant 20,000-gallon No.6 oil AST in that area (B5 and B22). Although there were no AGQS exceedances, VOCs were detected in the groundwater sample MW105.
- Evidence of petroleum was identified in the vicinity of the historical oil UST, but no violations of standards were documented.
- Floor drains and sumps that historically received process derived wastewater were confirmed to have resulted in release of cadmium in soil at location B2 and cyanide in groundwater at MW102, primarily associated with the plating area. PCE impacts to groundwater in MW102 and MW104 were also suspected to may also be related to floor drains or an offsite source.
- Contaminated groundwater (cyanide and PCE) in monitoring wells located on the eastern portion of the Site (e.g., MW-14 and MW-2) that could indicate the potential for unassessed or unidentified source areas was confirmed based on similar contaminants detected further west beneath the building, particularly PCE in MW102 and MW104.
- Contaminants from a neighboring former dry-cleaning facility were undetermined.

Additionally, PAHs were identified in the following three areas with unknown specific sources:

- Vicinity of B3 south of building
- B12 and B25 near southwest loading dock
- Along railroad on north side of the Site

Ransom recommended additional investigation to further delineate the extent of the following:

- Cadmium, cyanide, and PCE impacts to soils and/or groundwater in proximity to the former plating and wastewater treatment areas near MW102/B2
- PCE impacts to groundwater surrounding MW104 and MW102
- PAH impacts to soil near B12 and B26and naphthalene impacts to groundwater at MW108
- PAH impacts to soil in the area of the inactive No. 6 oil AST (B5 and B22)

Site-Specific Quality Assurance Project Plan, Ransom Consulting, Inc., May 14, 2019

Ransom completed a SSQAPP for the Supplemental Phase II ESA they conducted at the Site. This SSQAPP detailed the sampling design, sample locations, analytical methods, and schedule for the work. The Supplemental Phase II ESA performed by Ransom is detailed below.

Supplemental Phase II Environmental Site Assessment, Ransom Consulting, Inc., March 31, 2020

Ransom completed a Supplemental Phase II ESA for the western 40% of the parcel for the SWRPC. To evaluate the additional recommended investigation from the March 19, 2019, Phase II ESA as listed above, the following AOCs were developed:

- AOC A – PCE impacts to groundwater
- AOC B – Further investigation of cadmium, cyanide, and PCE impacts
- AOC C – Delineation of PAHs in Soil/Further investigation of petroleum in groundwater

The Supplemental Phase II included advancement of soil borings and the collection and analyses of soil samples, installation of three additional monitoring wells, and the collection and laboratory analyses of groundwater samples. The following are the results of the Supplemental Phase II ESA:

- AOC A - Relatively low concentrations of dissolved PCE were inferred to be migrating onto the Site with groundwater from the northwest based on the lack of PCE above the AGQS and presence of 1,2-cis-DCE in the upgradient wells, suggesting this area to be a downgradient lobe of a plume. This area of the Site is inferred to be separate from a low-level on-site plume with PCE and TCE impacts near MW102 and MW104. No residual PCE source area has been identified on the Site, although impacted groundwater from the onsite plume does slightly exceed the PCE AGQS.
- AOC B - No additional source areas for cadmium or cyanide were documented suggesting a localized source beneath the former plating room. A minor PCE source proximal to the former plating room and wastewater treatment area was inferred to likely be associated with past industrial operations.
- AOC C - The extent of PAHs (and VOCs in one location) in Site soils above SRSs has been delineated in shallow fill soils in the general area of the southwest corner of the building and was likely associated with creosote or coal tar type impacts to shallow soils. PAH impacts above SRSs were also noted in fill soils to the east of the inactive heating oil AST and were previously identified as proximal to a sewer manhole and in shallow surface soils along the north-abutting railroad corridor. No impacts to groundwater exceeding AGQS have been identified for PAHs or VOCs.

Ransom recommended the following based on the results of this Supplemental Phase II:

- Assessment of soils beneath the inactive heating oil AST in coordination with the removal and closure of that system
- Several additional borings to confirm the spatial extent of PAH impacted soils near the southwest portion of the building
- Additional assessment of the eastern 60% of the property including at minimum beneath the east portion of the building and adjacent to the electrical transformers
- Completion of a RAP consistent with the requirements of Env-Or 600, which could include monitoring of attenuation, management of soils in place under an AUR and/or limited soils removal and disposal
- Groundwater monitoring under a GMP will be required for impacts to groundwater above AGQS. An additional round of groundwater sampling is recommended to help clarify which wells should be included in future monitoring events.
- A soils management plan (SMP) should be completed and approved by NHDES for soils management during Site redevelopment.
- Appropriate pre-acquisition environmental due diligence and an application should be made to the New Hampshire Brownfields Covenant Program should be made to provide additional liability relief.

3.4.4 EPA Removal Action

Pollution/Situation Report #1, EPA, October 27, 2021

The Pollution/Situation Report from EPA detailed their involvement with the Site after the June 2020 fire that damaged the building. As part of the EPAs involvement, approximately 100 cubic yards of ACM fire debris was observed at the Site. This debris is exposed to the elements and could migrate to the nearby community. From October 25 to October 29, 2021, the EPA established the Site work zones, and confirmed all abandoned electrical lines and transformers were deenergized.

Pollution/Situation Report #2, EPA, November 8, 2021

From November 1 to 5, 2021, the EPA finished setting up work equipment at the Site, removed all overhead de energized cables, and began consolidating ACM fire debris into piles.

Pollution/Situation Report #3, EPA, November 15, 2021

From November 8 to 12, 2021, the EPA continued consolidating ACM fire debris, began structural stabilization of the north, west, and south footprint of the fire, and completed demolition of the western and southern extents.

Pollution/Situation Report #4, EPA, November 28, 2021

From November 16 to 19, 2021, the EPA continued perimeter air monitoring and dust control measures, continued consolidating ACM fire debris, continued structural stabilization of the northern building and demolition everywhere else, and received T&D bids from subcontractors.

From November 22 to 24, 2021, the EPA continued perimeter air monitoring and dust control measures, continued consolidating ACM fire debris, and completed demolition.

Pollution/Situation Report #5, EPA, December 14, 2021

From November 29 to December 10, 2021, the EPA continued perimeter air monitoring and dust control measures, continued consolidating ACM fire debris, and coordinated with receiving waste facility and trucking company.

Pollution/Situation Report #6, EPA, January 3, 2022

From December 13 to December 17, 2021, the EPA continued perimeter air monitoring and dust control measures, completed consolidation of ACM fire debris, and completed all demo and segregated all non-ACM material that will remain on site.

From December 20 to 22, 2021, the EPA prepared the Site for the holiday shutdown.

Pollution/Situation Report #7, EPA, May 25, 2022

From April 8 through 10, 2022, the EPA remobilized after the winter shutdown, continued perimeter air monitoring, and prepared ACM debris piles for load out.

From April 11 through 17, 2022, the EPA continued perimeter air monitoring and dust control measures and loaded 19 trucks for disposal.

From April 18 through 21, 2022, the EPA continued perimeter air monitoring and dust control measures and loaded 13 trucks for disposal and 6 trucks for scrap metal recycling.

From April 25 through 28, 2022, the EPA installed a fence to limit access, conducted final cleaning or the Site and demobilized. The Site was officially demobilized on April 28, 2022.

4. PROJECT DESCRIPTION & TIMELINE

4.1 REDEVELOPMENT SCENARIO

The Site is intended to be redeveloped; however, specific design plans have not yet been developed. It is assumed the building will be demolished given the extent of the fire damage to the building and the subsequent building deterioration.

4.2 PROPOSED PROJECT TIMELINE

The following schedule is proposed for the assessment work. This is a dynamic schedule and tasks may be performed later or earlier based on document regulatory review time and contractor availability.

TENTATIVE DATE	ACTION
September 2022	Submit Draft SSQAPP
September 2022	EPA and NHDES Review Period
December 2022	Finalize SSQAPP
January/February 2023	Execute Field Investigation
March/April 2023	Submit Draft Phase II ESA Report
April 2023	NHDES Review Period
May 2023	Finalize Phase II ESA Report

5. CONCEPTUAL SITE MODEL

A CSM was developed using the findings from the past Site investigations and will be updated in subsequent reports as new information becomes available. This CSM includes a Site description, Site history, description of the physical setting of the Site, source areas and contaminants of potential concern (COPCs), nature and extent of contamination, exposure pathways, and potential human and environmental receptors.

5.1 SITE DESCRIPTION

A detailed Site description consisting of Site use, Site location as depicted on **Figure 1**, and Site utilities is included in **Section 3.1**.

5.2 SITE HISTORY

A brief description of Site history as it relates to current environmental conditions at the Site is included in **Section 3.3**.

5.3 PHYSICAL SETTING

Topography

According to the topographic map, the Site is located approximately 990 feet above mean sea level (AMSL). Based on Credere's Site observations, and the United States Geological Survey (USGS) Topographic Map of the Monadnock Mountain Quadrangle, topography at the Site and vicinity in non-paved areas slopes downgradient to the east southeast. An excerpt from the USGS map is included as **Figure 1**.

Geology

Surficial Geology

Surficial geology at the Site was observed during prior environmental investigations to consist of fine to medium sands, with little fine to medium gravels and silt. Soil density as cobbles were noted to increase with depth. Overburden thickness ranged on average between 10-12 feet bgs throughout the Site. Shallower refusal was encountered in some locations, particularly beneath the building; however, it is unknown if these shallower refusals were geologic refusal or related to limitations on the drilling equipment used for interior borings. A creosote type material was noted as a "thin black layer" with creosote odor, and a lens of black in some soils around the southwestern corner of the building.

Bedrock Geology

According to the Bedrock Geologic Map of New Hampshire, the Site is underlain by Spaulding Tonalite, weakly foliated to non-foliated, spotted biotite quartz diorite, tonalite, granodiorite, and granite. Previous work did not investigate bedrock.

Hydrology

The Site and vicinity are located within the surficial drainage basin of the Cheshire Pond to the northeast of the Site. An unnamed stream flows north into the two onsite ponds on the eastern end of the Site, and then north out of those ponds into Cheshire Pond. Cheshire Pond empties into the Contoocook River, which flows south to the Mountain Brook Reservoir. Surface water likely infiltrates the ground in vegetated areas of the Site, and excess surface water likely flows overland to the onsite ponds.

Based on prior Site investigation, groundwater at the Site is mapped to flow east/southeast to the two ponds on the Site. The ponds are noted to flow north to the Cheshire Pond just to the north of the Site. According to prior investigations, depth to groundwater for the wells ranged between ~3 to ~10 feet bgs, with the shallowest depth to groundwater observed in MW-106 in the western portion of the Site, 20-25 feet bgs near to the eastern end of the building (MW-2 and MW-14), and only 4 to 7 feet bgs east of the tack pile (MW-5 and MW-6). As the Site has been assessed previously in two parts, a full Sitewide groundwater contouring event has not been completed and will be completed as part of this investigation.

5.4 SOURCE AREA & CURRENT CONTAMINANTS OF POTENTIAL CONCERN

Source Area

The following source areas have been identified at the Site:

- Tack landfill
- Creosote – type material identified in the general area of the southwest corner of the Site building.
- Former plating room/wastewater treatment area in the center of the building.
- Offsite PCE plume that extends onto the Site from the west
- Historical UST beneath central portion of building
- Current 20,000-gallon No. 6 fuel oil AST/building
- Historical industrial work at the Site (site-wide)
- Site building components/hazardous building materials

Contaminants of Potential Concern

Based on the historical use of the Site, prior investigations, and above source areas, current COPCs include the following:

- Chlorinated VOCs (CVOCs), i.e., PCE and daughter products
- 1,4-Dioxane
- PAHs
- Metals (particularly cadmium & arsenic)

- Cyanide
- PCBs
- Total petroleum hydrocarbons (TPH)
- PFAS
- Asbestos
- Lead

5.5 NATURE AND EXTENT OF CONTAMINATION

Tack Pile

During Site operations a tack pile was created where waste tacks and nails as well as spent kerosene was reportedly disposed of. Prior environmental assessments found the presence of CVOCs, petroleum, metals, and cyanide within the tack pile. Cyanide was identified sporadically within the tack pile and at concentrations that would characterize that material as hazardous waste. Efforts to delineate the cyanide to refine the remedial options were not successful. In 1999, portions of the cyanide impacted areas of the tack pile were excavated for offsite disposal, and the remainder of the tack pile was remediated through consolidation and the installation of an impermeable cap. The extent of the tack pile is shown on **Figure 2**.

CVOCs, cadmium, and cyanide are documented to have leached from the tack pile to monitoring wells MW-7 located on the southern extent of the tack pile (cyanide) and MW-6S and MW-6D (cadmium and PCE) in the downgradient position. MW-7 cyanide concentrations have remained relatively consistent with only a slight increase over time. Despite the impermeable cap, concentrations of cadmium and PCE have been increasing since approximately 2014, particularly in the monitoring well MW-6D deeper interval well. This suggests horizontal surface water infiltration and/or groundwater flow through the tack pile is contributing to migration. Lastly, PCE is also present in the upgradient monitoring well MW-2 and other wells beneath the mill building, indicating another contributing source of CVOCs may be present, which is further discussed in the following CVOC section. Data supporting this discussion is summarized on **Figure 3** along with the extent of current AGQS exceedances for cyanide, PCE and 1,4-dioxane.

The piezometer, PZ-101A, in the pond adjoining monitoring wells MW-6S/6D contains elevated concentrations of cadmium and periodic spikes of cyanide. It is assumed this piezometer is sampling pore water within pond sediment that is discharging from groundwater to the pond. Concentrations are generally similar to those in monitoring well MW-6D. Cyanide concentrations at the piezometer are higher, but these concentrations may be the result of periodic elevated turbidity in the samples. An ecological risk assessment completed in 2010 concluded there was little valuable ecological resources in the pond due to depth and general lack of observed life; therefore, ecological exposure in the ponds is not a concern. However, the sediment in the ponds has not been assessed to date to determine the presence of potential cyanide that may be contributing to the spikes in pore water results. There is no current human exposure to the pond sediments as they are overgrown and generally inaccessible; therefore, do not warrant additional

assessment at this time; however, any future redevelopment that may impact these ponds would warrant assessment.

The tack pile also has the potential to contribute CVOCs to soil vapor. No vapor assessment has been done to date at the Site. As there are no buildings currently present over the tack pile and since the tack pile would not likely structurally support any future building, there is no exposure to vapor specifically at the tack pile. Vapor in the adjoining building will be discussed in the following general CVOC section.

Twice yearly groundwater monitoring has been completed since 2002, which has indicated exceedances of AGQS of 1,4-dioxane, cadmium, sulfate, PCE, and total cyanide in various wells including MW-2, MW-6S, MW-6D, MW-7, and the piezometer PZ-101A. Recent groundwater results and historical maximum concentrations of this monitoring are summarized on **Figure 3**. Despite the apparent increasing concentrations, the tack pile cap inspections indicate the cap is intact and preventing exposure to the tack pile contents and ongoing monitoring has been compliant with the GMP. Therefore, no further assessment of this area beyond the continued monitoring under the GMP is warranted at this time.

CVOCs and 1,4-Dioxane Upgradient of Tack Pile

Prior environmental assessment at the Site has identified PCE in groundwater above the AGQS in wells beneath the central and eastern portion of the building (MW102 and MW104), east of the building (MW-2) and was detected (below AGQS) in the upgradient Site position (MW106 and MW201). Historically, MW-15I also had elevated PCE, most recently 17 µg/L and TCE, 6 µg/L in May 2022 (see July 2022, Annual Groundwater Summary Report for the Former Elite Laundry Site). Based on the differing detected CVOCs between MW106 (PCE and cis-1,2-DCE) and the eastern portion of the Site (MW102, MW104 and MW-2 where only PCE and TCE are detected), these are believed to be separate sources of CVOCs with a plume near MW106 and MW15I coming from an offsite source, and the other originating beneath the Site building. Data supporting this discussion is summarized on **Figure 3** along with the extent of current AGQS exceedances for cyanide, PCE and 1,4-dioxane.

The offsite source is suspected to be either the neighboring former drycleaner, the former Elite Laundry, previously located to the northwest, or the neighboring wood working shop previously located to the adjacent north. The presence of cis-1,2-DCE suggests dechlorination in the downgradient extent of plume. No vinyl chloride or TCE was detected.

The onsite source may be the previously detailed plating room, or another unidentified source area below the building related to historical operations. Onsite monitoring wells indicate a source of CVOCs containing PCE and TCE is present, with no cis-1,2-DCE suggesting the wells are located closer to the CVOC source or are associated with a less attenuated source. PCE has been detected in soil at only trace concentrations at B3, B14, and B110 along the southern side of the building. PCE in B14 corresponds to elevated PID readings (125 ppm), but PID readings were <1 ppm in B3 and B110. No VOCs were detected in soil in the two well locations despite PID readings (171

ppm max in B2/MW102 and 17 ppm B21/MW104) in those borings. Further refinement of the plume in the eastern portion of the building that was not previously assessed remains a data gap.

1,4-dioxane has also been identified as an increasing concentration in MW-2 and MW-6D with an increase to above the AGQS in recent years (since 2019) in these two wells. VOC analysis in the monitoring wells in the western portion of the Site have not assessed for 1,4-dioxane at a reporting limit low enough to evaluate the potential for a source area or additional extension of the plume in that direction, which is considered a data gap. It is also not known if the 1,4-dioxane plume correlates to the CVOC plume, which is also a data gap

CVOC concentrations identified to date do not exceed the GW-2 standards that would indicate concentrations high enough to attenuate/migrate to indoor air. However, the maximum concentration within the tack pile is not known, concentrations in groundwater beneath the eastern portion of the building have not been assessed, and the nature of the likely unconsolidated tack pile could facilitate migration of vapors due to the suspected high porosity (i.e., vapor space). As such, vapor from the tack pile could migrate toward the eastern portion of the existing building area. Therefore, the presence of CVOC vapors cannot be dismissed. As the building is not currently occupied nor is it expected to be redevelop-able in its current condition, exposure to vapor would be limited to a future redevelopment.

Creosote Type Material – PAHs and PCBs

Prior environmental assessment at the Site has identified an area of creosote-type soil impacts below and outside the southwestern portion of the building. This observable material corresponds with identified PAH detections in the soil. The boundaries of this material have been partially delineated as shown on **Figure 4**; however, the horizontal extents to the west, north, south, and particularly the southeast of the building, have not been defined. The highest concentrations focus around B111 and B117 at the surface (0-2 feet bgs), which are at the northern and southern extent of the current delineation, respectively. The vertical extent of this material is delineated with analytical data but can generally be assumed to be visually delineated from prior boring logs documenting a transition from fill materials to tan soil between 2 to 5 feet bgs. Delineation of the extent of this release area remains a data gap.

Additionally, this oily material has not been sampled for PCBs, which is common in waste oil, and therefore remains a data gap due to an unknown oil source.

Both PAHs and PCBs have an affinity to bond to soil and do not readily dissolve in water; therefore, migration to groundwater is not currently considered a concern for this release area.

Plating Room

A plating and wastewater treatment room was situated in the center of the Site building. Prior environmental assessment identified a release of cadmium in soil at location B2 (253 mg/kg). Cyanide is present in the groundwater at MW102 but was not identified in soil at the corresponding boring B2. Metals results for B1, B14, B18, B19, B103, and B113 generally indicate cadmium is horizontally confined to the one B2 location within the plating room. The vertical extent of

cadmium at this location is a data gap. As this delineation is approximately 50 feet from the central B2 location, a more refined delineation to support remedial planning is considered a data gap. The current extent of cadmium is shown on **Figure 4**.

Arsenic was identified above the SRS at B18, and is defined by B19, B1 and B2. The extent to the southwest and south remains a data gap. Without a known source, arsenic is anomalous in this location relative to other results across the Site.

General Historical Operations

On Site Ponds

Throughout the history of the Site, two ponds have existed on the Site. These ponds sit between the Waste Tack Pile, and the (offsite) surface impoundment area to the east that received wastewater prior to the 1980s. In the 1940s the wastewater sluiceway berm had been constructed, which bisected the two ponds, and emptied into the offsite impoundment area. The sluiceway was reportedly open with the potential to overflow, particularly if it was backed up or clogged, which would have released to the ponds. The pond sediment represents a data gap with potential impacts to both site soils and groundwater. As discussed above, an ecological risk assessment concluded there was little valuable ecological resources in the pond due to shallow depth and general lack of observed life; therefore, ecological exposure in the ponds is not a concern. However, the sediment in the ponds has not been assessed to date to determine the presence of potential contaminants related to historical operations. There is no current human exposure to the pond sediments as they are overgrown and generally inaccessible and do no warrant assessment at this time; however, any future redevelopment that may impact these ponds would warrant assessment.

Historical UST

During past historical record review, an oil UST of unknown size was identified below the current day central portion of the Site building (see **Figure 2**). Prior environmental assessment has not identified petroleum contamination associated with this historical UST, but the lack of a GPR survey to identify if the UST remains onsite represents a data gap, as it could represent a threat of future release if it still contains oil, and would require proper closure/removal if the building were demolished during redevelopment.

Current 20,000-gallon No. 6 oil AST

A non-compliant 20,000-gallon No. 6 oil AST has been identified onsite contained within a cement block structure. The condition of the AST, condition and material of the flooring, and volume of any oil remaining are all data gaps. This building is listed as containing a large quantity of loose vermiculite insulation which has been identified as asbestos-containing. Analytical results from prior soil borings/monitoring wells B5/MW105, B22, B114, and B115 indicate minor petroleum constituents in soil and groundwater; but no evidence of a significant release from the AST or concentrations above the SRS or AGQS were identified with the exception of marginal exceedances of PAHs in B5 and just benzo(a)pyrene in B22. Based on these results, no further assessment of the AST vicinity is warranted; however, the AST will require proper decommissioning as part of redevelopment.

Transformer Pen

A transformer pen is located southeast of the Site building. Two large transformers remain onsite that are labeled to contain 204 gallons of No. 10-C transformer oil analyzed to contain less than 50 parts per million PCBs. More modern transformers are labeled to contain less than 1 ppm PCBs; therefore, this label is presumed to mean the oil was replaced from a prior PCB type either as a result of a leak or general maintenance, with oil less than 50 ppm or that the oil may contain PCBs between 0 and 50 ppm. In either case, there is potential for the oil to contain PCBs that would be regulated by EPA and/or NHDES if released to surrounding soil.

Based on the age and condition of the transformers, and the potential for the transformer oil to have been replaced, there is the potential for a leak or spills of PCB-containing transformer oil to have occurred over time. Additionally, since the mill operated dating back to the 20s, older PCB-containing transformers that were replaced may have preceded these transformers. Any release of oil would likely have been to the transformer pad or soil surrounding the pads. PCBs typically sorb to soil, and with limited migration other than by foot traffic in and out of the transformer pen, and/or wind dispersion, would most likely be confined to the pen. As PCB's generally are not soluble unless at very high concentrations, without additional data indicating very high concentration are present, migration of PCBs to groundwater is not anticipated at this time.

PFAS

PFAS were detected in groundwater samples collected from MW-6S and MW-7 on the eastern portion of the Site as part of the April 2021 monitoring event. PFAS have not been analyzed for on the western portion of the Site and thus represent a data gap.

Hazardous Building Materials

ACM are known to exist at the Site and PCB-containing building materials are likely present given common construction practices at the time the Site buildings were constructed, renovated, or expanded in the 1940s and 50s.

Identified ACMs from the 2017 HBMI include the following (note this is prior to EPA conducting removal actions of a portion of the below asbestos):

- multiple mastics, 720 square feet (sf) in the office area, 75 sf in Room 22, 25 sf in the office entryway,
- window glazing, 2 windows in the office area, 2 windows in Room 17, 6 windows on the exterior,
- 9" x 9" floor tiles, 660 sf in Room 4, 80 sf in Room 2
- caulk on the exterior of the boiler room, 105 linear feet
- Vermiculite in the AST bunker, 2,933 cubic feet
- Roofing materials including wall flashing, penetration flashing, perimeter flashing, sawtooth flashing, skylight flashing, and sawtooth for a combined quantity of 37,736 sf.

- 13 Fire doors

While no materials were identified during prior testing to contain concentrations of PCBs above the US EPA regulatory standard, additional testing is warranted, as the suspect PCB-containing building materials observed during the initial HBMI wasn't inclusive of all suspect PCB-containing building materials observed during Credere's recent Site reconnaissance.

The June 2020 structure fire caused the deterioration and subsequent release of some of these materials, particularly the roofing materials. The EPA conducted partial demolition of the Site building to help to stabilize the portions that remain and disposed of fire and demolition debris as well as disposed of asbestos on those areas. Due to the fire and resulting partial building demolition, further assessment and mapping of the remaining ACM is warranted.

Lead

Lead was identified in surface soil during the 2017 HBMI through a combination of field-based XRF assessment and limited laboratory analysis of soil samples. The concentrations were discontinuous and sporadic, ranging from <10 mg/kg, to 1,728 mg/kg, indicating a highly heterogeneous distribution of lead. The lead was presumed to be from the release of lead paint to the structure drip line but is suspect due to heterogenous condition. Clinker was later identified as a major component throughout the soil on the north side of the building. Three samples, SS104, SS105, and SS106 were noted to have concentrations exceeding NHDHES SRSs standards for lead in soil, at 458 mg/kg, 797 mg/kg, and 1,730 mg/kg respectively. These samples were all taken along the northern side of the building. Therefore, sampling of other broad areas of the Site surface soil to assess general background conditions and possibly a greater ubiquitous presence of lead (and/or PAHs) related to historical industrial operations remains a data gap. If lead is not identified as an ubiquitous background contaminant, further delineation of the northern side of the building may be required.

5.6 EXPOSURE PATHWAYS AN POTENTIAL RECEPTORS

Exposure pathways describe how a human or environmental receptor comes into contact with contaminants that may be present at the Site. Potential migration pathways through groundwater, surface water, air, soils, sub-slab soil vapor, and sediments, were considered for each COPC and each source. A migration pathway is considered an exposure pathway if there is a mechanism of contaminant release from primary or secondary sources, a transport medium, and a point of potential contact with receptors. Both current and potential future releases and migration pathways to receptors are considered.

Inhalation: This pathway is primarily associated with groundwater contamination within 30 feet of an occupied structure when groundwater elevation is less than 15 feet below surface grade, or when depth to groundwater is unknown. This pathway is applicable when receptors may inhale impacted media in the form of contaminated vapor. This pathway is also applicable when contaminated soil and/or groundwater are exposed via an excavation.

Dermal Absorption:	Exposure via dermal absorption occurs when receptors are exposed to chemical concentrations present in soil, groundwater, surface water, or hazardous building materials through direct contact with the skin.
Active Ingestion:	The active ingestion pathway represents exposure which may occur through the active ingestion of contaminant concentrations via a drinking water supply well, through agricultural products, or through direct consumption of soil (e.g., typically by children or improper hygiene/health and safety of soil workers).
Incidental Uptake:	This pathway is applicable when receptors may incidentally inhale or ingest impacted media in the form of contaminated dust, chips, or airborne asbestos fibers.

Potential Receptors are categorized by duration of exposure and intensity of use at the Site. The receptor categories described in the CSM include the following:

Resident:	The residential receptor category is defined by high durational exposure and high intensity usage that may occur through gardening, digging, and recreational sports. This group includes the occupants of a residential property or a residential neighborhood, or a daycare.
Commercial Workers:	Commercial receptors are those which are present at the Site for long durations but with low intensity exposure such as indoor office workers.
Recreational/ Park/ Passive User:	Park users are characterized by low duration, i.e., less than two hours per day, and low intensity usage such as that which would occur during activities such as walking, shopping, and bird watching.
Excavation or Construction Worker:	Excavation or construction workers are present at the Site for short durations though intensity of use is high, such as during non-routine activities including construction or utility work. Examples include utility and construction contractors and landscapers.

5.7 EXPOSURE PATHWAY AND RECEPTOR SUMMARY

Under current conditions, exposure to Site COPCs includes only trespassers (passive users), as the Site is not regularly in use or occupied. The tack pile is fenced to further restrict access to this area. However, future redevelopment may broaden potential exposure to the other receptor groups depending on the redevelopment use. These groups include construction workers during redevelopment, and possible future residents, patrons, recreational users, and/or commercial workers.

Exposure pathways include inhalation of volatiles by construction workers in open excavations, inhalation of volatiles by all receptors in potential future Site buildings, incidental uptake of contaminated dust by all receptors, dermal absorption through contact with impacted media by all receptors, and active ingestion by future occupants or construction workers employing poor hygiene.

6. SAMPLING DESIGN

6.1 OBJECTIVES

The main objective of this project is to further assess the extent of previously identified contamination during prior investigations at the Site. The focus of the assessment will be to support a complete CSM and for remedial design considerations. The following specific objectives were established for the Site:

- Further delineate the PCE plume previously identified at the Site in the eastern portion of the building area
- Sample for 1,4-dioxane with improved data quality for further understanding of the comingled plume
- Further delineate the horizontal and vertical extend of PAHs previously identified under and in the general area of the southwest portion of the Site building.
- Further refine the horizontal and vertical delineation of cadmium below the former plating room pit/wastewater treatment area
- Inventory and update the map of ACM locations post the structure fire and EPA Removal Action, conduct additional asbestos sampling as warranted to comply with state regulations, sample potential PCB-containing building materials, and delineate previously identified lead in soil
- Assess the presence of the historical UST beneath the building
- Assess surface soil surrounding the transformer pad for the presence of PCBs
- Assess broader areas of Site surface soils for general impacts related to historical industrial operations

Specific sampling methodologies are described in **Section 7**. **Table 1** includes the number and type of samples that are proposed to be collected with accompanying rationale, selected analytical methods, and sample volume and preservation details. **Table 2** is a Standard Operating Procedure (SOP) reference table detailing the version of each SOP that will be used during the field sampling program.

6.2 GEOPHYSICAL SURVEY & UTILITY CLEARANCE

Credere will contract Ground Penetrating Radar Systems Incorporated (GPRS) to conduct a geophysical ground penetrating radar (GPR) survey to clear proposed boring locations for subsurface utilities/obstructions. Prior to commencing drilling activities, locations will also be cleared for subsurface utilities/obstructions by the DigSafe Network member utilities and by individually contacting local non-member utilities.

GPRS will also conduct a survey of the area where the historical UST is depicted as being located on the 1924 Sanborn Map to try and identify if the tank still exists below the building slab. This

attempt to locate the UST is considered incidental to the utility clearance as there is the potential that using geophysics inside the building will not be feasible due to rebar in the foundation slab.

The proposed GPR survey area is depicted on **Figure 2** and will also occur in an approximate 10-foot perimeter around each proposed boring location.

6.3 SOIL BORINGS AND SOIL SAMPLING

Following clearance work, 27 borings (CA-SB-01 through CA-SB-27), will be advanced at the Site using direct-push drilling methodologies.

- CA-SB-01 through CA-SB-09 will be advanced to 5 feet bgs or until 2 feet past evidence of contamination. These locations will be used to further delineate the extent of impacts to soil from a known creosote-type material. Additionally, borings B111 and B117 will be readvanced as B111R and B117R to sample beneath previous evidence of contamination to confirm that visual observation of the creosote-like material can be used to vertically delineate this release area. Sample target depths in **Table 1** are based on observations noted in the prior borings logs for B111 and B117. Samples from CA-SB-01 through CA-SB-09 will be collected from 0-2 bgs or from evidence of contamination if deeper than 0-2 bgs.
- CA-SB-10 through CA-SB-14 will be advanced to refusal to refine the delineation of cadmium identified below the former plating room in boring B2. Samples will also be sampled for cyanide to further assess if cyanide is present. Cyanide is present in groundwater at this location but most samples from this vicinity were not previously analyzed for cyanide. CA-SB-14 will be sampled below the depth of the prior cadmium exceedances from 7.5-9.5 bgs. The remaining borings will be screened with an XRF in 2-foot intervals. The sample with the highest cadmium results by XRF from each boring will be submitted for laboratory analysis.
- CA-SB-15 through CA-SB-17 will be advanced to refusal to further delineate identified PCE impacts on the eastern portion of the building area of the Site. One soil sample will be collected from each boring from the depth of greatest observed contamination or above refusal if no evidence of contamination is observed. If CA-SB-17 is inaccessible by drill rig the location will be moved onto the building pad.
- CA-SB-18 through CA-SB-27 will be advanced to 5 feet bgs to assess site-wide metals, primarily lead, and PAH concentrations, both likely associated with historical industrial use across the Site in surface soil (0-2 feet bgs). Borings will be continued vertically if evidence of contamination is encountered such as visible fill, odor or PID response. If CA-SB-27 is inaccessible by drill rig the location will be moved onto the building pad.

The need to collect more than one sample will be assessed and discussed with the project team, as needed.

Four composite soil samples CA-CP-1 through CA-CP-4 will be collected from each side of the transformer pad within the transformer pen to assess the presence of PCBs in surface soil.

Composite samples will comprise of 8-point composites from 0-0.5 feet bgs following removal of organic detritus (i.e., sticks, leaves, roots, etc.). If PCBs are detected in the composite samples, additional discrete sampling within the composite area will be warranted to attain the maximum PCB concentration within the area.

Proposed soil boring and locations are depicted on **Figure 2**. The rationale for each location is summarized on **Table 1**.

6.4 MONITORING WELL INSTALLATION AND GROUNDWATER SAMPLING

CA-SB-14 through CA-SB-17 will be completed as groundwater monitoring wells CA-MW-301, CA-MW-302, CA-MW-303, and CA-MW-304, respectively. CA-MW-301 will be an attempt at a deeper couplet with MW102 as during the original soil boring and installation refusal on bedrock was not achieved. A groundwater sample will be collected from the newly installed wells after development and following at least a 14-day stabilization period. CA-MW-301 will be sampled to assess contamination previously identified below the former plating room. CA-MW-302, CA-MW-303, and CA-MW-304 will be sampled to further delineate identified impacts at the Site.

Monitoring wells will be constructed with a 10-foot screen and will be installed at refusal as deeper interval wells in the downgradient position have the higher concentrations and PCE is expected to migrate vertically to a confining interval. ("Deeper" interval well construction is not known as historical boring logs for wells constructed in the eastern portion of the Site from the Tack Pile investigation were not able to be obtained during records review for this SSQAPP. These wells are presumably bedrock wells or installed at bedrock refusal.)

In addition, previously installed monitoring wells MW-102, MW-103, MW-105, MW-106, MW-108, MW-203, MW-2, MW-6D, and MW-14 will be sampled for the purposes of completing a synoptic round of sampling across the Site. An inspection of the Site in July 2022 indicated MW-101, MW-104, and MW-201 could not be located or have been destroyed by recent fire or cleanup activities; therefore, these wells are not anticipated to be sampled.

Proposed monitoring well sample locations are depicted on **Figure 2**, and the rationale for each location is summarized on **Table 1**.

6.5 ASBESTOS SAMPLING

Credere will perform a potential ACM inventory using the prior asbestos survey to assess the materials that remain in place after the fire and EPA Removal Action. This updated inventory will allow for remedial planning for future abatement.

Any previously unidentified asbestos-containing building materials in the Site building will be sampled, as well as supplemental sampling to comply with state and federal regulations. Sample results will be used to properly manage ACM during renovation or demolition of the Site buildings. Up to 20 suspect ACMs will be collected in triplicate (i.e., 60 total ACM samples). This sampling will be performed in accordance with NHDES Chapter Env-A 1800 – Asbestos Management and Control. The number of samples collected will be dependent on the number and volume of suspect

ACMs that are encountered but will not exceed 20 materials collected in triplicate (60 individual samples) without project team approval.

6.6 PCB-CONTAINING BUILDING MATERIAL SAMPLING

Based on the prior HBMI, some potential PCB-containing caulk and paint was assessed for potential sampling; and five samples were collected. Based on Credere's experience, significant additional potential PCB-containing materials including paints, mastics, adhesives, etc. may contain PCBs. Therefore, additional potential PCB-containing materials inventory and sampling will be conducted. As such, up to twenty (CA-PCB-1 through CA-PCB-20) previously unidentified suspect PCB-containing building materials will be collected for analysis from the Site building. Samples will be collected to assess if any hazards are present associated with PCBs in building materials and if the building materials are regulated as PCB bulk product waste as defined by 40 CFR 761.3. If, based on the initial results, additional assessment of PCB-containing building materials is needed, approval for additional samples will be proposed and approved under a separate SSQAPP amendment. Data will be used to properly manage building materials that may contain PCBs during renovation of the Site buildings.

7. SAMPLING & ANALYTICAL METHODS REQUIREMENTS

The proposed sampling activities will be conducted according to **Table 1**. Field activities will be conducted in accordance with Credere's Generic QAPP and the SOPs referenced on **Table 2**.

7.1 GEOPHYSICAL SURVEY

GPRS will perform their GPR survey by transecting the Site in the areas shown where soil borings are to be performed, and where the UST is mapped to be as shown on **Figure 2**. Anomalies will be reported to Credere in real time. Credere will document the location of the anomalies, if any, and the UST if identifiable, in the field with marking paint. Each soil boring/monitoring well location will also be cleared for utilities and locations will be adjusted in real time in the field if obstructions are identified by the survey.

7.2 SOIL BORING AND SOIL SAMPLING

Soil borings will be advanced to refusal (CA-SB-10 through CA-SB-17) or to 5 feet bgs (CA-SB-01 through CA-SB-09, and CA-SB-18 through CA-SB-27) unless refusal is encountered first. B111R and B117R will be advanced to the target sample depth based on the prior sample depths. CA-SB-01 through CA-SB-09 will also be advanced deeper if visible contamination extends beyond the initial 5 feet with a goal of advancing at least 2 feet beyond observable contamination. Surface soil composite sampling (CA-CP-1 through CA-CP-4) around the transformer pad will be completed using hand tools.

Borings will be advanced using direct-push with auger attachments. except installation of the 3 exterior wells, CA-MW-302, CA-MW-303, and CA-MW-304, which will be advanced using hollow stem auger. Soil cores will be collected continuously using 5-foot stainless-steel macrocores. Cores will be individually logged, evidence of contamination will be noted, and soil will be field screened for total VOCs in accordance with Credere SOP CA-7 for Headspace Screening using a ppbRae 3000 (or similar) calibrated with a 10-parts per million by volume (ppm_v) isobutylene gas standard and an instrument response factor of 1.0.

Sample target depths are summarized in **Section 6.3** and on **Table 1**, which is to be used as a field guide.

Visible asphalt and base materials, landscaping materials, and other organic detritus will be removed prior to sampling. Representative soil from an appropriate interval (no larger than 2 feet) will be collected while wearing new nitrile gloves and using decontaminated hand tools (e.g., stainless steel spoon or spade). VOC samples will be collected directly from the core or sidewall of the surface soil sample location using a dedicated soil syringe immediately after opening to prevent loss of volatiles or degradation. For the remaining analysis, representative soil will be placed in a decontaminated stainless-steel bowl, homogenized, and placed in laboratory provided glassware. Proposed sample analysis for each respective sample as well as the required volume and preservation method is provided in **Table 1**. Soil samples will be stored on ice and submitted to Absolute Resource Associates (ARA) of Portsmouth, New Hampshire, for analysis.

Excess soil at each location will be returned to its place of origin within the boreholes or to the surface surrounding the boreholes.

Soil at CA-SB-10 to CA-SB-13 will be sampled in 2-foot intervals and screened for the highest cadmium concentrations using an X-ray fluorescence meter (XRF) in 2-foot intervals. The screening sample bags will be labeled and screened in the field using an XRF in accordance with EPA Method 6200 (EPA, 2007). To ensure adequate precision in the data, each bag of soil will be screened using a 3-minute screening time. Results will be recorded in the field log. Sample results can be biased by moisture and particle size distribution. Screening during rain or saturated conditions will be limited and bags will be handled to minimize settling of fines.

The XRF will be checked against a 0 mg/kg and 735 mg/kg standard by screening the standards three times. The average of the three results should be within ±20 mg/kg of the standard. The XRF will be checked against the 735 mg/kg standard at the beginning, middle, and end of each day to assess instrument drift. One (1) in 20 screening samples will be screened seven (7) times in replicate to assess the relative standard deviation (RSD). The RSD should remain within 20 percent.

Soil samples selected for screening will be transferred in their entirety from the bag to a laboratory provided sample jar. Lab samples will also be recorded in the field log to allow for later correlation of field screening and laboratory results.

7.3 MONITORING WELL INSTALLATION AND GROUNDWATER SAMPLING

The groundwater monitoring wells will be constructed using 10 feet of 2-inch diameter 0.010-inch slotted polyvinyl chloride (PVC) screen installed at refusal and enough solid PVC riser to reach the ground surface. The well annulus will be filled with No. 2 washed silica sand, and a bentonite seal will be installed above the screen. Each well will be flush mounted with a concrete road box.

Following installation, the elevation of each well (top of PVC) will be surveyed to an onsite benchmark and tied into the existing well network at the Site, if available, or an arbitrary datum, if necessary. Depth to groundwater and LNAPL and/or DNAPL thicknesses, if present, will then be measured relative to the top of well elevations in all accessible Site wells to allow for the calculation of relative groundwater elevations and the determination of groundwater flow direction at the Site.

Each well will be developed by over-pumping and agitation methods. The wells will be purged until a total of at least three well volumes have been removed and turbidity has been reduced to less than 10 nephelometric turbidity units (NTUs). During all development and sampling purge water will be discharged to a vegetation surface nearest to the well heads. If gross contamination is observed or identified through field screening, purge water will be containerized or treated onsite. Credere will allow at least 14 days for the monitoring wells to equilibrate with the surrounding aquifer prior to sampling.

After an appropriate equilibration period, Credere will sample the wells using low-flow sampling methodologies or no-purge methodologies, when appropriate. Wells will be pumped using

peristaltic pumps for shallow wells and bladder pumps for wells where the water table is deeper than 30 feet. Low density polyethylene (LDPE) tubing will be used for all development scenarios on this project. Teflon tubing will not be used due to PFAS sampling. Wells will be purged at a stable flow rate to avoid drawdown of the water level. Purging will occur by one of the following methods:

1. If a stable flow rate is achieved, groundwater will be periodically monitored for temperature, pH, oxidation-reduction potential (ORP), specific conductivity, and dissolved oxygen (DO) using a multi-parameter meter and an in-line flow-through cell until parameters have stabilized over a period of three readings, spaced at least 5 minutes apart or at a spacing to allow for a complete exchange of flow through the flow-through cell based on the flow-through cell volume and flow rate. Turbidity will be monitored using a separate turbidity meter. If parameters do not stabilize within a period of 2 hours or before a maximum purge volume of 5 well volumes, samples will be collected with field note justification of attempts to achieve stabilization and data will be reviewed for evidence of bias.
2. If a stable flow rate cannot be achieved, purging will be ceased, and the no-purge sampling method will be implemented. Tubing will be placed at the desired pump intake, one tubing volume will be purged, and samples will be collected. The wells will not be permitted to be pumped dry.

Groundwater samples will be collected immediately after the pump and directly into the appropriately preserved sample containers. Proposed sample analysis for each respective sample, as well as the required volume and preservation, is provided in **Table 1**. Groundwater samples will be stored on ice and submitted to Alpha Analytical, Inc. (Alpha) of Westborough, Massachusetts, for analysis.

7.4 ASBESTOS SAMPLING

Any sampling of suspect ACM at the Site will be conducted by a New Hampshire Certified Asbestos Inspector and in accordance with New Hampshire Chapter Env-A 1800 – Asbestos Management and Control. Three discrete bulk samples will be collected from each type of newly identified homogenous suspect ACM (up to 20 suspected ACMs sampled in triplicate for a total of 60 samples). Minor destructive sampling may be required. Samples will be analyzed by EMSL Analytical, Inc. (EMSL) of South Portland, Maine, using Polarized Light Microscopy (PLM) according to EPA Method 600/R-93/116.

7.5 PCB-CONTAINING BUILDING MATERIAL SAMPLING

To assess the potential presence of PCB-containing building materials, the Site building on the parcel will be inspected, and suspect materials will be inventoried and considered for sampling. Materials that typically contain PCBs include caulk/sealants, paint, and mastics/adhesives that were manufactured between approximately 1930 and 1980 and are most commonly in areas that endure high wear, weather, high heat, or moisture. Typical materials and locations that PCBs are encountered include, but are not limited to:

- Caulks and sealants around doors and windows or within expansion joints.

- Wall paints in high heat or moisture areas such as boiler rooms, equipment rooms, or basements.
- Floor paints in high traffic areas such as hallways, stairs, or building entrances.
- Mastics beneath floor tiles.

The Site buildings will be surveyed to locate the materials that are likely to contain concentrations of PCBs exceeding the PCB bulk waste criteria. Samples will be collected using dedicated disposable tools and placed in laboratory provided glassware. Each sample will require a minimum of 20 grams of materials for analysis to be confirmed with a scale at the time of sampling. Samples will be submitted to ARA for analysis of PCBs by EPA Method 8082 using Soxhlet extraction method 3540C.

8. REGULATORY STANDARDS

Sample results will be compared to the applicable state and/or federal standards/guidelines described below. **Appendix A** includes Analytical Sensitivity and Project Criteria Tables for the Site, which compares regulatory standards for each contaminant to the analytical limits of the laboratory method used. Additionally, any new SOPs that are not included in the Generic QAPP are included as **Appendix B**.

The practical quantitation limit (PQL) for several compounds have been identified as insufficient to meet the regulatory comparison criteria. Based on existing data for the Site, these compounds are not considered specific COPCs. It is expected that these compounds will be reported by the laboratory as non-detect with concentrations below the PQLs. If no other information has surfaced during the Phase II ESA to warrant reevaluation of these compounds as possible COPCs, then the results will not be reported as potential exceedances of the regulatory criteria but will be evaluated relative to other Site data and indicated to have limited usability in the data usability assessment (DUA). In the case of 1,4-dioxane in the VOC analysis, this compound is considered a COPC and is planned to be further analyzed by selective ion monitoring (SIM) to obtain improved data quality for these results. The SOP for this analysis is included in **Appendix B**.

8.1 SOIL

Soil analytical results will be compared to the current New Hampshire Code of Administrative Rules Chapter Env-Or 600 – Contaminated Site Management Table 600-2 SRSs and Appendix E Method 1 Soil Standards from NHDES RCMP.

8.2 GROUNDWATER

Groundwater analytical results will be compared to the current New Hampshire Code of Administrative Rules Chapter Env-Or 600 – Contaminated Site Management Table 600-1 AGQS and Table 2, Method 1 Groundwater Standards for NHDES RCMP for GW-2 standards.

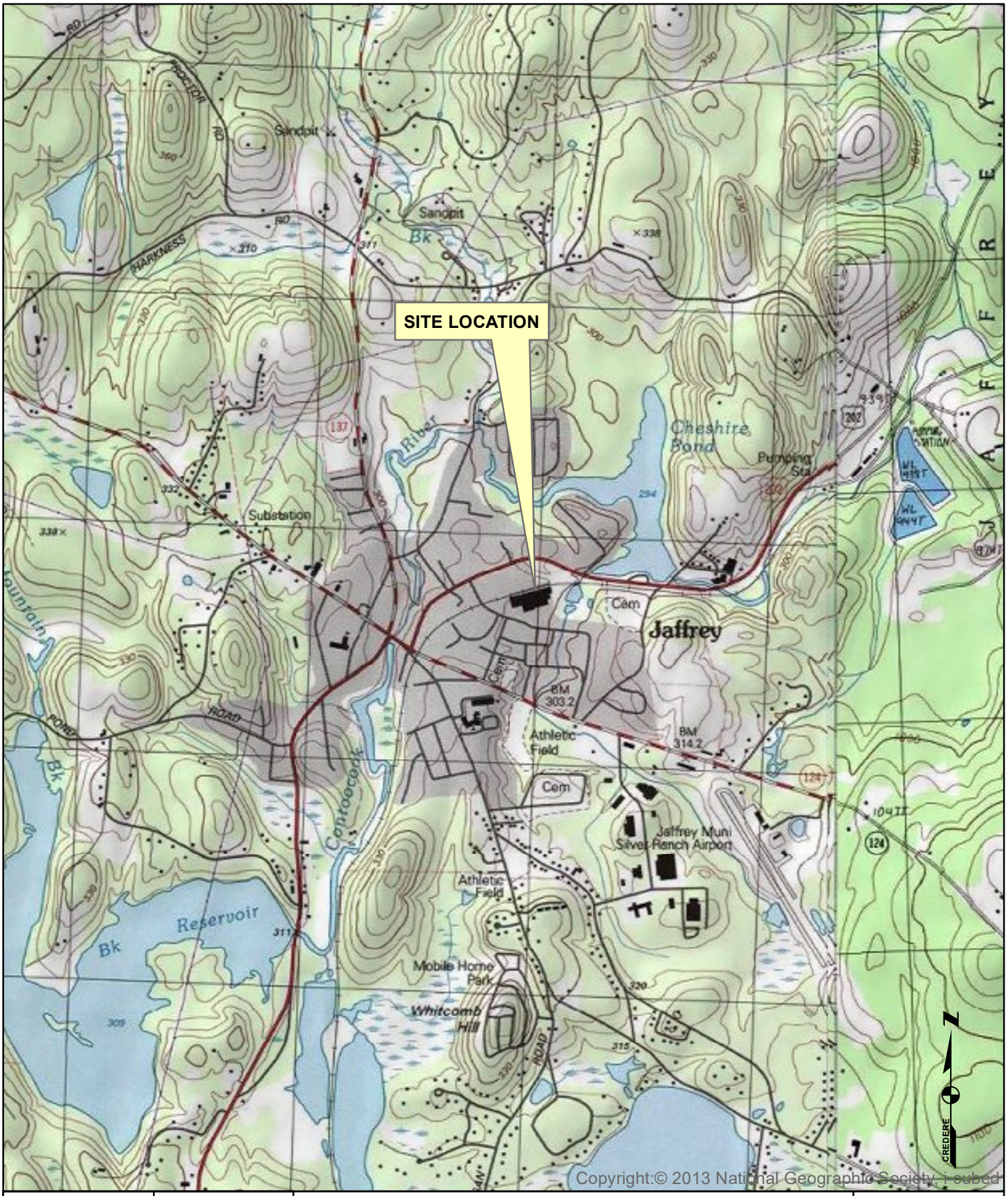
8.3 ASBESTOS

Laboratory analytical results for asbestos bulk samples will be compared to the 1% limit specified in New Hampshire Chapter Env-A 1800 – Asbestos Management and Control.

8.4 PCB-CONTAINING BUILDING MATERIALS

PCB-containing building material analytical results will be compared to the TSCA Title 40 CFR Part 761.3 definition of PCB Bulk Product Waste threshold criteria (≥50 milligrams per kilogram [mg/kg]). According to Part 761.20(a), materials with PCB concentrations ≥50 mg/kg require removal from use and proper disposal. Materials that contain PCB concentrations ≤50 mg/kg are not regulated by TSCA for removal as long as they remain in use. However, when these materials are removed from use (e.g., during renovation or demolition), they must be disposed at a facility that is licensed to accept this waste in accordance with 40 CFR §761.61(a)(5)(i)(B)(2)(ii). Building materials with total PCBs at concentrations less than 1 mg/kg are unrestricted for future use and/or disposal (40 CFR §761.61(a)(4)(i)(A)).

FIGURES



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DRAWN BY: **CRB**	DATE: **06/27/2022**
CHECKED BY: **JRN**	PROJECT: **21001639**

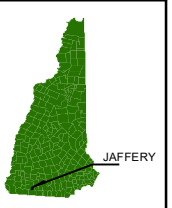
Credere Associates, LLC
776 MAIN STREET
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FIGURE 1
SITE LOCATION PLAN

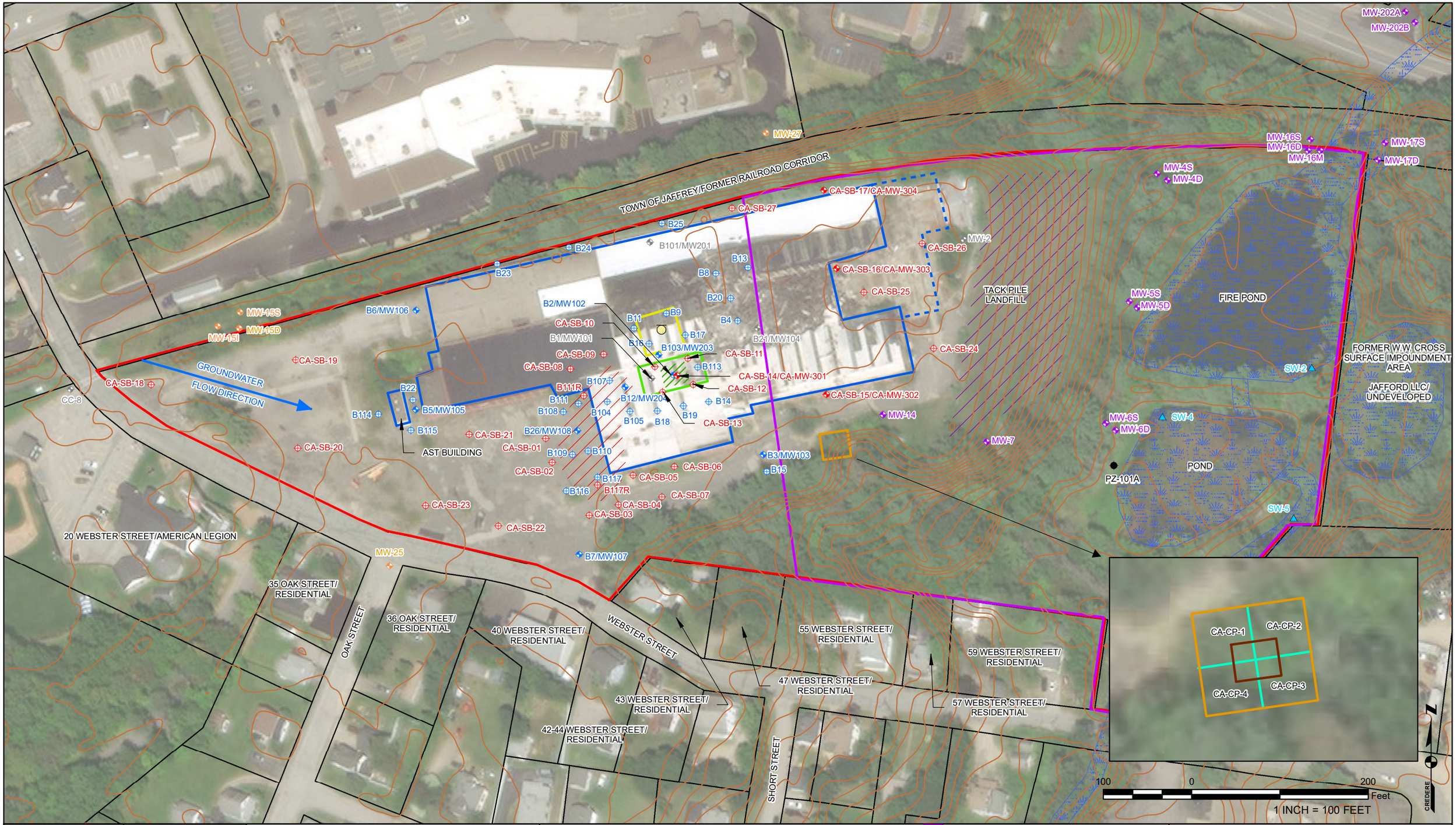
W.W CROSS PROPERTY
39 WEBSTER STREET
JAFFERY, NEW HAMPSHIRE

1,300 0 2,600 Feet

1 INCH = 2,000 FEET



Document Path: T:\Data\NH\Town\Jaffery\21001639 W. W. Cross Property\Figure 1_NH_10.5.mxd



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FIGURE 2
PROPOSED SAMPLE LOCATIONS

W.W. CROSS
39 WEBSTER STREET
JAFFREY, NEW HAMPSHIRE

- PREEXISTING MONITORING WELL
- FORMER ELITE LAUNDRY WELLS
- MONITORING WELLS UNABLE TO BE LOCATED
- RANSOM ENV. SOIL BORINGS
- RANSOM ENV. SOIL BORINGS & MONITORING WELLS
- PIEZOMETER
- PROPOSED SOIL BORINGS
- PROPOSED SOIL BORING/MONITORING WELL
- SURFACE WATER LOCATIONS
- APPROX. HISTORICAL UST
- FORMER BUILDING FOOTPRINT
- 2-FT TOPOGRAPHIC CONTOUR
- SITE BOUNDARY
- SITE BUILDING
- TRANSFORMERS
- FORMER PLATING AND WASTEWATER TREATMENT
- GROUNDWATER MANAGEMENT ZONE
- TACK PILE LANDFILL
- CREOSOTE-TYPE SOIL IMPACTS
- CADMIUM SOIL IMPACTS
- GPR AREA
- WETLANDS
- PARCEL BOUNDARY
- EXISTING TRANSFORMER PAD
- COMPOSITE SAMPLING BOUNDARIES

NOTES:
EXISTING CONDITIONS AND FEATURES SHOWN ON THIS PLAN ARE APPROXIMATE AND ARE BASED ON INFORMATION OBTAINED FROM THE TOWN OF JAFFREY ONLINE GIS DATA, NEW HAMPSHIRE GIS PARCEL LAYER, 2021 ORTHO PHOTOS, AND SITE VISIT PERFORMED ON JULY 22, 2022.

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Document Path: T:\Data\NH\Town\Jaffrey\21001639 W. W. Cross Property\Figure 2 - Detailed Site Plan_10.5_8-29.m

MW201			
Compound	AGQS	2018	2019
PCE	5	ND	2.6

MW102			
Compound	AGQS	2018	2019
PCE	5	5.85	3.6
Cyanide	200	512	746

MW203			
Compound	AGQS	2018	2019
PCE	5	ND	1.8

MW106			
Compound	AGQS	2018	2019
PCE	5	1.4	NS

MW101			
Compound	AGQS	2018	2019
PCE	5	2.6	NS

MW104			
Compound	AGQS	2018	2019
PCE	5	8.6	5.8

MW105			
Compound	AGQS	2018	2019
PCE	5	ND	NS

MW108			
Compound	AGQS	2018	2019
PCE	5	ND	0.43 J
Naphthalene	100	180	19

MW103			
Compound	AGQS	2018	2019
PCE	5	0.94	NS

MW204			
Compound	AGQS	2018	2019
PCE	5	ND	ND

MW107			
Compound	AGQS	2018	2019
PCE	5	ND	NS

MW-2			
Compound	AGQS	High	2021
PCE	5	6.5 (2019)	4.4
1,4 - dioxane	0.32	9.65 (2019)	2.57

MW-5S
No Exceedances

MW-5D
No Exceedances

MW-14
No Exceedances

MW-6S			
Compound	AGQS	High	2021
Cadmium	5	6.4 (2020)	2.66

MW-6D			
Compound	AGQS	High	2021
Cadmium	5	26.95 (2019)	26.57
Sulfate	500,000	$20,000 (2020)	$10,000
PCE	5	16 (21 & 19)	16
1,4 - dioxane	0.32	0.674 (2021)	0.674

MW-7			
Compound	AGQS	High	2021
Cyanide	200	786 (2017)	345

MW-27
MW-202A
MW-202B
MW-16S
MW-16D
MW-16M
MW-17S
MW-17D
MW-4S
MW-4D
MW-2
CA-SB-17/CA-MW-304
CA-SB-27
CA-SB-26
CA-SB-16/CA-MW-303
CA-SB-25
B25
B101/MW201
B24
B23
B13
B8
B20
B2/MW102
B6/MW106
MW-15S
MW-15I
MW-15D
B11
B9
B4
B17
B16
B103/MW203
B21/MW104
CA-SB-10
B1/MW101
CA-SB-09
CA-SB-08
CA-SB-11
B113
CA-SB-14/CA-MW-301
CA-SB-12
CA-SB-24
CA-SB-19
CA-SB-18
CC-8
GROUNDWATER FLOW DIRECTION
B22
B107
B111R
B111
B108
B104
B12/MW204
B105
B18
B19
B14
B5/MW105
B114
B115
CA-SB-21
B26/MW108
CA-SB-01
CA-SB-20
AST BUILDING
B109
B110
CA-SB-02
CA-SB-13
MW-14
CA-SB-15/CA-MW-302
MW-7
B3/MW103
B15
CA-SB-06
B117
B116
B117R
CA-SB-05
CA-SB-07
CA-SB-04
CA-SB-03
CA-SB-23
CA-SB-22
B7/MW107
MW-25
20 WEBSTER STREET/AMERICAN LEGION
35 OAK STREET/ RESIDENTIAL
36 OAK STREET/ RESIDENTIAL
OAK STREET
40 WEBSTER STREET/ RESIDENTIAL
WEBSTER STREET
43 WEBSTER STREET/ RESIDENTIAL
42-44 WEBSTER STREET/ RESIDENTIAL
SHORT STREET
55 WEBSTER STREET/ RESIDENTIAL
47 WEBSTER STREET/ RESIDENTIAL
59 WEBSTER STREET/ RESIDENTIAL
57 WEBSTER STREET/ RESIDENTIAL
75 WEBSTER STREET/AUTO REPAIR
TACK PILE LANDFILL
MW-5S
MW-5D
FIRE POND
MW-6S
MW-6D
PZ-101A
POND
FORMER W.W. CROSS SURFACE IMPOUNDMENT AREA
JAFFORD LLC/ UNDEVELOPED
100 0 200 Feet
1 INCH = 100 FEET
N
CREDERE

DRAWN BY: **MAW** | DATE: **12/13/2022**
CHECKED BY: **JRN** | PROJECT: **21001639**

Credere Associates, LLC
776 MAIN STREET
WESTBROOK, MAINE
Tel. 207.828.1272
Fax 207.887.1051
WWW.CREDERELLC.COM

FIGURE 3
GROUNDWATER EXCEEDANCES

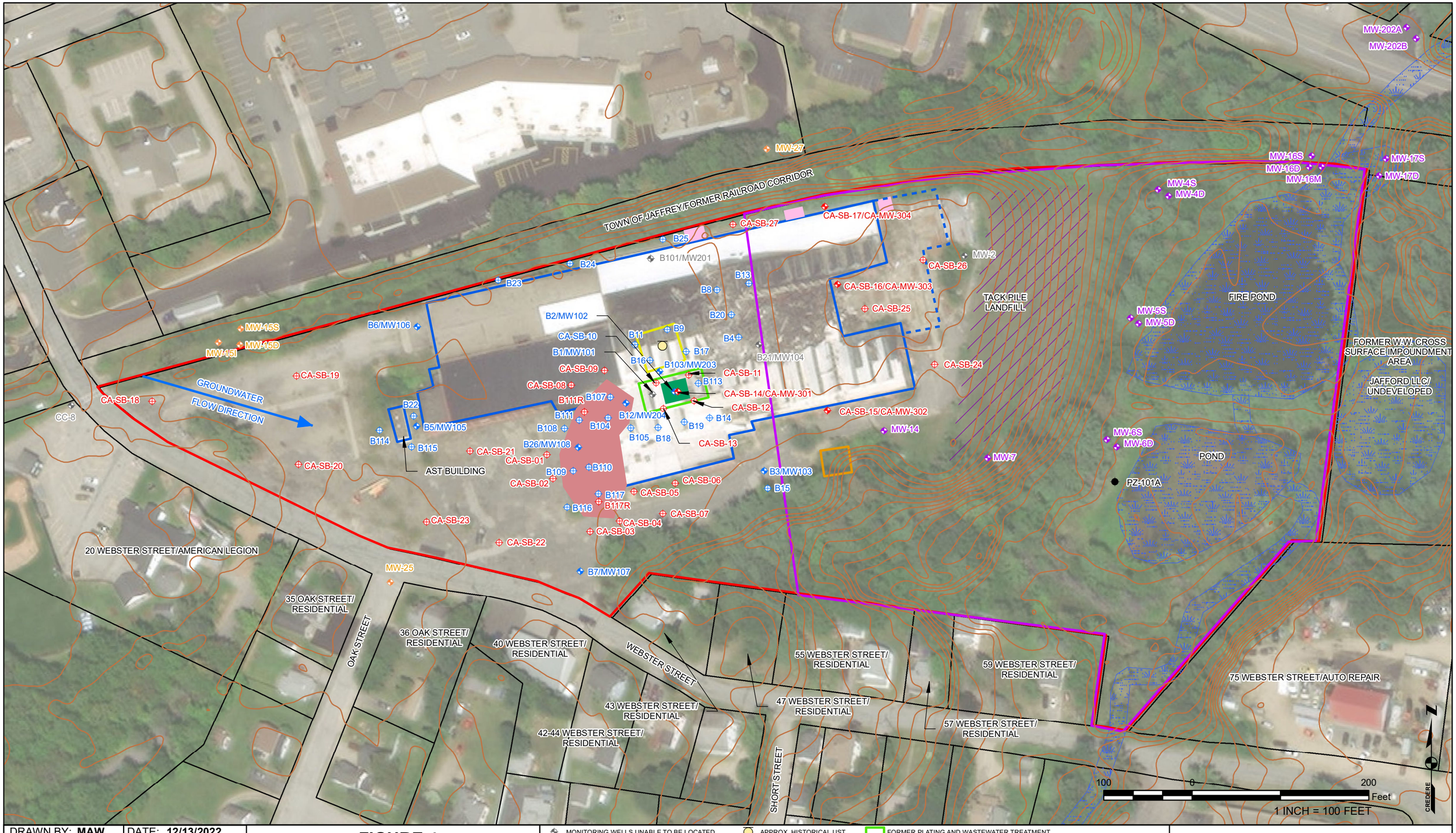
W.W. CROSS
39 WEBSTER STREET
JAFFREY, NEW HAMPSHIRE

- PREEXISTING MONITORING WELL
- FORMER ELITE LAUNDRY WELLS
- MONITORING WELLS UNABLE TO BE LOCATED
- RANSOM ENV. SOIL BORINGS
- RANSOM ENV. SOIL BORINGS & MONITORING WELLS
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- TACK PILE LANDFILL
- CREOSOTE-TYPE SOIL IMPACTS
- CADMIUM SOIL IMPACTS
- WETLANDS
- PARCEL BOUNDARY

NOTES:
EXISTING CONDITIONS AND FEATURES SHOWN ON THIS PLAN ARE APPROXIMATE AND ARE BASED ON INFORMATION OBTAINED FROM THE TOWN OF JAFFREY ONLINE GIS DATA, NEW HAMPSHIRE GIS PARCEL LAYER, 2021 ORTHO PHOTOS, AND SITE VISIT PERFORMED ON JULY 22, 2022.

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CHECKED BY: **JRN**	PROJECT: **21001639**

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FIGURE 4
SOIL EXCEEDANCES

W.W. CROSS
39 WEBSTER STREET
JAFFREY, NEW HAMPSHIRE

- MONITORING WELLS UNABLE TO BE LOCATED
- FORMER ELITE LAUNDRY WELL
- PREEXISTING MONITORING WELL
- RANSOM ENV. SOIL BORINGS
- RANSOM ENV. SOIL BORINGS & MONITORING WELLS
- PIEZOMETER
- PROPOSED SOIL BORINGS
- PROPOSED SOIL BORING/MONITORING WELL
- APPROX. HISTORICAL UST
- FORMER BUILDING FOOTPRINT
- 2-FT TOPOGRAPHIC CONTOUR
- SITE BOUNDARY
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- SITE BUILDING
- TRANSFORMERS
- FORMER PLATING AND WASTEWATER TREATMENT
- GROUNDWATER MANAGEMENT ZONE
- TACK PILE LANDFILL
- CREOSOTE TYPE SOIL IMPACTS
- CADMIUM SOIL IMPACTS
- LEAD IN SOIL IMPACTS
- WETLANDS
- PARCEL BOUNDARY

NOTES:
EXISTING CONDITIONS AND FEATURES SHOWN ON THIS PLAN ARE APPROXIMATE AND ARE BASED ON INFORMATION OBTAINED FROM THE TOWN OF JAFFREY ONLINE GIS DATA, NH GIS PARCEL LAYER, 2021 ORTHO PHOTOS, AND SITE VISIT PERFORMED ON JULY 22, 2022.

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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TABLES

Table 1: Sample Reference Table
W.W. Cross Property
NHDES Site No. 198708007
39 Webster Street, Jaffrey, New Hampshire

Media to be Collected	Proposed Sample IDs	QA/QC Samples (per sample type)	Boring/Screen Target Depth	Sample Depth (feet bgs)	Sample/Location Rationale	Field Analysis/ Observations	Analytical Methods	Sample Container Information & Preservative (per location)[1]	Laboratory To be Used
Soil	CA-SB-01	SB-DUP-1	5 feet bgs or 2 ft past evidence of contamination	0-2, or depth of greatest observed contamination	To further delineate horizontal PAH impacts to soil from known creosote-type material.	PID screening, visual, olfactory. Specific observation of creosote-type material depth/thickness	PAHs (EPA Method 8270E) PCBs (EPA Method 8082A) TPH (EPA Method 8015C)	(2) 4oz amber with Teflon lined cap	Absolute Resource Associates, Portsmouth, New Hampshire
	CA-SB-02	MS/MSD						(3) 4oz amber with Teflon lined cap	
	CA-SB-03	None						(1) 4oz amber with Teflon lined cap	
	CA-SB-04							(1) 4oz amber with Teflon lined cap	
	CA-SB-05							(1) 4oz amber with Teflon lined cap	
	CA-SB-06							(1) 4oz amber with Teflon lined cap	
	CA-SB-07							(1) 4oz amber with Teflon lined cap	
	CA-SB-08							(1) 4oz amber with Teflon lined cap	
	CA-SB-09							(1) 4oz amber with Teflon lined cap	
	B111R		10 feet bgs	6-8 or below observable contamination	To vertically delineate PAHs at two location previously documented to have the highest PAHs for correlation to visual observations			(1) 4oz amber with Teflon lined cap	
	B117R		5 feet bgs	2-4 or below observation contamination				(1) 4oz amber with Teflon lined cap	
	CA-SB-10		Refusal	Below prior exceedances	To further delineate contamination identified below the former plating room and to further assess cyanide and cadmium	PID screening, XRF screening, visual, olfactory	Cadmium (EPA Method 6020A) Cyanide (EPA Method 9014)	(1) 4oz amber with Teflon lined cap	
	CA-SB-11	SB-DUP-2						(2) 4oz amber with Teflon lined cap	
	CA-SB-12	None						(1) 4oz amber with Teflon lined cap	
	CA-SB-13	MS/MSD						(3) 4oz amber with Teflon lined cap	
	CA-SB-14	None		7.5-9.5				(1) 4oz amber with Teflon lined cap	
	CA-SB-15			Depth of greatest observed contamination, or above refusal	To further delineate identified PCE impacts at the Site	PID screening, visual, olfactory	VOCs (EPA Method 8260D)	(1) 40 mL VOA (MeOH) (1) 4oz amber with Teflon lined cap	
	CA-SB-16	SB-DUP-3						(2) 40 mL VOA (MeOH) (2) 4oz amber with Teflon lined cap	
	CA-SB-17	MS/MSD						(3) 40 mL VOA (MeOH) (1) 4oz amber with Teflon lined cap	
	CA-SB-18	None	5 feet bgs	0-2 feet, (below asphalt/concrete)	To assess background metals and PAH concentrations across the Site.		PAHs (EPA Method 8270E) RCRA 8 Metals (EPA Method 6020A and 7471B)	(1) 4oz amber with Teflon lined cap	
	CA-SB-19							(1) 4oz amber with Teflon lined cap	
	CA-SB-20							(1) 4oz amber with Teflon lined cap	
	CA-SB-21							(1) 4oz amber with Teflon lined cap	
	CA-SB-22							(1) 4oz amber with Teflon lined cap	
	CA-SB-23							(1) 4oz amber with Teflon lined cap	
	CA-SB-24							(1) 4oz amber with Teflon lined cap	
	CA-SB-25							(1) 4oz amber with Teflon lined cap	
	CA-SB-26							(1) 4oz amber with Teflon lined cap	
	CA-SB-27							(1) 4oz amber with Teflon lined cap	
	CA-CP-1	None	NA	0-0.5	8 point composite to assess surface soil surrounding transformer pad	PID screening, visual, olfactory	PCBs (EPA Method 8082A)	(1) 4oz amber with Teflon lined cap	
	CA-CP-2	CP-DUP-4						(2) 4oz amber with Teflon lined cap	
	CA-CP-3	MS/MSD						(1) 4oz amber with Teflon lined cap	
	CA-CP-4	None						(1) 4oz amber with Teflon lined cap	
	TB-SOIL-1	Trip Blank	NA	NA	Laboratory QC samples	NA	VOCs (EPA Method 8260D)	(1) 40 mL VOA (MeOH) **Unopened Laboratory prepared**	

Table 1: Sample Reference Table
W.W. Cross Property
NHDES Site No. 198708007
39 Webster Street, Jaffrey, New Hampshire

Media to be Collected	Proposed Sample IDs	QA/QC Samples (per sample type)	Boring/Screen Target Depth	Sample Depth (feet bgs)	Sample/Location Rationale	Field Analysis/ Observations	Analytical Methods	Sample Container Information & Preservative (per location)[1]	Laboratory To be Used
Water	CA-MW-301	MW-DUP-1	Installed at refusal	Screened interval	To reinstall the monitoring well and assess contamination identified below the former plating room.	Visual, olfactory, temperature, DO, pH, ORP, specific conductivity, turbidity	VOCs (EPA Method 8260D) 1,4 dioxane SIM (EPA Method 8270D with SIM) RCRA 8 dissolved metals (EPA Method 6020A and 7470A, FIELD FILTERED) Cyanide (Method 4500CN-E,C) PFAS (EPA Method 537.1)	(6) 40 mL VOA (HCl) (4) 250 mL amber (2) 250 mL HDPE (HNO3) (2) 250 mL HDPE (NaOH) (4) 250 mL HDPE	Alpha Analytical of Westborough, MA
	CA-MW-302	MS/MSD			To further delineate identified PCE and 1,4-dioxane impacts at the Site			(9) 40 mL VOA (HCl) (6) 250 mL amber (3) 250 mL HDPE (HNO3) (3) 250 mL HDPE (NaOH) (6) 250 mL HDPE	
	CA-MW-303	None	Existing well					(3) 40 mL VOA (HCl) (2) 250 mL amber (1) 250 mL HDPE (HNO3) (1) 250 mL HDPE (NaOH) (2) 250 mL HDPE	
	CA-MW-304								
	MW-102								
	MW-103						VOCs (EPA Method 8260D) 1,4 dioxane SIM (EPA Method 8270D with SIM) RCRA 8 dissolved metals (EPA Method 6020A and 7470A, FIELD FILTERED) Cyanide (Method 4500CN-E,C)	(3) 40 mL VOA (HCl) (2) 250 mL amber (1) 250 mL HDPE (HNO3) (1) 250 mL HDPE (NaOH)	
	MW-105								
	MW-106						VOCs (EPA Method 8260D) 1,4 dioxane SIM (EPA Method 8270D with SIM) RCRA 8 dissolved metals (EPA Method 6020A and 7470A, FIELD FILTERED) Cyanide (Method 4500CN-E,C) PFAS (EPA Method 537.1)	(3) 40 mL VOA (HCl) (2) 250 mL amber (1) 250 mL HDPE (HNO3) (1) 250 mL HDPE (NaOH) (2) 250 mL HDPE	
	MW-108						VOCs (EPA Method 8260D) 1,4 dioxane SIM (EPA Method 8270D with SIM) RCRA 8 dissolved metals (EPA Method 6020A and 7470A, FIELD FILTERED) Cyanide (Method 4500CN-E,C)	(3) 40 mL VOA (HCl) (2) 250 mL amber (1) 250 mL HDPE (HNO3) (1) 250 mL HDPE (NaOH)	
	MW-203								
	MW-2	MW-DUP-2						(6) 40 mL VOA (HCl) (4) 250 mL amber (2) 250 mL HDPE (HNO3) (2) 250 mL HDPE (NaOH)	
	MW-6D	None						(3) 40 mL VOA (HCl) (2) 250 mL amber (1) 250 mL HDPE (HNO3) (1) 250 mL HDPE (NaOH)	
	MW-14								
	FB-MW-1	Field Blank	NA	NA	Field QC Samples	NA	PFAS (EPA Method 537.1)	(1) 250 mL HDPE with laboratory-provided PFAS free water	
	TB-MW-1	Trip Blank					VOCs (EPA Method 8260D)	(1) 40 mL VOA (HCl) **Unopened Laboratory prepared**	

Table 1: Sample Reference Table
W.W. Cross Property
NHDES Site No. 198708007
39 Webster Street, Jaffrey, New Hampshire

Media to be Collected	Proposed Sample IDs	QA/QC Samples (per sample type)	Boring/Screen Target Depth	Sample Depth (feet bgs)	Sample/Location Rationale	Field Analysis/ Observations	Analytical Methods	Sample Container Information & Preservative (per location)[1]	Laboratory To be Used
Building Materials	CA-SACM-1 (A-C) through CA-SACM-20 (A-C)	Triplicate Sampling	Potential asbestos-containing materials	NA	To assess for the presence of previously unidentified asbestos-containing building materials in the Site building as well as supplemental sampling to comply with state and federal regulations	Visual	Polarized Light Microscopy EPA 600/R-93/116	Plastic zipper bags	EMSL Analytical, Inc., South Portland, Maine
	CA-PCB-1 through CA-PCB-20	PCB-DUP-1	Potential PCB-containing building materials	NA	To assess for the presence of previously unidentified PCB-containing building materials in the Site building	Visual	PCBs (EPA Method 8082A with soxhlet extraction method 3540C)	(5) 4oz glass with Teflon lined cap and at least 20 grams of sample	Absolute Resource Associates, Portsmouth, New Hampshire

Notes:

1 - Soil, groundwater, and PCB-containing building material samples will be chilled to 4°C (+/- 2°C) and submitted to the laboratory on ice. Additional details regarding analytical method, sample preservation, sample volume and hold times can be found in Table 7-3 of Credere's Generic QAPP For Brownfields Work in Maine, New Hampshire, Massachusetts, and Vermont RFA #19043.

*Boring will extend below 2 feet bgs only if evidence of contamination extends to bottom of 2 foot split spoon.

"greatest contamination" shall be defined as the interval of highest PID response above ambient background, visual staining or sheens, or strong odors.

SB - soil boring
SS - surface soil
MW - monitoring well
VP - vapor point
EPA - US Environmental Protection Agency
PFAS - per- and polyfluoroalkyl substance
IA - indoor air
PACM - potential asbestos-containing material
LP - lead paint
PCB - polychlorinated biphenyls
DO - dissolved oxygen
HDPE - high density polyethylene
QA/QC - quality assurance/quality control
bgs - below ground surface
PID - photoionization detector
NA - not applicable
ORP - oxidation-reduction potential
VOCs - volatile organic compounds
PAHs - polycyclic aromatic hydrocarbons
TPH - total petroleum hydrocarbons
VOA - volatile organic analyte (vial)
PP - priority pollutant

Table 2: Standard Operating Procedure Reference Table
W.W. Cross Property
NHDES Site No. 198708007
39 Webster Street, Jaffrey, New Hampshire

Credere Field SOPs

SOP	SOP Description	Date
CA-1	Field Activity Documentation	Rev #1, August 2, 2016
CA-2	Equipment Decontamination Procedures	Rev #0, March 17, 2016
CA-4	Soil Description	Rev #0, March 17, 2016
CA-5	Environmental Soil Sampling	Rev #1, March 9, 2018
CA-7	Headspace Field Screening	Rev #0, May 20, 2016
CA-8	Monitoring Well Installation	Rev #1, October 20, 2017
CA-9	Monitoring Well Development	Rev #1, October 20, 2017
CA-10	Monitoring Well Gauging	Rev #0, August 29, 2016
CA-11	Water Quality Field Instrument Calibration	Rev #1, September 28, 2018
CA-12	Groundwater Sampling	Rev #3, September 28, 2019
CA-15	Asbestos Containing Materials (ACM) Surveys, and Asbestos Abatement Air Monitoring and Clearances	Rev #0, December 3, 2018
CA-16	Chain of Custody	Rev #0, November 29, 2017
CA-17	Packaging and Shipping Samples	Rev #0, August, 22, 2017
CA-20	Relative Elevation Survey & Trimble GNSS Basic Operations	Rev #0, March 6, 2019
CA-23	Collection of PCB-Containing Building Material Samples	Rev #0, October 25, 2017

Laboratory SOPs

Lab	SOP	SOP Description	Date
Absolute Resource Associates	QA-5501	Analysis of Diesel Range Organics in Extracts of Soil and Water by Method 8015 and Method 8100, Revision 15	March 2022
	QA-5120	Analysis of VOCs in Water and Solid Samples by EPA Method 8260D, Revision 19	March 2022
	QA-5303	Analysis of Polychlorinated biphenyls in Soil and Water Extracts by EPA 8082A, Revision 25	April 2022
	QA-5305	Soxhlet Extraction by EPA method 3540C, Revision 13	March 2022
	QA-5515	Preparation and analysis of PAHs, Base/Neutrals, and Acids by EPA Method 8270E, Revision 16	March 2022
	QA-5600	Mercury Analysis by Cold Vapor Methods 245.1, 7471A/7471B, Revision 21	March 2022
	QA-5605	Determination of Metals and Trace Elements in Water, Solids, and Wastes by Inductively Coupled Plasma/Mass Spectrometry by 200.8/6020A, Revision 10	March 2022
	QA-5814	Cyanide by EPA Methods 4500CN-E,C and EPA 9014, Revision 18	March 2022
Alpha Analytical	2108	Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), EPA 8260, Revision 25	August 3, 2021
	2164	1,4-dioxane by Gas Chromatography/Mass Spectrometry in Selected Ion Mode (GC/MS-SIM) with Isotope Dilution Modification, revision 18	January 12, 2022
	23528	Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (LC/MS/MS), Revision 13	May 13, 2020
	26797	Inductively Coupled Plasma – Mass Spectrometry 6020B, Revision 4	25-Jan-22
	2139	Mercury Determination in Solids by Cold Vapor Atomic Absorption Technique (CVAA), Revision 7	July 29, 2015
	2210	Total and Amenable Cyanide, EPA 9010C & 9012B, SM 4500CN, Modified 9014, Revision 13	January 6, 2022
EMSL Analytical, Inc.	ASB-SOP-200-PLM	Polarized Light Microscopy SOP, revision 12.14	May 30, 2017

All SOPs are referenced in Credere's Generic QAPP For Brownfields Work in Maine, New Hampshire, Massachusetts, and Vermont RFA #19043
Laboratory SOPs are from the labs indicated in Table 1

APPENDIX A

Analytical Sensitivity and Project Criteria Tables

As of the date of this SSQAPP, the current state and/or federal standards have been reviewed for accuracy.

Asbestos in Solids by PLM by EPA Method 600/R		
Analyte	**Laboratory Practical Quantitation Limit**	**Regulatory Standard[1]**
Asbestos	0.20%	1%

Notes:

1 - New Hampshire Code of Administrative Rules Chapter Env-A 1800: Asbestos Management Control, October 21, 2008.
PQL from EMSL of South Portland, Maine

VOCs in Soil by EPA Method 8260D		
Analyte	**Laboratory Practical Quantitation Limit**	**Regulatory Standard[1]**
1,1,1,2-tetrachloroethane	0.1	0.8
1,1,1-trichloroethane	0.1	78
1,1,2,2-tetrachloroethane	0.1	4
1,1,2-trichloroethane	0.1	0.1
1,1-dichloroethane	0.1	3
1,1-dichloroethene	0.1	14
1,1-dichloropropene	0.1	NE
1,2,3-trichlorobenzene	0.1	6.3*
1,2,3-trichloropropane	0.1	0.1
1,2,4-trichlorobenzene	0.1	19
1,2,4-trimethylbenzene	0.1	130
1,2-dibromo-3-chloropropane (DBCP)	0.1	**0.0053***
1,2-dibromoethane (EDB)	0.1	0.1
1,2-dichlorobenzene	0.1	88
1,2-dichloroethane	0.1	0.1
1,2-dichloropropane	0.1	0.1
1,3,5-trimethylbenzene	0.1	96
1,3-dichlorobenzene	0.1	150
1,3-dichloropropane	0.1	160*
1,4-dichlorobenzene	0.1	7
1,4-dioxane	2.5	5
2,2-dichloropropane	0.1	NE
2-butanone (MEK)	0.3	51
2-chlorotoluene	0.1	15
2-hexanone	0.5	20*
4-chlorotoluene	0.1	680
4-isopropyltoluene	0.1	NE
4-methyl-2-pentanone (MIBK)	0.45	29
acetone	2.5	75
benzene	0.1	0.3
bromobenzene	0.1	29*
bromochloromethane	0.1	15*
bromodichloromethane	0.1	0.1
bromoform	0.1	0.1
bromomethane	0.25	0.3
carbon disulfide	0.1	460
carbon tetrachloride	0.1	12
chlorobenzene	0.1	28*
chloroethane	0.1	1400*
chloroform	0.1	3
chloromethane	0.1	3
cis-1,2-dichloroethene	0.1	2
cis-1,3-dichloropropene	0.1	0.1
dibromochloromethane	0.1	1
dibromomethane	0.1	2.4*
dichlorodifluoromethane	0.1	1,000
diethyl ether	0.1	3,900
ethylbenzene	0.1	120
hexachlorobutadiene	0.1	17

VOCs in Soil by EPA Method 8260D		
Analyte	**Laboratory Practical Quantitation Limit**	**Regulatory Standard[1]**
isopropylbenzene	0.1	330
m&p-xylenes	0.1	500
methyl t-butyl ether (MTBE)	0.1	0.2
methylene chloride	0.1	0.1
naphthalene	0.1	28
n-butylbenzene	0.1	110
n-propylbenzene	0.1	85
o-xylene	0.1	500
sec-butylbenzene	0.1	130
styrene	0.1	17
tert-butylbenzene	0.1	100
tetrachloroethene (PCE)	0.1	2
tetrahydrofuran (THF)	0.5	1,800*
toluene	0.1	100
trans-1,2-dichloroethene (ethylene)	0.1	9
trans-1,3-dichloropropene	0.1	NE
trichloroethene (TCE)	0.1	0.8
trichlorofluoromethane	0.1	1,000
vinyl chloride	0.1	1

Notes:

All values are in milligrams per kilogram (mg/kg)

PQLs from Absolute Resource Associates of Portsmouth, New Hampshire

1 - New Hampshire Code of Administrative Rules Chapter Env-Or 600 Contaminated Sites Management, Soil Remediation Standards (SRSs) and Appendix E, Method 1 Soil Standards from NHDES Risk Characterization and Management Policy, revised September 2018 (RCMP). If SRSs differ from RCMP, the RCMP value is shown as it has been updated more recently.

* - United States Environmental Protection Agency Regions 3, 6, and 9. Regional Screening Levels for Chemical Contaminants at Superfund Sites. http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm

BOLD - PQLs exceed regulatory criteria. Bold compounds are not specific contaminants of interest (COI). Should assessment results indicate the compounds to be a COI, more sensitive analytical methods will be evaluated for subsequent sampling rounds.

NE = Regulatory guideline not established

PAHs in Soil by EPA Method 8270E		
Analyte	**Laboratory Practical Quantitation Limit**	**Regulatory Standard[1]**
2-methylnaphthalene	0.05	96
acenaphthene	0.05	340
acenaphthylene	0.05	490
anthracene	0.05	1,000
benzo(a)anthracene	0.05	1
benzo(a)pyrene	0.05	0.7
benzo(b)fluoranthene	0.05	1
benzo(g,h,i)perylene	0.05	NE
benzo(k)fluoranthene	0.05	12
chrysene	0.05	120
dibenzo(a,h)anthracene	0.05	0.7
dibenzofuran	0.05	7.8*
fluoranthene	0.05	960
fluorene	0.05	77
indeno(1,2,3-cd)pyrene	0.05	1
naphthalene	0.05	28
phenanthrene	0.05	NE
pyrene	0.05	720

Notes:

All values are in milligrams per kilogram (mg/kg)

PQLs from Absolute Resource Associates of Portsmouth, New Hampshire

1 - New Hampshire Code of Administrative Rules Chapter Env-Or 600 Contaminated Sites Management, Soil Remediation Standards (SRSs) and Appendix E, Method 1 Soil Standards from NHDES Risk Characterization and Management Policy (RCMP), revised September 2018. If the SRSs differ from the RCMP, the RCMP value is shown as those have been updated more recently

* - United States Environmental Protection Agency Regions 3, 6, and 9. Regional Screening Levels for Chemical Contaminants at Superfund Sites. http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm

NE = Regulatory guideline not established

PCBs in Soil by EPA Method 8082A		
Analyte	**Laboratory Practical Quantitation Limit**	**Regulatory Standard[1]**
PCB-1016	0.17	1 (Total)
PCB-1221	0.17	
PCB-1232	0.17	
PCB-1242	0.17	
PCB-1248	0.17	
PCB-1254	0.17	
PCB-1260	0.17	

Notes:

PQLs from Absolute Resource Associates of Portsmouth, New Hampshire

1 - New Hampshire Code of Administrative Rules Chapter Env-Or 600 Contaminated Sites Management, Soil Remediation Standards (SRSs) and Appendix E, Method 1 Soil Standards from NHDES Risk Characterization and Management Policy (RCMP), revised September 2018.

All values are in milligrams per kilogram (mg/kg)

NE = Regulatory guideline not established

PCBs in Building Materials by EPA Method 8082A with Soxhlet Extraction by EPA Method 3540C				
Analyte	**Laboratory Practical Quantitation Limit**	**Remediation Waste Cleanup Goals 40 CFR 761.61**		**Regulatory Standard (40 CFR 761.3)**
		High Occupancy	**Low Occupancy**	
PCB-1016	0.17	1 (Total)	25 (Total)	50 (Total)
PCB-1221	0.17			
PCB-1232	0.17			
PCB-1242	0.17			
PCB-1248	0.17			
PCB-1254	0.17			
PCB-1260	0.17			

Notes:

All values are in mg/kg.

PQLs from Absolute Resource Associates of Portsmouth, New Hampshire

RCRA 8 Metals in Soil by EPA Methods 6020A		
Analyte	**Laboratory Practical Quantitation Limit**	**Regulatory Standard[1]**
Arsenic	2.5	11
Barium	5	1,000
Cadmium	0.5	33
Chromium (III)	5	1,000
Chromium (total)**		130
Lead	2.5	400
Selenium	5	180
Silver	2.5	89

Notes:

All values are in milligrams per kilogram (mg/kg)

PQLs from Absolute Resource Associates of Portsmouth, New Hampshire

** - The chromium VI standard was used because it is the lowest and most conservative chromium standard.

1 - New Hampshire Code of Administrative Rules Chapter Env-Or 600 Contaminated Sites Management, Soil Remediation Standards and Appendix E, Method 1 Soil Standards from NHDES Risk Characterization and Management Policy, revised September 2018.

Mercury (Hg) in Soil by EPA Method 7471B		
Analyte	**Laboratory Practical Quantitation Limit**	**Regulatory Standard[1]**
Mercury	0.14	7

Notes:

All values are in milligrams per kilogram (mg/kg)

PQLs from Absolute Resource Associates of Portsmouth, New Hampshire

1 - New Hampshire Code of Administrative Rules Chapter Env-Or 600 Contaminated Sites Management, Soil Remediation Standards (SRSs) and Appendix E, Method 1 Soil Standards from NHDES Risk Characterization and Management Policy (RCMP), revised September 2018.

TPH in Solids by EPA Method 8015C		
Analyte	**Laboratory Practical Quantitation Limit**	**Regulatory Standard[1]**
Total Petroleum Hydrocarbons	200	10,000

Notes:

All values are in milligrams per kilogram (mg/kg)

PQLs from Absolute Resource Associates of Portsmouth, New Hampshire

1 - New Hampshire Code of Administrative Rules Chapter Env-Or 600 Contaminated Sites Management, Soil Remediation Standards (SRSs) and Appendix E, Method 1 Soil Standards from NHDES Risk Characterization and Management Policy (RCMP), revised September 2018.

VOCs in Groundwater by EPA Method 8260D			
Analyte	**Laboratory Practical Quantitation Limit**	**Regulatory Standards[1]**	
		AGQS and GW-1	**GW-2**
1,1,1,2-tetrachloroethane	0.5	70	NE
1,1,1-trichloroethane	0.5	200	27,000
1,1,2,2-tetrachloroethane	0.5	2	120
1,1,2-trichloroethane	0.75	5	20
1,1-dichloroethane	0.75	81	130
1,1-dichloroethene	0.5	7	630
1,1-dichloropropene	1	NE	NE
1,2,3-trichlorobenzene	1	**0.3***	NE
1,2,3-trichloropropane	1	**0.5**	NE
1,2,4-trichlorobenzene	1	70	150
1,2,4-trimethylbenzene	1	330	1,300
1,2-dibromo-3-chloropropane (DBCP)	1	**0.00033***	NE
1,2-dibromoethane (EDB)	1	**0.05**	35
1,2-dichlorobenzene	1	600	14,000
1,2-dichloroethane	0.5	5	50
1,3,5-trichlorobenzene	2	40	NE
1,3,5-trimethylbenzene	1	330	NE
1,3-dichlorobenzene	1	600	NE
1,3-dichloropropane	1	37*	NE
1,4-dichlorobenzene	1	75	80
1,4-dioxane	250	**0.32**	NE
2,2-dichloropropane	1	NE	NE
2-butanone (MEK)	5	4,000	50,000
2-chlorotoluene	1	24*	NE
2-hexanone	5	**3.8***	NE
4-chlorotoluene	1	25*	NE
4-isopropyltoluene	0.5	260	NE
4-methyl-2-pentanone (MIBK)	5	2,000	NE
acetone	5	6,000	NE
benzene	0.5	5	2,900
bromobenzene	1	60	NE
bromochloromethane	1	8.3*	NE
bromodichloromethane	0.5	0.6	NE
bromoform	1	4	2,800
bromomethane	1	10	10
carbon disulfide	1	70	NE
carbon tetrachloride	0.5	5	10
chlorobenzene	0.5	7.8*	1,500
chloroethane	1	2100*	NE
chloroform	0.75	70	70
chloromethane	2	30	NE
cis-1,2-dichloroethene	0.5	70	NE
cis-1,3-dichloropropene	0.5	0.5	NE
dibromochloromethane	0.5	60	NE
dibromomethane	1	**0.83***	NE

VOCs in Groundwater by EPA Method 8260D			
Analyte	**Laboratory Practical Quantitation Limit**	**Regulatory Standards[1]**	
		AGQS and GW-1	**GW-2**
dichlorodifluoromethane	2	1,000	NE
diethyl ether	1	1,400	NE
ethylbenzene	0.5	700	1,500
hexachlorobutadiene	0.5	0.5	NE
isopropylbenzene	0.5	800	NE
m&p-xylenes	1	10,000	17,000
methyl t-butyl ether (MTBE)	1	13	2,600
methylene chloride	3	5	24,000
naphthalene	0.5	100	1,700
n-butylbenzene	0.5	260	NE
n-propylbenzene	0.5	260	NE
o-xylene	1	10,000	17,000
sec-butylbenzene	0.5	260	NE
styrene	1	100	43,000
tert-butylbenzene	1	260	NE
tetrachloroethene	0.5	5	240
tetrahydrofuran (THF)	2	600	NE
toluene	0.75	1,000	50,000
trans-1,2-dichloroethene	0.75	100	560
trans-1,3-dichloropropene	0.5	NE	NE
trichloroethene	0.5	5	20
trichlorofluoromethane	1	2,000	NE
vinyl chloride	0.2	2	4

Notes:

All values are in micrograms per liter (ug/L)

PQLs from Alpha Analytical of Westborough, Massachusetts

1 - New Hampshire Code of Administrative Rules Chapter Env-Or 600 Contaminated Sites Management, Ambient Groundwater Quality Standards (AGQS) and Table 2, Method 1 Groundwater Standards for NHDES Risk Characterization and Management Policy (Section. 7.4(4)).

* - United States Environmental Protection Agency Regions 3, 6, and 9. Regional Screening Levels for Chemical Contaminants at Superfund Sites. http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm

NE = Regulatory guideline not established.

BOLD - PQLs exceed regulatory criteria. Bold compounds are not specific contaminants of interest (COI). Should assessment results indicate the compounds to be a COI, more sensitive analytical methods will be evaluated for subsequent sampling rounds.

VOCs in Groundwater by EPA Method 8260C with SIM			
Analyte	**Laboratory Practical Quantitation Limit**	**Regulatory Standards[1]**	
		AGQS and GW-1	**GW-2**
1,4-Dioxane	3.0	**0.32**	NE

Notes:

All values are in micrograms per liter (ug/L)

PQLs from Alpha Analytical of Westborough, Massachusetts

1 - New Hampshire Code of Administrative Rules Chapter Env-Or 600 Contaminated Sites Management, Ambient Groundwater Quality Standards (AGQS) and Table 2, Method 1 Groundwater Standards for NHDES Risk Characterization and Management Policy (Section. 7.4(4)).

NE = Regulatory guideline not established.

BOLD - laboratory PQL exceeds regulatory criteria. PQL will be considered regulatory criteria unless the compound is identified as a COC.

* - United States Environmental Protection Agency Regions 3, 6, and 9. Regional Screening Levels for Chemical Contaminants at Superfund Sites. http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm

Metals in Water by EPA Method 6010C/6020A		
Analyte	**Laboratory Practical Quantitation Limit**	**Regulatory Standard[1]**
Aluminum	100	2000*
Antimony^	4	6
Arsenic^	0.5	5
Barium	10	2,000
Beryllium	5	**4**
Boron	30	620
Cadmium^	0.2	5
Chromium (total)	10	100
Cobalt^	0.5	0.6*
Copper	10	1,300
Lead^	1	15
Nickel	25	100
Selenium	10	50
Silver	10	100
Sodium	2000	NE
Thallium	0.2	2
Tin	50	1,200
Vanadium ^	5	8.6*
Zinc	50	600*

Notes:

All values are in micrograms per liter (ug/L)

PQLs from Alpha Analytical of Mansfield, Massachusetts

1 - New Hampshire Code of Administrative Rules Chapter Env-Or 600 Contaminated Sites Management, Ambient Groundwater Quality Standards (AGQS) and Table 2, Method 1 Groundwater Standards for NHDES Risk Characterization and Management Policy (Section. 7.4(4)).

* - United States Environmental Protection Agency Regions 3, 6, and 9. Regional Screening Levels for Chemical Contaminants at Superfund Sites. http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm

^Indicates metal analyzed by EPA Method 6020A

Hg in Groundwater by EPA Methods 7470A		
Analyte	**Laboratory Practical Quantitation Limit**	**Regulatory Standard[1]**
Mercury	0.2	2

Notes:

All values are in micrograms per liter (ug/L)

PQLs from Alpha Analytical of Mansfield, Massachusetts

1 - New Hampshire Code of Administrative Rules Chapter Env-Or 600 Contaminated Sites Management, Ambient Groundwater Quality Standards (AGQS) and Table 2, Method 1 Groundwater Standards for NHDES Risk Characterization and Management Policy (Section. 7.4(4)).

PCBs in Groundwater by EPA Method 8082A		
Analyte	**Laboratory Practical Quantitation Limit**	**Regulatory Standard[1]**
PCB-1016	0.25	0.5 (total)
PCB-1221	0.25	
PCB-1232	0.25	
PCB-1242	0.25	
PCB-1248	0.25	
PCB-1254	0.25	
PCB-1260	0.25	

Notes:

All values are in micrograms per liter (ug/L)

PQLs from Alpha Analytical of Westborough, Massachusetts

1 - New Hampshire Code of Administrative Rules Chapter Env-Or 600 Contaminated Sites Management, Ambient Groundwater Quality Standards (AGQS) and Table 2, Method 1 Groundwater Standards for NHDES Risk Characterization and Management Policy (Section. 7.4(4)).

Per- and Polyfluorinated Alkyl Substances (PFASs) in Groundwater by EPA Method 537 with Isotope Dilution		
Analyte	**Laboratory Practical Quantitation Limit**	**Regulatory Standard[1]**
PFTeA	0.002	NE
PFTrA	0.002	NE
PFDoA	0.002	NE
PFUnA	0.002	NE
PFDA	0.002	NE
PFNA	0.002	0.011
PFOA**	0.002	0.012
PFHpA	0.002	NE
PFHxA	0.002	NE
PFPeA	0.002	NE
PFBA	0.002	NE
PFDS	0.002	NE
PFNS	0.002	NE
PFOS**	0.002	0.015
PFHpS	0.002	NE
PFHxS	0.002	0.018
PFPeS	0.002	NE
PFBS	0.002	NE
8:2 FTSA	0.002	NE
6:2 FTSA	0.002	NE
4:2 FTSA	0.002	NE
FOSA	0.002	NE
EtFOSAA	0.002	NE
MeFOSAA	0.002	NE

Notes:

All values are in micrograms per liter (µg/L)

PQLs from Alpha Analytical of Westborough, Massachusetts

1 - New Hampshire Code of Administrative Rules Chapter Env-Or 600 Contaminated Sites Management, Ambient Groundwater Quality Standards (AGQS) and Table 2, Method 1 Groundwater Standards for NHDES Risk Characterization and Management Policy (Section. 7.4(4)).

** - Combined PFOA and PFOS also compared to 70 ppt Healthy Advisory Level.

APPENDIX B

Supplemental SOPs

1,4-Dioxane

By Gas Chromatography / Mass Spectrometry in Selected Ion Mode (GC/MS-SIM) with Isotope Dilution Modification

References:

EPA 8270E, SW-846, Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, EPA SW-846, Revision VI (Phase II), June 2018.

EPA 8000C, SW-846,Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, EPA SW-846. Update III, March 2003.

1,4-Dioxane Analytical Notes, Appendix II-B-4, WSC-CAM-II-B, Revision 1, July 2010. (Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup).

1. Scope and Application

Matrices: Aqueous, soil/sediment and non-aqueous waste matrices

Definitions: Refer to Alpha Analytical Quality Manual.

This method is applicable to the quantification of 1,4-Dioxane extracted from aqueous samples in methylene chloride and analyzed by GC/MS-SIM. The extraction method is listed below and should be referenced for more details. Detection limits will vary with instrument calibration range, and volume of sample analyzed. 1,4-Dioxane detected over the calibration ranges of the instrument it is being analyzed on will be diluted and re-analyzed for accurate quantification.

The following extraction method applies:

- *Extraction of Water Samples by Separatory Funnel* (SOP 2165)
- *Microscale Solvent Extraction (MSE)* (SOP 2172)
- *Organic Waste Dilution Extraction* (SOP 2265)

The data report packages present the documentation of any method modification related to the samples tested. Depending upon the nature of the modification and the extent of intended use, the laboratory may be required to demonstrate that the modifications will produce equivalent results for the matrix. Approval of all method modifications is by one or more of the following laboratory personnel before performing the modification: Area Supervisor, Department Supervisor, Laboratory Director, or Quality Assurance Officer.

This method is restricted to use by or under the supervision of analysts experienced in the operation of the GC/MS-SIM and in the interpretation of GC/MS-SIM data. Each analyst must demonstrate the ability to generate acceptable results with this method by performing an initial demonstration of capability.

2. Summary of Method

250mL, 500mL or 1000mL of aqueous samples are serially extracted with methylene chloride in a 2 Liter Separatory Funnel (Method 3510) at a neutral pH. The extract is concentrated in MeCl2 to a 2.5mL to 10mL final volume respectively depending on the volume of sample extracted. Soil/sediment samples are extracted by Microscale Solvent Extraction (MSE Method 3570). Approximately 5g of sample is extracted and concentrated to a 4mL final volume. Non-aqueous waste samples are extracted by Organic Waste Dilution Extraction (Method 3580). Approximately 1g is diluted to 10mL

final volume.

Analytes are introduced into the GC/MS using a large volume injector and injecting 3ul of the calibration standards, quality control samples, and sample extracts into the GC equipped with a narrow-bore capillary column. The GC column is temperature programmed to separate the analytes, which are then detected with a mass spectrometer (MS) in selective ion mode. Identification of target analytes is accomplished by comparing their mass spectra with the electron impact spectra of the calibration standards. Concentrations are determined using mean relative response factors from a multi-level calibration curve. Response factors for target analytes and surrogate compounds are determined relative to the internal standards.

Isotope dilution quantification is achieved by spiking 1,4-Dioxane-d8 at extraction which is then in turn used as both an internal standard (IS) and surrogate. For quantification, the 1,4-Dioxane-d8 IS quantifies 1,4-Dioxane in samples. An additional IS added prior to analysis, 1,4-Dichlorobenzene-d4, quantifies 1,4-Dioxane-d8 as a surrogate.

2.1 Method Modifications from Reference

SIM option with Isotope dilution is utilized to increase sensitivity for this analyte. Note that while this method may be used for the evaluation of 1,4-Dioxane in soil/sediment samples, the MA DEP CAM does not approve of this method for determining presumptive certainty for MA DEP cleanup sites. Method 8260 should be employed in these cases.

3. Reporting Limits

Concentrations for 1,4-Dioxane can be detected in water samples in the range of 150ng/L to 100,000ng/L. Soil/sediment samples can be detected in the range of 8ug/Kg to 8,000ug/Kg. Standard reporting limits for aqueous samples are 150ng/L and for soil/sediment samples 8ug/kg respectively.

4. Interferences

4.1 Phthalate esters can be a major source of contamination if any material containing plasticizers (phthalates) comes in contact with the sample during the extraction process. Use of plastic or any material containing plasticizers (phthalates) should be avoided during extraction or analysis.

4.2 The injection port of the gas chromatograph can become contaminated with high boiling compounds resulting in the loss of sensitivity. It may be necessary to replace the injection port liner routinely to prevent this loss of sensitivity. Clipping off approximately four inches of the column at the injection end may also increase sensitivity. Low instrument response can be detected during the daily tuning procedure by including pentachlorophenol and benzidine in the daily tuning mix.

4.3 Raw GC/MS data from all blanks, samples, and spikes must be evaluated for interferences or carryover. Contamination by carryover can occur whenever high-concentration and low-concentration samples are sequentially analyzed.

4.4 Solvents, reagents and glassware may introduce interferences. These must be demonstrated to be free of interferences by the analysis of a method blank. See the SOP *Reagent, Solvent and Standard Control* (G-008) and *Laboratory Glassware Cleaning* (G-002), for additional details.

4.5 It should be noted that there are some chromatographic consequences observed due to the acetone used in the MSE extraction process. This is characterized by a shift in retention time

for 1,4-Dioxane and the 1,4-Dioxane-d8 surrogate (~0.4minutes), as well as the presence of a large peak (likely acetone) in all chromatograms.

5. Health and Safety

The toxicity or carcinogenicity of each reagent and standard used in this method is not fully established; however, each chemical compound should be treated as a potential health hazard. From this viewpoint, exposure to these chemicals must be reduced to the lowest possible level by whatever means available. A reference file of material safety data sheets is available to all personnel involved in the chemical analysis. Additional references to laboratory safety are available in the Chemical Hygiene Plan.

All personnel handling environmental samples known to contain or to have been in contact with municipal waste must follow safety practices for handling known disease causative agents.

6. Sample Collection, Preservation, Shipping and Handling

6.1 Sample Collection

Solid samples; A minimum of 100grams of sample must be collected in a glass jar with a Teflon lined screw cap.

Water samples: A minimum of 0.25 to 1 liters of sample must be collected in amber glass bottles.

6.2 Sample Preservation

Solid samples: The sample must be refrigerated and maintained at 4±2 °C until extraction and analysis. Sediment samples can be frozen at -20±5 °C until extraction to extend hold time. The extracts must be refrigerated and maintained at 4±2 °C until analysis.

Water samples: The samples must not be preserved except by refrigeration at 4±2 °C until extraction and analysis. The extracts must be refrigerated and maintained at 4±2 °C until analysis.

Non-aqueous waste samples: Concentrated sample extracts must be stored in contaminant-free containers and preserved in a refrigerator when not used for more than four hours.

6.3 Sample Shipping

No special shipping requirements.

6.4 Sample Handling

Solid samples: All solid samples must be extracted within 14 days from the date of collection. Frozen sample hold times are monitored up to 14 days from the date removed from freezer. The extracts must be refrigerated and maintained at 4±2 °C until analysis. Sample extracts must be analyzed within 40 days from date of extraction.

Water samples: All water samples must be extracted within 7 days from the date of collection. Sample extracts must be analyzed within 40 days from date of extraction.

Non-aqueous waste samples: Hold times do not apply to neat oils/NAPL/product samples.

7. Equipment and Supplies

7.1 Gas chromatograph – Programmable, heating range from 40C to 350C; splitless-type inlet system, (Hewlett Packard 6890N Series II or similar); mass selective detector (Hewlett Packard 5973, or similar); automatic injector (Hewlett Packard 7683B or similar).

7.2 Chromatography Column – Fused silica capillary column, 0.25mm ID x 60m length, 0.25um film thickness RTX-5, Restek Corporation, 5% diphenyl-95% dimethyl polysiloxane, Fused silica capillary column, 0.18mm ID x 60m length, 0.18um film thickness RTX-PCB, Restek Corporation, Fused silica capillary column, 0.25mm ID x 30m length, .25um film thickness (Zebron ZB-SemiVolatiles, Phenomenex Corporation, 5% Polysilarylene - 95% Polydimethylsiloxane) , or equivalent.

7.3 Gerstel Large Volume Injection System – Temperature programmable range from 0C to 350C; pressure programmable; capable of split or splitless injection; Injection volumes range from 1 to 50uL and Cryo cooling availability to allow for cold injections.

7.4 Agilent Split/Splitless injector System

7.5 Data Acquisition System - Computerized system for collecting, storing, and processing detector output (Hewlett Packard Enviroquant target software) or equivalent.

7.6 Gases - BIP Ultra high purity helium (99.9995%); Compressed nitrogen for N-Evap. Carbon dioxide (siphon type) for Gerstel.

7.7 Syringes – 10uL to 1.0mL

7.8 Vials- including 2ml, 4ml, 10ml, 40ml and other sizes as necessary.

7.9 Hamilton Gas tight Syringes - varying sizes

7.10 Gerstel Single baffle injection port liners- packed lightly with glass wool.

7.11 GC Injection Port Liner: Phenomenex Direct Connect Top Hole

7.12 Class A Volumetric flasks: Including 10ml, 20 ml, 50 ml, 100ml and other sizes as necessary

8. Reagents and Standards

Use reagent grade chemicals for all reagents. Deionized (DI) water is ASTM Type II laboratory reagent grade water.

8.1 Solvents: All solvent expirations determined as indicated by manufacturer guidelines

8.1.1 Methylene Chloride, ACS approved, Pesticide grade, see SOP *Reagent, Solvent and Standard Control* (SOP 1816) for additional details regarding solvent purity. Used to extract samples and prepare instrument/analytical standards.

8.1.2 Acetone, ACS approved, Pesticide grade, see SOP *Reagent, Solvent and Standard Control* (SOP 1816) for additional details regarding solvent purity. This water soluble solvent is used for surrogate and LCS/MS preparation.

8.1.3 Methanol, ACS approved, Pesticide grade, *Reagent, Solvent and Standard Control SOP* (SOP 1816) for additional details regarding solvent purity.

8.2 Analytical Standards: Standards should be stored at –10C or less, away from light when not in use. They should be discarded after 1 year unless the vendor expiration date states otherwise or, if degradation is observed. Stock standards are given a 1 year expiration from the preparation date or the expiration of the primary vendor solution, whichever occurs first. Working standards are given six month expiration from the preparation date or the expiration of the primary solution whichever occurs first. All analytical standards are made up in Methylene Chloride. All prep standards are made up in Acetone.

8.3 Surrogate/Internal Standard (IS):

8.3.1 A 1,4-Dioxane-d8 Primary neat standard is commercially obtained from Cambridge Isotope (Cat #DLM-28-10 or equivalent). A stock surrogate/internal standard solution is prepared by weighing 0.1 g of the primary neat standard and diluting volumetrically in 10 mls methylene chloride (or equivalent preparation) to obtain a concentration of ~10,000 ug/ml.

8.3.2 From this stock (Section 8.3.1), the Surrogate spiking solution is made by a serial dilution (1 ml diluted up in a 50 ml volumetric flask, followed by a 0.5 ml of this solution diluted up in a 20 ml volumetric flask or equivalent preparations) in Acetone to achieve a concentration of 5 ug/mL. Of this surrogate solution, 1 mL is spiked into each water sample, and 0.4 mL is spiked into each soil/sediment sample for a surrogate/IS concentration of 500 ng/mL in samples.

8.3.3 The initial stock solution (Section 8.3.1) is diluted volumetrically (250 uL diluted up in a 100 ml volumetric flask or equivalent preparation) in methylene chloride to obtain an IS solution at a concentration of 25 ug/ml for the spiking of only the analytical standards (i.e. calibration curve and continuing calibration).

8.4 Internal Standard: 1,4-Dichlorobenzene-d4 commercially obtained from Restek (Cat #31206 or equivalent). This primary solution is at 2000 ug/mL and contains other Semivolatile Internal standards, however this method only utilizes the 1,4-Dichlorobenzene-d4. This solution is diluted volumetrically (250 uL diluted up in a 50 ml volumetric flask or equivalent preparation) in methylene chloride to obtain a SIM-IS solution at a concentration of 25 ug/ml. All samples and standards are spiked with 20uL of internal standard before analysis. This IS is intended to be used for both quantitation (of the surrogate 1,4-Dioxane-d8) and the establishment of relative retention times.

8.5 Matrix Spike/Laboratory Control Spike Solutions (MS/LCS) – 1,4-Dioxane primary spike solution is commercially obtained from Restek at 2000 ug/mL (Cat #31853 or equivalent). To prepare the working spike solution, syringe measure 0.25 mL of stock and bring to 100 mL in acetone (or equivalent preparation) for a 5 ug/mL concentration. From this solution, 1 mL is spiked into each MS/LCS QC water sample and 0.4 mL is spiked into each soil/sediment sample. The final concentration in a 10 mL water extract and in a 4 mL soil/sediment sample will be 500 ng/mL.

8.6 Stock Calibration Standards are prepared from a primary standard commercially obtained from Restek at a concentration of 2000 ug/ml (Cat #31853 or equivalent). The primary standard is used to appropriately prepare a stock standard at a concentration of 10,000 ng/ml (125 uL diluted up in a 25 ml volumetric flask or equivalent preparation). The stock solution is generally made up in 25 ml increments. The stock solution then doubles as a high level standard for the calibration curve, as well as a stock solution by which to serially dilute to prepare the other calibration standards. Except for the high level standard, the calibration curve levels are generally each made at 10 ml. Refer to the table below for example calibration curve levels. All the calibration curve levels, once aliquoted at 1 ml increments for injection, have 20 ul of 1,4

Dichlorobenzene IS (SIM IS – Section 8.4) added as well as 20 uL of 1,4 Dioxane-d8 IS/Surrogate (Section 8.3.3) added.

8.7 Curve Preparation: The following 7 levels are the possible levels that can be analyzed for an ICAL.

Calibration Level	*Volume of Stock Std Added Into 10 ml of DCM*
Level 1 (10 ng/mL)	10 uL
Level 2 (50 ng/mL)	50 uL
Level 3 (100 ng/mL)	100 uL
Level 4 (500 ng/mL)	500 uL
Level 5 (1000 ng/mL) - CCV	1.0 mL
Level 6 (5000 ng/mL)	5.0 mL
Level 7 (10,000 ng/mL)	NA

8.8 The Independent Check Verification Standard is prepared from a Primary standard solution commercially obtained from Ultra (Cat NV-150-1 or equivalent) at a concentration of 100 ug/ml. The primary solution is diluted volumetrically (100 ul diluted up in a 10 ml volumetric flask or equivalent preparation) in methylene chloride to create a working ICV solution at a concentration of 1000 ng/ml. The working ICV solution is aliquoted into 1 ml increments as needed to inject with each calibration curve. Additionally, 20 ul of SIM IS (Section 8.4) and 20 ul of 1,4-Dioxane-d8 IS (Section 8.3.3) is added into the 1 ml aliquot.

9. Quality Control

The laboratory must maintain records to document the quality of data that is generated. Ongoing data quality checks are compared with established performance criteria to determine if the results of analyses meet the performance characteristics of the method.

9.1 Blank(s)

A method blank must be prepared once per every 20 samples or per extraction batch, whichever is more frequent.

Organic compounds of interest must not be detectable in the method blank at a concentration greater than the reporting limit.

Corrective Action: For contaminated blanks, all efforts must be made to identify and eliminate the source of contamination. The presence of analytes at concentrations at or above the reporting limit will warrant application of a "B" qualifier to that target compound(s) on all associated report forms, and perhaps re-extraction of all associated samples. Re-extraction of the method blank and all associated samples must be performed until the blank is in control. Surrogate recoveries must meet the QC limits for the method blank. Re-extraction must be initiated immediately so that minimum time is wasted before re-extraction can occur - if at all possible-this re-extraction should take place within holding time. Re-extraction *corrective action* that would exceed the sample holding time criteria should be discussed with the Organics Supervisor, Project Manager, client, and Operations Manager prior to implementation. Exceptions may be made with approval of the Organics Section Supervisor if the samples associated with an out of control method blank are non-detect for the affected compound(s) or if the concentration of the affected compound(s)in the sample is greater than 10x the blank level. In such cases, the sample results are accepted without corrective action for the high method blank result. The client must be notified, via the project narrative, of any method blank non-compliance associated with sample results

9.2 Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

Laboratory control samples (LCS/LCSD) must be prepared once per every 20 samples or per extraction batch, whichever is more frequent, and spiked with 1,4 Dioxane spike solution (Section 8.5) and surrogate (Section 8.3.2) before extraction. The IS (Section 8.4) is spiked after extraction and before the analysis.

Acceptable Recovery limits are 40% - 140%. The relative percent difference (RPD) between the LCS/LCSD is 30%. Limits are adapted from MCP protocol and are generally monitored and documented in-house through control charts.

Corrective Action: Analysis must be repeated if an analytical error is suspected. If the LCS/LCSD recoveries and/or %RPD are still out of control, re-extract and re-analyze the LCS/LCSD and all associated samples. Samples cannot be reported until an acceptable LCS is obtained.

9.3 Initial Calibration Verification (ICV)

Refer to Section 10.2.

9.4 Continuing Calibration Verification (CCV)

Refer to Section 10.4.

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

Matrix spike / matrix spike duplicate (MS/MSD) samples are performed upon project specifications. They are performed per client request. The sample is spiked with 1,4-Dioxane spike solution (Section 8.5) and surrogate (Section 8.3.2) before extraction. The IS (Section 8.4) is spiked after extraction and before the analysis. The recovery limits are 40% - 140% and the RPD limit is 30%. Limits are adapted from MCP protocol and are generally monitored and documented in-house through control charts.

Corrective Action: Analysis must be repeated if an analytical error is suspected. If the % recovery and/or %RPD still exceeds the control limits and the LCS/LCSD is compliant; include a project narrative with the results to client noting that there may be potential matrix effects on the accuracy or precision of the reported results as evidenced by MS/MSD recoveries and/or %RPD outside of QC limits.

9.6 Laboratory Duplicate

Duplicate analyses are performed upon client and/or workplan request. *For Organic analyses, the matrix duplicate is usually in the form of the matrix spike duplicate, see Section 9.5.*

Acceptable relative percent difference (RPD) of duplicates is 30%. Acceptance criterion is not applicable to sample concentrations less than 5 times the reporting limit. Calculate the RPD as follows:

$$RPD = \frac{R1 - R2}{\frac{[R1 + R2]}{2}} \times 100$$

where:

R1 = sample Replicate #1
R2 = sample Replicate #2

The RPD limits should be monitored and documented in-house through control charts and updated as needed.

Corrective Action: Analysis must be repeated if an analytical error is suspected.. If the % RPD still exceeds the control limits; include a project narrative with the results to client noting that there may be potential matrix effects on the precision of the reported results as evidenced by the matrix duplicate % RPD exceedence.

9.7 Method-specific Quality Control Samples

9.7.1 Surrogates

Surrogate spikes (Section 8.3.2 and Section 8.3.3) must be added to QC and field samples to evaluate the extraction method performance.

The acceptable surrogate recovery limits are 15% - 110%. Limits are adapted from MCP protocol.

Corrective Action: Analysis must be repeated if an analytical error is suspected. If the % recovery still exceeds the control limits the sample must be re-extracted and re-analyzed to confirm the sample matrix. If *obvious* matrix interferences are noted, consultation with the Organic Supervisor or Operations Manager may be in order to confirm the need for sample re-extraction. If no re-extraction occurs, the surrogate results and reasons for the decision not to re-extract must be discussed in the project narrative to the client. Due to the isotope dilution nature of this method, the analyst must pay close attention to surrogate recoveries and areas as this recovery is then used to surrogate correct (as an Internal standard) the response of 1,4-Dioxane.

9.7.2 Internal Standards

Internal standards must be added to all sample extracts, QC samples and standards for quantitation purposes. For sample extracts, only the 1,4-Dichlorbenzene-d4 IS (SIM IS – Section 8.4) should be added since the extraction surrogate is then used as an Internal Standard upon analysis. However, all Calibration standards must be spiked with both 1,4-Dichlorobenzene-d4 as well as 1,4-Dioxane-d8 (Section 8.3.3). In the sample extracts the area counts for 1,4-Dioxane-d8 will vary based on the extraction, however the 1,4-Dichlorobenzene-d4 area counts should remain fairly constant. The 1,4-Dichlorobenzene-d4 internal standard should also remain constant with respect to the continuing calibration analyzed at the beginning of the run. Sample IS areas must be –50% to +100% of the Internal Standards in the Continuing Calibration – applies only to 1,4-Dichlorobenzene-d4. Additionally, the IS retention times should not differ more than 30 seconds from the Continuing Calibration.

Corrective Action: Analysis must be repeated once unless there are obvious samples matrix interferences, i.e., the sample extract was very colored and viscous, or there are obvious chromatographic interferences. If *obvious* matrix interferences are noted, consultation with the Organic Supervisor or Operations Manager may be in order to confirm the need for sample re-analysis or re-extraction.

9.8 Method Sequence

- Tune
- CCV
- Method Blank
- LCS
- LCSD
- Samples

10. Procedure

10.1 Equipment Set-up

10.1.1 The instrument used for the analysis is a HP 6890N Series gas chromatograph. The HP system is equipped with a Gerstel large volume injection system, and a 7683B-type autosampler or equivalent. The mass spectrometer is an HP 5973 or 5975 with the HP Enviroquant data system. The method is modified for selective ion monitoring. The table below lists the ions monitored in one SIM window. This method must only be set up and analyzed by an experienced mass spectrometrist.

Compound	*Primary Ion*	*Secondary Ion*
1,4-Dioxane	88	58, 43
1,4-Dioxane-d8	64	96
1,4-Dichlorobenzene-d4	152	115

10.1.2 The basic GC parameters are as follows for the Gerstel Large Volume Injection System:

Oven Equib Time: 0.10 min
Oven Max: 325
Initial Temp.: 45°C
Initial Time: 6.00 min

Level	Rate (°C/min)	Final Temp. (°C)	Final Time (min)
1	19.00	120	1.0
2	11.00	150	1.00
3	19.00	305	4.00

Final Time: 26.83

10.1.3 The basic injection port parameters are as follows for the Gerstel Large Volume Injection System:

"Splitless" mode
Initial Temp: 46 °C
Initial Time: 0.30 min
Ramp Rate: 300°/second
Final Temp: 300°C
Final Time: 30.0
Cryo: ON
Cryo Use temp: 25 °C
Cryo Timeout: 30.0 min
Cryo Fault: ON
Purge Flow: 25 ml/min

Purge Time: 2.50 min
Gas Saver: off
Gas: Helium

Mode: Constant Pressure
Average Velocity: 30cm/sec
Initial flow: 1.3 ml/min

10.1.4 The basic GC parameters are as follows for the Agilent Split/Splitless injector System:

Oven Equib Time: 0.20 min
Oven Max: 325°C
Initial Temp.: 30°C

Level	Rate (°C/min)	Final Temp. (°C)	Final Time (min)
1	0	30	2.00
2	5	50	0.00
3	50	300	2.00

Final Time: 13.00

10.1.5 The basic injection port parameters are as follows for the Agilent Split/Splitless injector System:

:

Mode: Splitless
Temperatuire: 200 °C
Flow: 1.0 mL/min
Velocity: 36.074 cm/sec
Septum Purge: 3mL/min
Purge Flow to Split Vent: 60 mL/min at 0.3 min

10.1.6 MS Acquisition Information:

Tune file: dftpp.u
Acquisition Mode: SIM
Solvent Delay: 7.70 min
MS Source temp: 280°C

10.1.7 Tuning

10.1.7.1 Before the analytical standards are analyzed the mass spectrometer must be adjusted to meet the proper ion criteria for DFTPP. This is demonstrated by injecting into the GC/MS system 1uL of a 50ug/mL DFTPP solution. After the analysis of the DFTPP, evaluate the tune as follows:

- Enter into the "Environmental Data Analysis" (off-line) screen.
- Go to "File" and select the tune data file.
- Go into "Tuner" and select "Eval DFTPP", then select "AutoFind DFTPP to Screen," to evaluate the tune file, based on the pre-set SW-846 criteria. The software will evaluate the tune by selecting three scans of the DFTPP peak

and will display the ion intensities on the screen. That is, one scan at the apex, one scan directly preceding the apex and one scan following the apex and averages them, then takes one background subtracted scan, 20 seconds before the beginning of the DFTPP peak. If the criteria below are met, repeat, select "AutoFind to Printer", for a hardcopy of the tune evaluation for the record.

If the "AutoFind" tune evaluation does not meet the criteria below, manual evaluation of the tune can be performed by attempting either of the options below:

- Blow up the DFTPP peak on the screen and select either one single scan at the apex of the peak, or a scan immediately preceding or following the apex. Go into "Tuner" and select "Evaluate DFTPP to Screen," or "Evaluate DFTPP to Printer," as described above, OR,
- Take the average of the scans across the entire peak. Go into "Tuner" and select "Evaluate DFTPP to Screen," or "Evaluate DFTPP to Printer," as described above.

10.1.7.2 The following DFTPP mass intensity criteria should be used.

DFTPP KEY MASSES AND ABUNDANCE CRITERIA

Mass	m/z Abundance criteria
51	10-80 percent of mass 198.
68	Less than 2 percent of mass 69.
70	Less than 2 percent of mass 69.
127	10-80 percent of mass 198.
197	Less than 2 percent of mass 198.
198	Base peak, or >50 percent of Mass 442.
199	5-9 percent of mass 198.
275	10-60 percent of mass 198.
365	Greater than 1 percent of mass 198.
441	Present but less than 24 percent of mass 442.
442	Base Peak, or > 50 percent of mass 198.
443	15-24 percent of mass 442.

10.1.8 Tune acceptance should be verified at the beginning of every 12 hour analytical shift. The DFTPP may be combined with the calibration verification standard as long as both tuning and calibration acceptance criteria are met.

10.2 Initial Calibration

10.2.1 After the DFTPP passes criteria, a set of multi-level calibration standards listed in Section 8.7 are analyzed, from low concentration to high. A minimum of five calibration levels are analyzed. The calibration standards are stored in amber vials in the standards freezer. The labeling convention allows each standard to have a unique identifier which distinguishes it from field samples. The naming convention used throughout the laboratory identifies the standard as semivolatile, hydrocarbon, pesticide/PCB or volatile. An example of this would be SW042407E, meaning it is a semivolatile (S) working (W) standard made on April 24, 2007 and that it was the fifth standard made that day. All certificates of analysis that are shipped with standards are filed with their receipt ID written on it to insure traceability.

10.2.2 Once the standards have been analyzed, they are reduced by the search software of the Enviroquant data system. Once all the components are identified, a linear curve is calculated for the components. The criteria for evaluation are as follows:

10.2.2.1 The average RF for each compound must be greater than 0.05.

10.2.2.2 The %RSD of each compound must not exceed 20%. If they do this may be an indication that the chromatographic system is too reactive for analysis to begin. This indicates the instrument may need maintenance.

10.2.2.3 Alternatively, a linear regression model may be employed, provided that the coefficient of determination (COD or r2) is $\geq$0.99. Otherwise, construct a nonlinear calibration of no more than a third order equation. Statistical considerations in developing a non-linear calibration model require more data than the more traditional linear approach. A quadratic (second order) model requires six standards, and a third order polynomial requires seven standards. In setting model parameters, do not force the line through the origin. The COD or r^2 must be greater than or equal to 0.99.

10.2.2.4 Once the calibration curve is reviewed, an Initial Calibration Checklist must be completed.

10.2.3 All samples and standards are spiked with Internal Standards (IS) before analysis. Refer to section 8.4 for specific internal standard spiking information. The IS is intended to be used for both quantitation and the establishment of relative retention times. Internal standard acceptance criteria can be found in Section 9.7.2.

10.2.4 Independent check standards (Section 8.8) from a separate source or different lot are analyzed after every initial calibration for evaluation against calibration standard solutions. The % Difference (%D) should not be greater than $\pm$30%.

10.3 Equipment Operation and Sample Processing

10.3.1 Tuning

A DFTPP standard must be analyzed and pass criteria before a continuing calibration verification standard or any samples are analyzed. The DFTPP may be combined with the calibration verification standard as long as both tuning and calibration acceptance criteria are met. A DFTPP tune standard must be analyzed before each 12 hour analytical shift. Please refer to Section 10.1.5 for tuning criteria and other information.

10.3.2 Daily Calibration

On a daily basis after the DFTPP has passed, a mid-level (usually 1000 ng/mL) continuing calibration standard which contains all of the analytes of interest is analyzed. The criteria for acceptance are:

10.3.2.1 All analytes must have response factors greater than 0.05.

10.3.2.2 The % D must be $\pm$20% D from the initial calibration.

10.3.3 Sample Analysis

10.3.3.1 The prep lab staff will transfer the samples to the instrument laboratory. The samples are generally brought to a 10 mL final volume for liquids or 4 ml for soil samples; 1 mL is transferred and the remaining sample volume is archived. One aliquot of each sample is then placed in the sample extract holding refrigerator located in the instrument laboratory.

10.3.3.2 All of the samples at 1 mL (including the batch QC samples) are spiked with 20 uL

internal standard (see section 8.4 for specifics regarding the internal standard). The samples are shaken briefly after the internal standard is added to ensure mixing. A sample will need a dilution for target analytes that are over calibration.

10.3.3.3 After the daily tune and CCAL have passed criteria, the analyst places the samples onto the autosampler tray. (Generally, the samples will be analyzed in order of color (lightest to darkest.) with QC samples being analyzed first. The instrument sequence is typed into the HP Chemstation Software. Next run "Simulate Sequence" (also under the "Sequence" dropdown list) without clicking the "Overwrite Files" box. Compare the order of the vials on the instrument versus the sequence to confirm all the samples and standards are in the right places. Next click "Run Sequence" also under the HP Chemstation "Sequence" dropdown list.

10.3.3.4 After the samples have been analyzed, the data files from the MS are quantitated versus the proper quantitation method. The QCPRN1.MAC macro creates a form with which to easily check internal standard and surrogate criteria are met. The following should be reviewed initially:

10.3.3.4.1 Are all the surrogates within QC criteria? Please see Section 9.7.1 for surrogate information.

10.3.3.4.2 Is the internal standard- 1,4 Dichlorobenzene-d4, within 50-200% of the daily CCAL? If not, the samples should be checked for matrix interferences that may be causing these issues. The IS peaks should also be evaluated for peak splitting or incorrect integration by the software. A sample may not need to be reanalyzed if it can be determined (with guidance from a supervisor) that the QC is exceeded due to matrix interference.

10.3.3.4.3 Are all target analytes within calibration range? If not, the sample(s) should be diluted and re-analyzed. If a dilution is performed after the internal standard has already been added, it will be necessary to add additional IS in order to make up for the impact of the original IS added also being diluted. Conversely, if a sample has been over-diluted, it may need to be analyzed at less of a dilution to detect target analytes that may have been diluted out. Note: for this method, due to the isotope dilution, it is necessary to refer to area counts to determine if dilution is required. The area response for 1,4-Dioxane should be compared to the area of the highest level of the ICAL standard for that target. If the area of 1,4-Dioxane in the extract is greater than the area of 1,4-Dioxane in the Highest level of the Calibration Curve, then a dilution is necessary. The analyst **CAN NOT** use the concentration of 1,4-Dioxane found in the extract to determine if dilution is required because the concentration of 1,4-Dioxane in the sample is surrogate corrected in Chemstation based on the use of the extraction surrogate as an Internal Standard. Once it is determined based on the peak area that a sample requires a dilution, the analyst must pay attention to the concentration of IS in the dilution. Although the analyst will adjust the 1,4-Dichlorobenzene-d4 concentration by adding the appropriate amount of additional IS to the dilution, there is no way for the analyst to make up for the dilution of the extraction surrogate 1,4 dioxane-d8 (also used as internal standard). To account for this the analyst must change the concentration of the 1,4-Dioxane-d8 within the calibration table to a value which accounts for the dilution. (Example: If the analyst performs a 10x dilution then the concentration of 1,4-Dioxane–d8 must be changed within the ICAL to 50.) The analyst must ensure that only the diluted sample is calculated against this

value and that the method is returned to the proper concentration once the analysis of the dilution is complete.

10.3.3.4.4 Are all analyses within 12 hour tune time? If a sample is analyzed outside tune time, it will need to be re-analyzed in another tune clock.

10.3.3.4.5 The sequence should also be printed out from Chemstation, initialed and dated, and placed in the logbook.

10.3.3.4.5.1 If anything in the initial review of the data indicates that there should be a re-analysis, the reason for re-analysis should be noted on the sequence.

10.3.3.4.5.2 Also, note the time the tune standard was analyzed, the time of the last sample analysis. If there are samples analyzed outside tune time, the time the last sample within tune time ran should be noted, as well as the last sample analyzed.

10.3.3.4.5.3 If a re-extract is required, the "Request for Repreparation/Reclean" book should be filled out and a photocopy of the appropriate page should be given to the Preparation Group leader or the Organics Section Head.

10.4 Continuing Calibration

Continuing Calibration Criteria is outlined in section 10.3.2

10.5 Preventive Maintenance

If performing any maintenance on any piece of equipment it must be documented in the *Instrument Maintenance Logbook* located in the laboratory specific to each instrument.

Daily

Injection port maintenance: Maintenance should be done when the daily CCAL starts to demonstrate degradation either by %D outliers or area responses <50% as compared to the ICAL areas. Several tune clocks may be injected before maintenance is needed. The type of samples analyzed will have an effect on how soon maintenance should be performed. Injection port maintenance should be done as needed. General maintenance includes replacing the single baffle liner packed lightly with glass wool, cutting about 2-4 inches off the head of the column, and replacing the septa. Refer to maintenance log for more specific information.

The Gerstel Injection port should be handled with care. The liners are quite thin. Do not force the Gerstel weldmen into place as the threads are soft metal and will cross thread. Always make sure the weldmen goes on straight. The Gerstel injection port does not require significant tightening of either the weldmen or column nut, tighten enough to seal but there is no need to crank down on it.

11. Data Evaluation, Calculations and Reporting

11.1 Qualitative Analysis

11.1.1 The qualitative identification of compounds determined by this method is based on retention time and on comparison of mass spectrum, after background correction, with

characteristic ions in a reference mass spectrum. The reference mass spectrum must be generated by the laboratory using the conditions of this method. The characteristic ions from the reference mass spectrum are defined as the two ions of greatest relative intensity, and are over 30% relative intensity. Compounds are identified when the following criteria are met.

11.1.2 The intensities of the characteristic ions of a compound must maximize in the same scan or within one scan of each other. A peak selected by the data system, based on the presence of target specific ions at a target specific retention time will be accepted as meeting these criteria.

11.1.3 The relative retention time of the sample component is within ± 0.06 RRT units of the RRT of the standard component.

11.1.4 The relative intensities of the characteristic ions agree within 30% of the relative intensities of these ions in the reference spectrum (Example: For an ion with an abundance of 50% in the reference spectrum, the corresponding abundance in a sample spectrum can range between 20% and 80%.) The relative intensities are monitored daily. The relative intensities will be updated when they exceed established values from the reference spectrum.

11.1.5 Structural isomers that produce very similar mass spectra should be identified as individual isomers if they have sufficiently different GC retention times. Sufficient GC resolution is achieved if the height of the valley between two isomer peaks is less than 25% of the sum of the two peak heights. Otherwise, structural isomers are identified as isomeric pairs.

11.1.6 Identification is hampered when sample components are not resolved chromatographically and produce mass spectra containing ions contributed by more than one analyte. When gas chromatographic peaks obviously represent more than one sample component (i.e. a broadened peak with shoulder(s) or a valley between two or more maxima), appropriate selection of analyte spectra and background spectra is important. Selective ion monitoring eliminates this potential.

11.2 Quantitative Analysis

11.2.1 Response factors and % RSD to evaluate Initial Calibration acceptability.

Calculate RF by:

$$RF = \frac{area_{cmp}}{area_{is}} \times \frac{conc_{is}}{conc_{cmp}}$$

where:

area cmp = Area of the characteristic ion for the compound being measured.
area is = Area of the characteristic ion for the specific internal standard.
conc is = Concentration of the specific internal standard.
conc cmp = Concentration of the compound being measured.

Calculate % RSD by:

$$\%RSD = \frac{SD}{\overline{x}} \times 100 \qquad SD = \sqrt{\sum_{i=1}^{N} \frac{(x_i - \overline{x})^2}{N-1}}$$

where:

% RSD = percent relative standard deviation
x = average of RF's
SD = standard deviation
xi = analytical results of each level in the final reporting units
N = number of results (levels)

11.2.2 Calculate % Difference (%D) by:

$$\%D = \frac{\overline{RF_i} - RF_c}{\overline{RF_i}} \times 100$$

where:

RFi - Initial Calibration average RF
RFc = Continuing Calibration RF

11.2.3 Results of Water Analysis - calculation as performed in report form:

$$\text{Concentration (ug/L)} = \frac{(\text{Conc})\ (\text{Vf})\ (\text{DF})}{(\text{Vi})} \times 1000$$

11.2.4 Results of Soil/Sediment Analysis – calculation as performed in report form:

$$\text{Concentration (ug/Kg)} = \frac{(\text{Conc})\ (\text{Vf})\ (\text{DF})}{(\text{Vi})\ \%\text{S}} \times 1000$$

where:
Conc = Raw on-column concentration obtained from the quantitation report using Initial Calibration results.
Vf = Final volume of extract (mL)
Vi = Volume of sample extracted (mL), or weight of sample extracted in grams (g)
DF = Dilution factor, for manually prepared dilutions, not instrumental "dilutions".
%S = percent solids, as a decimal

12. Contingencies for Handling Out-of-Control Data or Unacceptable Data

Section 9.0 outlines sample batch QC acceptance criteria. If non-compliant organic compound results are to be reported, the Organic Section Head and/or the Laboratory Director, and the Operations Manager must approve the reporting of these results. The laboratory Project Manager

shall be notified, and may chose to relay the non-compliance to the client, for approval, or other corrective action, such as re-sampling and re-analysis. The analyst, Data Reviewer, or Department Supervisor performing the secondary review initiates the project narrative, and the narrative must clearly document the non-compliance and provide a reason for acceptance of these results.

All results for the organic compounds of interest are reportable without qualification if extraction and analytical holding times are met, preservation requirements (including cooler temperatures) are met, all QC criteria defined in the table below are met, and matrix interference is not suspected during extraction or analysis of the samples. If any of the below QC parameters are not met, all associated samples must be evaluated for re-extraction and/or re-analysis.

QC Parameter	Acceptance Criteria
Method Blank	No analyte above the reporting limit The results are qualified with a "B" for any associated sample concentrations that are less than 10x the blank concentration for this analyte
Surrogate Recovery	15% - 110%
Laboratory Control Samples	40% - 140% and 30% RPD
Matrix Duplicate	30% RPD
Matrix Spike	40% - 140%
Matrix Spike Duplicate	40% - 140% and 30% RPD

13. Method Performance

13.1 Method Detection Limit Study (MDL) / Limit of Detection Study (LOD) / Limit of Quantitation (LOQ)

The laboratory follows the procedure to determine the MDL, LOD, and/or LOQ as outlined in Alpha SOP 1732. These studies performed by the laboratory are maintained on file for review.

13.2 Demonstration of Capability Studies

Refer to Alpha SOP 1739 for further information regarding IDC/DOC Generation.

13.2.1 Initial (IDC)

The analyst must make an initial, one-time, demonstration of the ability to generate acceptable accuracy and precision with this method, prior to the processing of any samples.

13.2.2 Continuing (DOC)

The analyst must make a continuing, annual, demonstration of the ability to generate acceptable accuracy and precision with this method.

14. Pollution Prevention and Waste Management

Refer to Alpha's Chemical Hygiene Plan and Waste Management and Disposal SOP for further pollution prevention and waste management information.

15. Referenced Documents

Chemical Hygiene Plan

SOP 1732 Detection Limit (DL), Limit of Detection (LOD) & Limit of Quantitation (LOQ)
SOP 1739 Demonstration of Capability (DOC) Generation
SOP 1731 Manual Integration & Compound Rejection
SOP 1797 Hazardous Waste and Sample Disposal

SOP 1816 Reagent, Solvent and Standard Control

16. Attachments

None

APPENDIX B

PHASE II PHOTO LOG

Appendix B – Phase II Photo Log
W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire



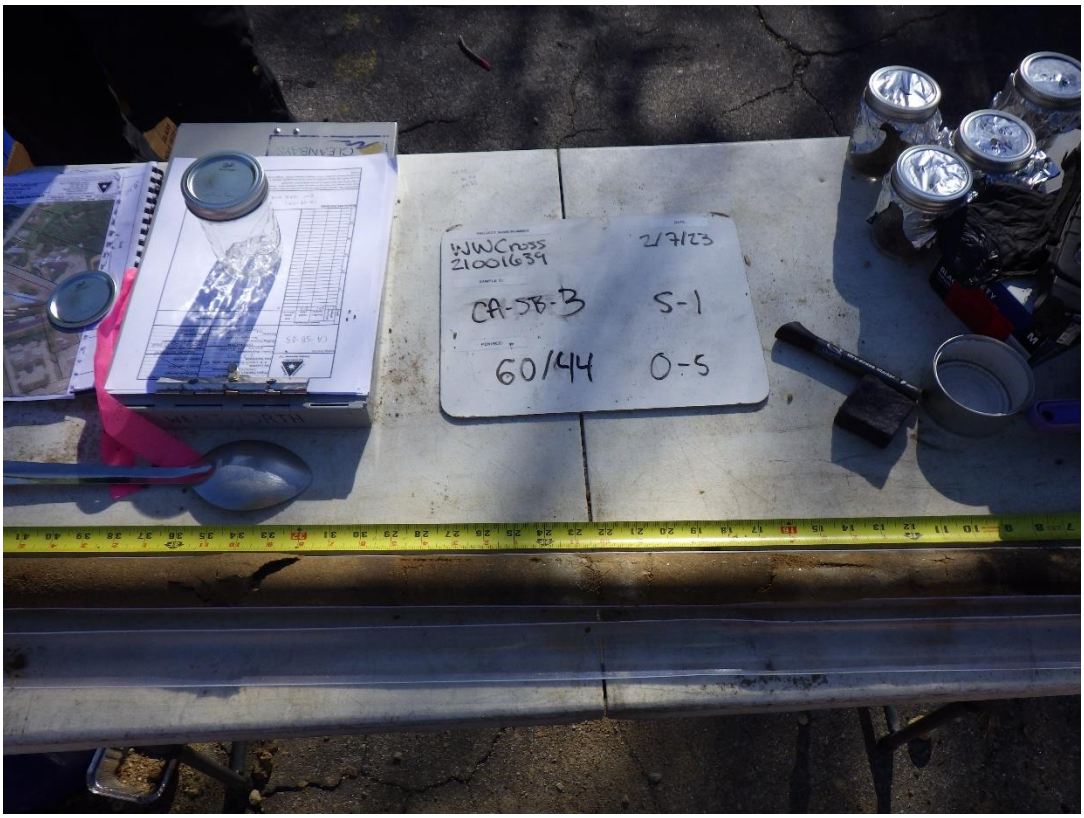
1. View of soil from boring CA-SB-01 (0-5 feet bgs)



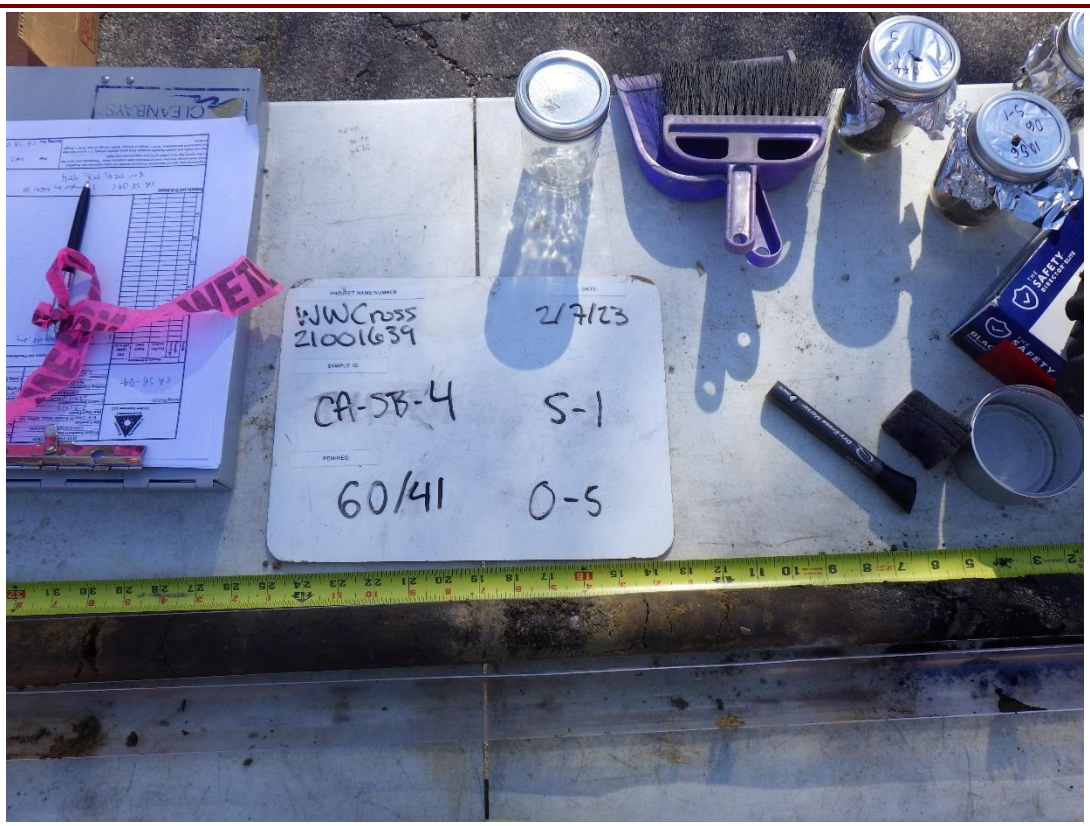
2. View of soil from boring CA-SB-02 (0-5 feet bgs)

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Appendix B – Phase II Photo Log
W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire



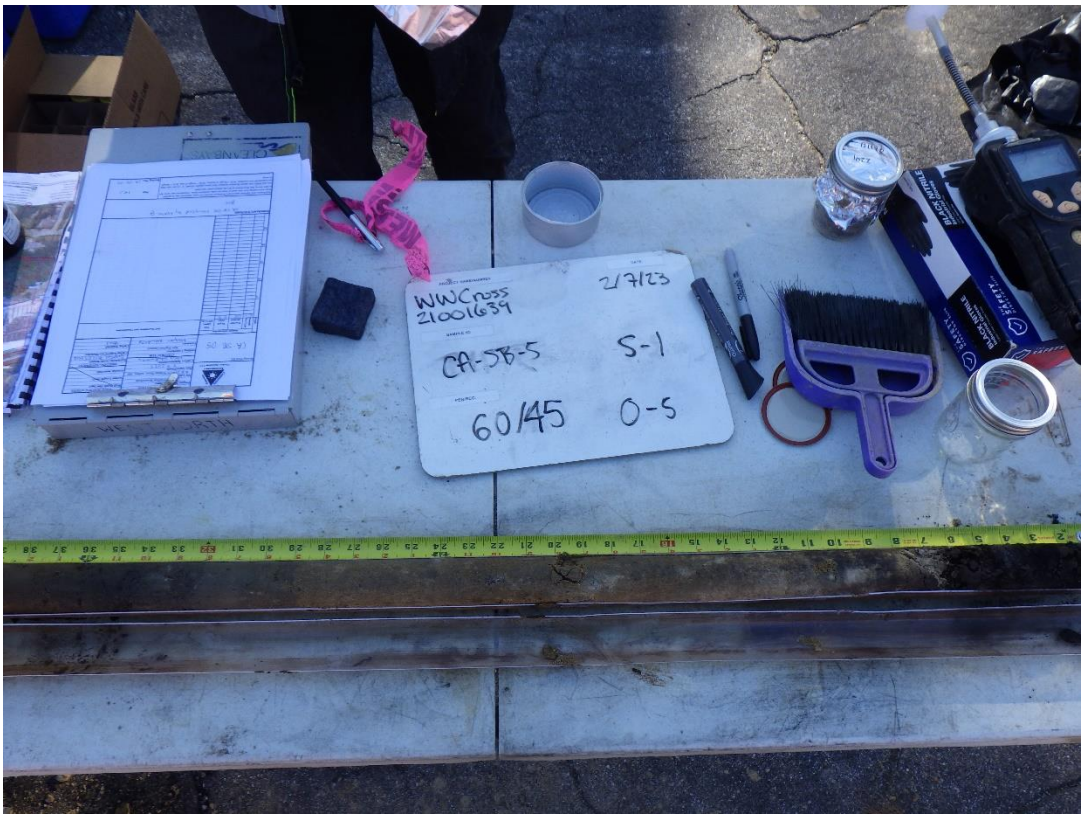
3. View of soil from boring CA-SB-03 (0-5 feet bgs)



4. View of soil from boring CA-SB-04 (0-5 feet bgs)

Community Economy Environment

Appendix B – Phase II Photo Log
W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire



5. View of soil from boring CA-SB-05 (0-5 feet bgs)



6. View of soil from boring CA-SB-06 (0-5 feet bgs)

Community Economy Environment

Appendix B – Phase II Photo Log
W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire



7. View of soil from boring CA-SB-07 (0-5 feet bgs)



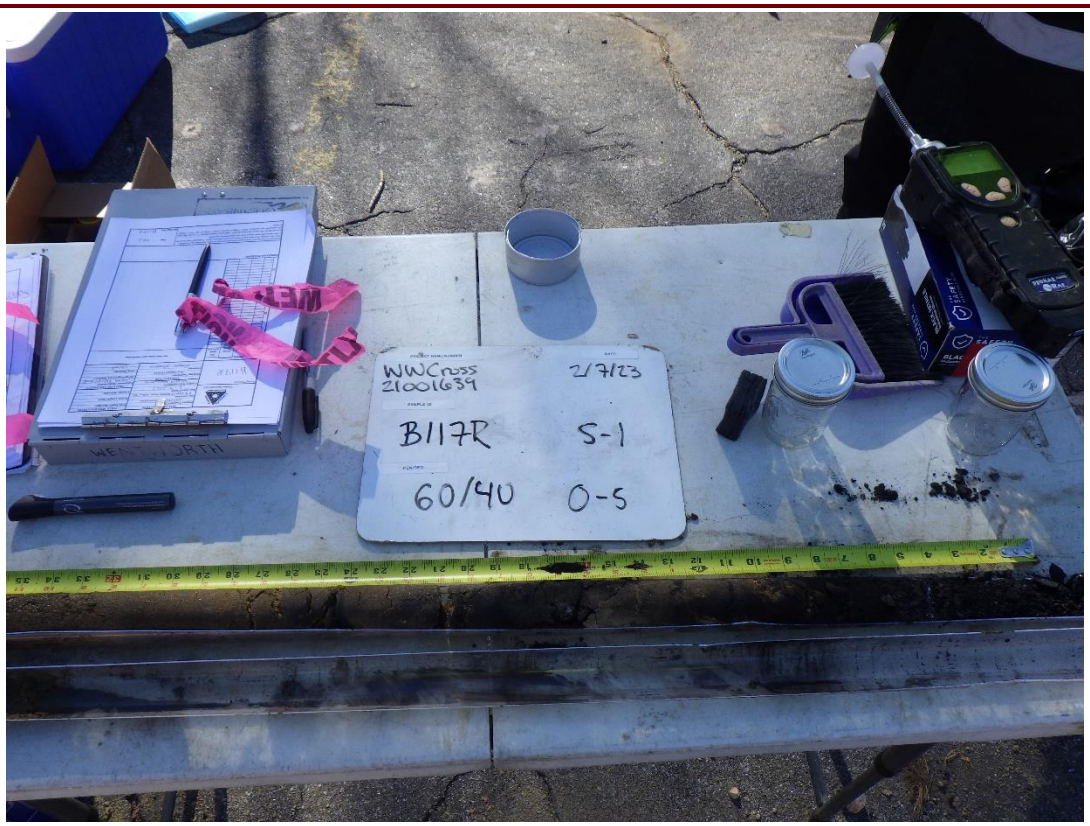
8. View of soil from boring B111R (0-5 feet bgs)

Community Economy Environment

Appendix B – Phase II Photo Log
W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire



9. View of soil from boring B111R (5-10 feet bgs)

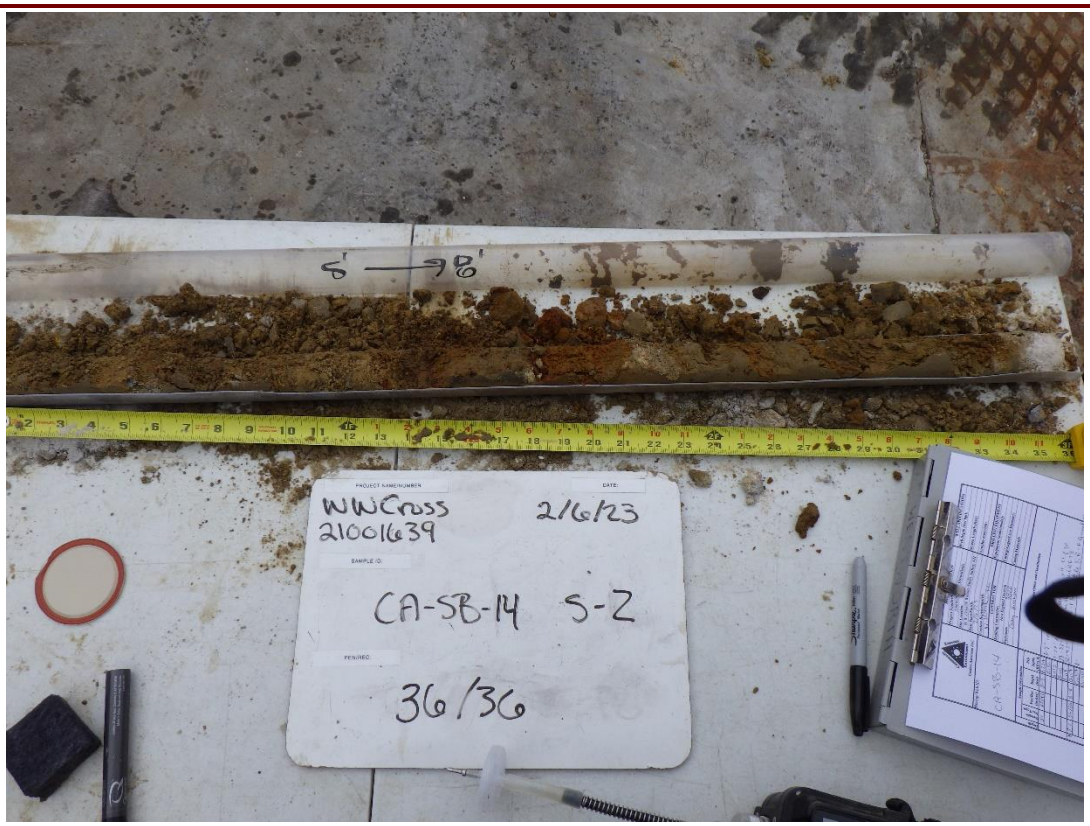


10. View of soil from boring B117R (0-5 feet bgs)

Appendix B – Phase II Photo Log
W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire



11. View of soil from boring CA-SB-14 (0-5 feet bgs)



12. View of soil from boring CA-SB-14 (5-8 feet bgs)

Appendix B – Phase II Photo Log
W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire



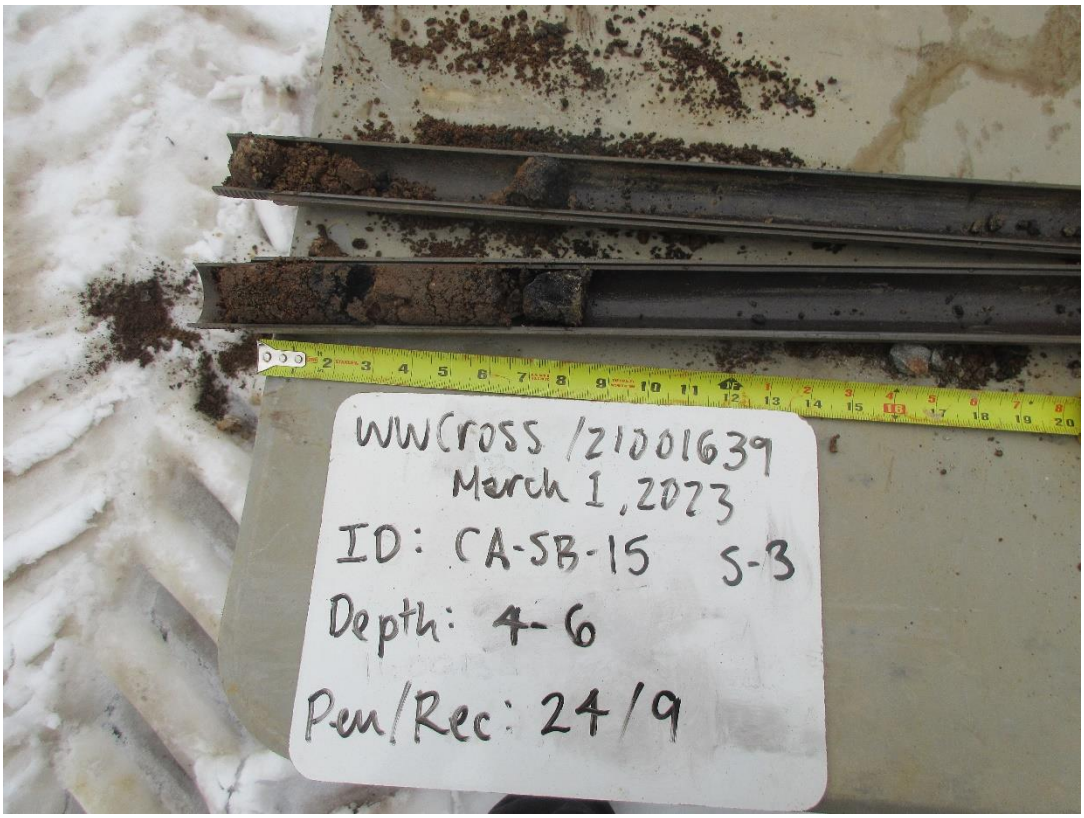
13. View of soil from boring CA-SB-15 (0-2 feet bgs)



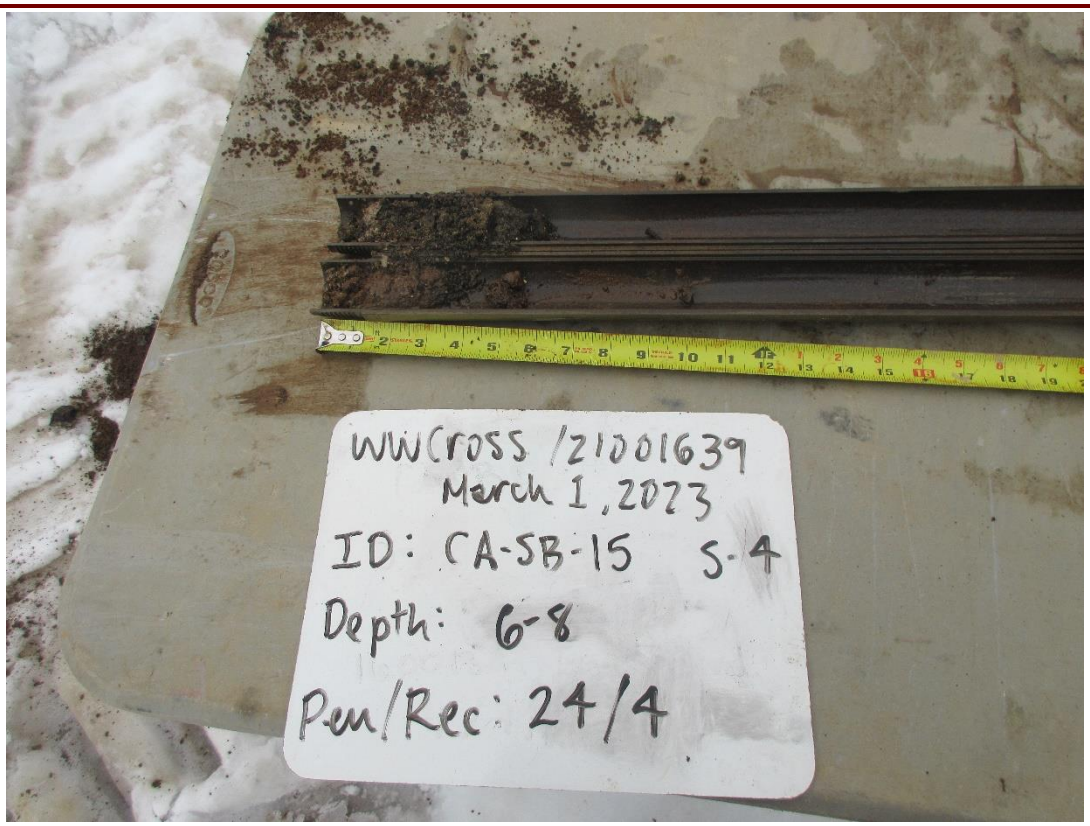
14. View of soil from boring CA-SB-15 (2-4 feet bgs)

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Appendix B – Phase II Photo Log
W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire



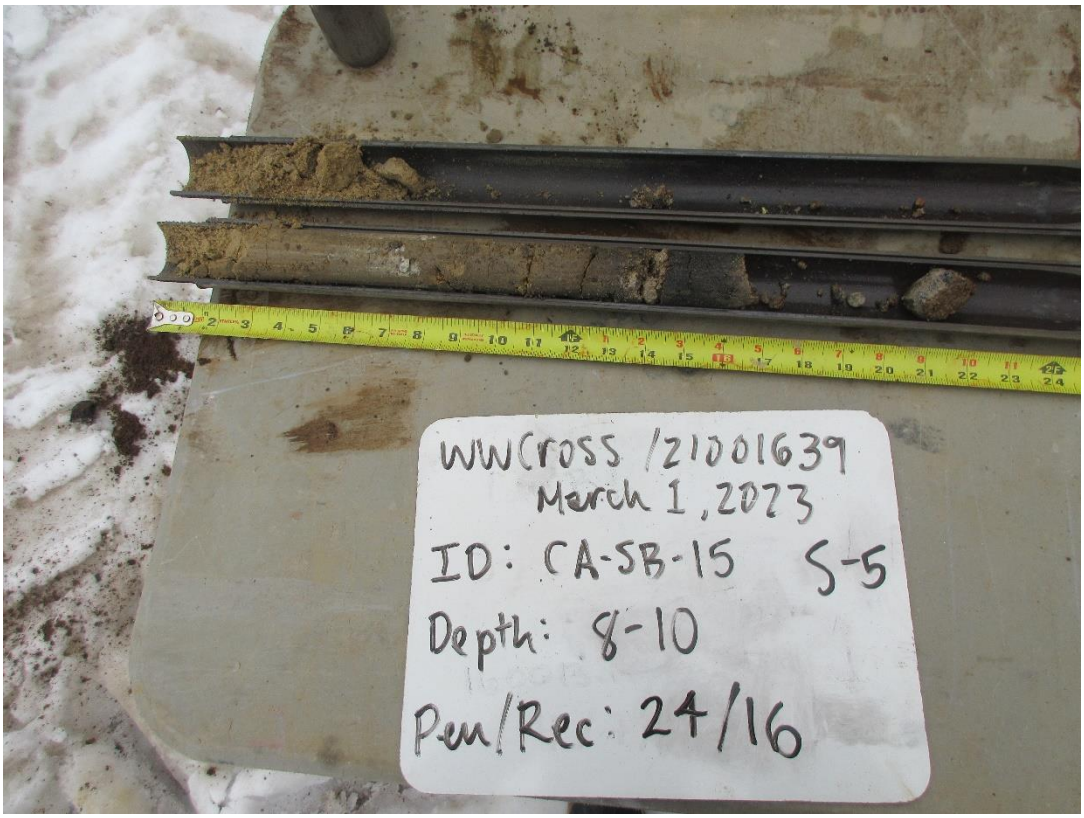
15. View of soil from boring CA-SB-15 (4-6 feet bgs)



16. View of soil from boring CA-SB-15 (6-8 feet bgs)

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Appendix B – Phase II Photo Log
W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire



17. View of soil from boring CA-SB-15 (8-10 feet bgs)



18. View of soil from boring CA-SB-15 (10-12 feet bgs)

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Appendix B – Phase II Photo Log
W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire



19. View of soil from boring CA-SB-15 (12-14 feet bgs)



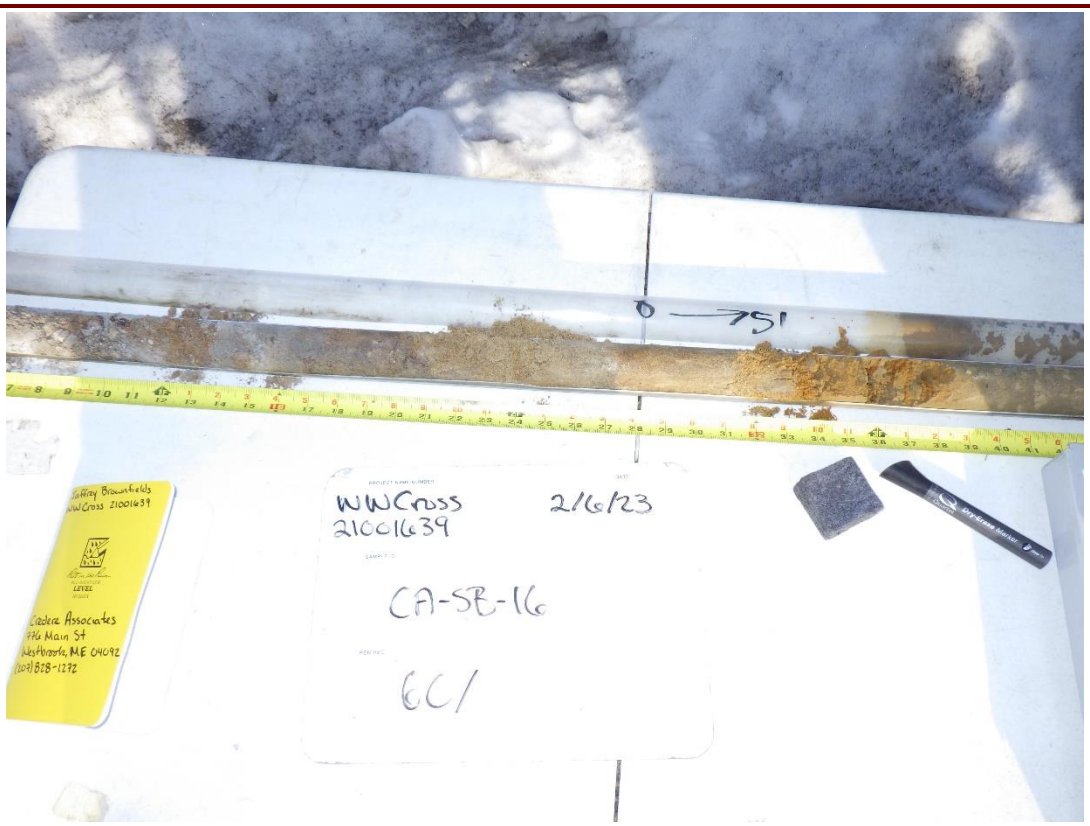
20. View of soil from boring CA-SB-15 (14-16 feet bgs)

Community Economy Environment

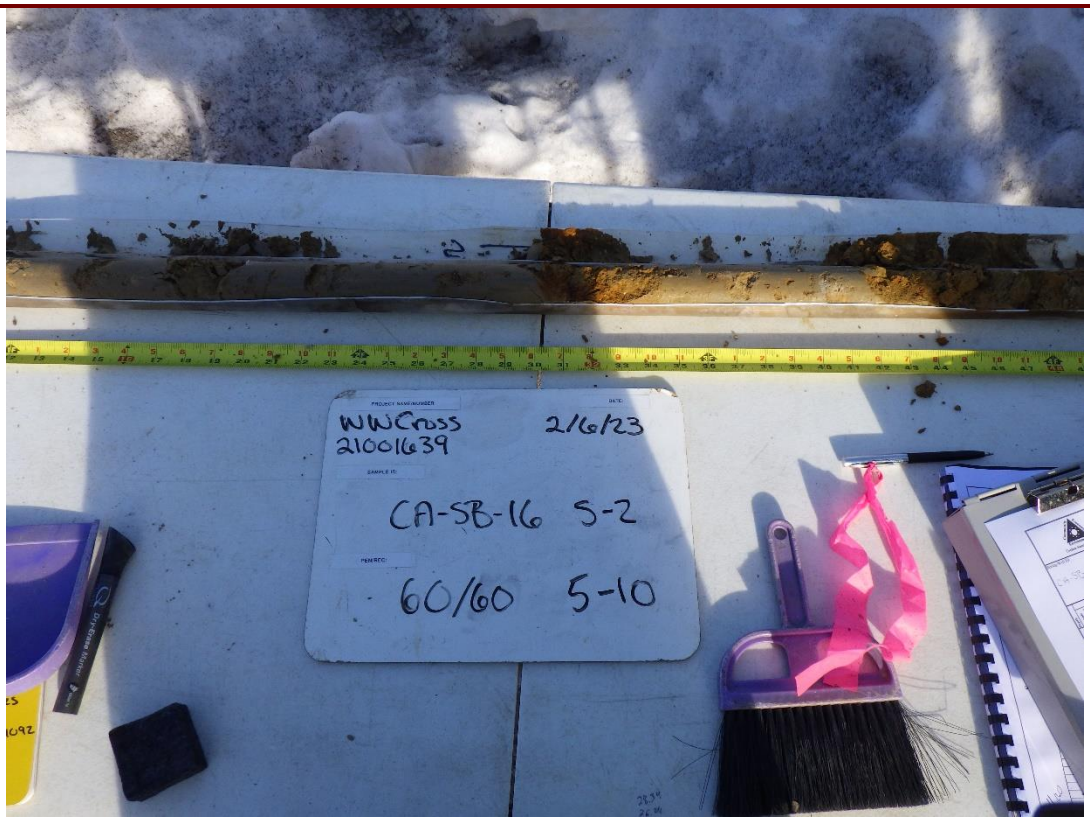
Appendix B – Phase II Photo Log
W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire



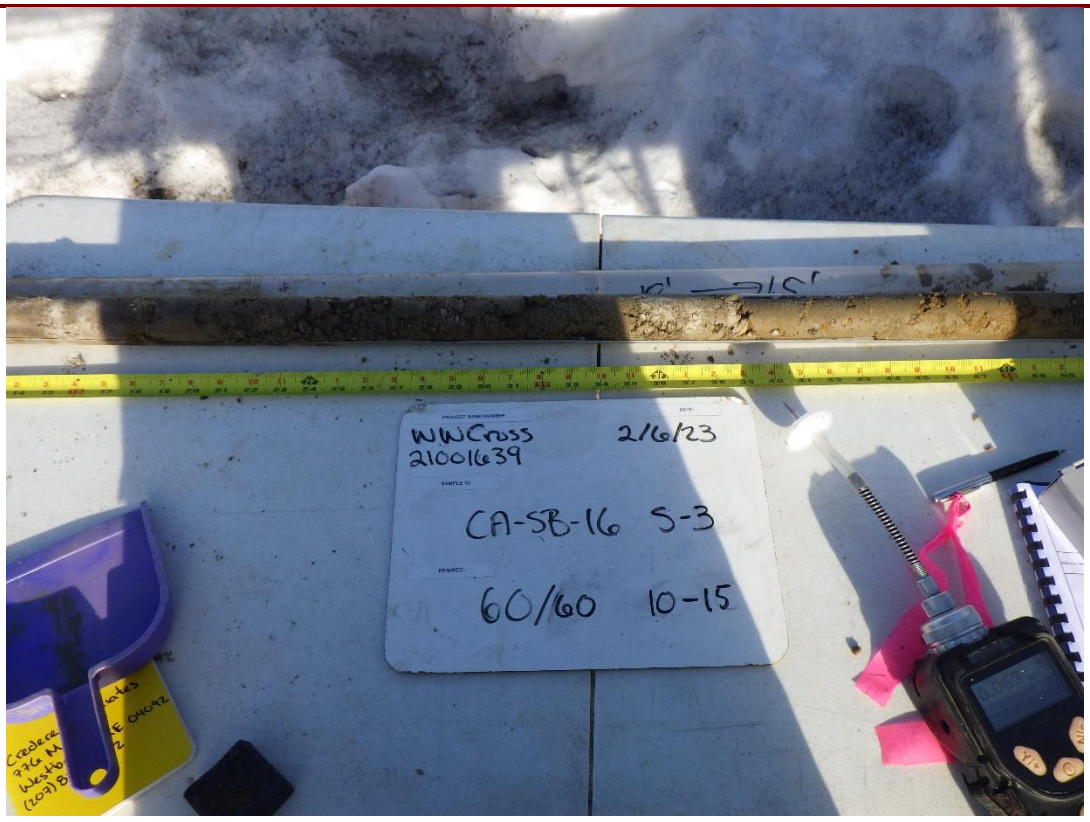
21. View of soil from boring CA-SB-15 (16-18 feet bgs)



22. View of soil from boring CA-SB-16 (0-5 feet bgs)

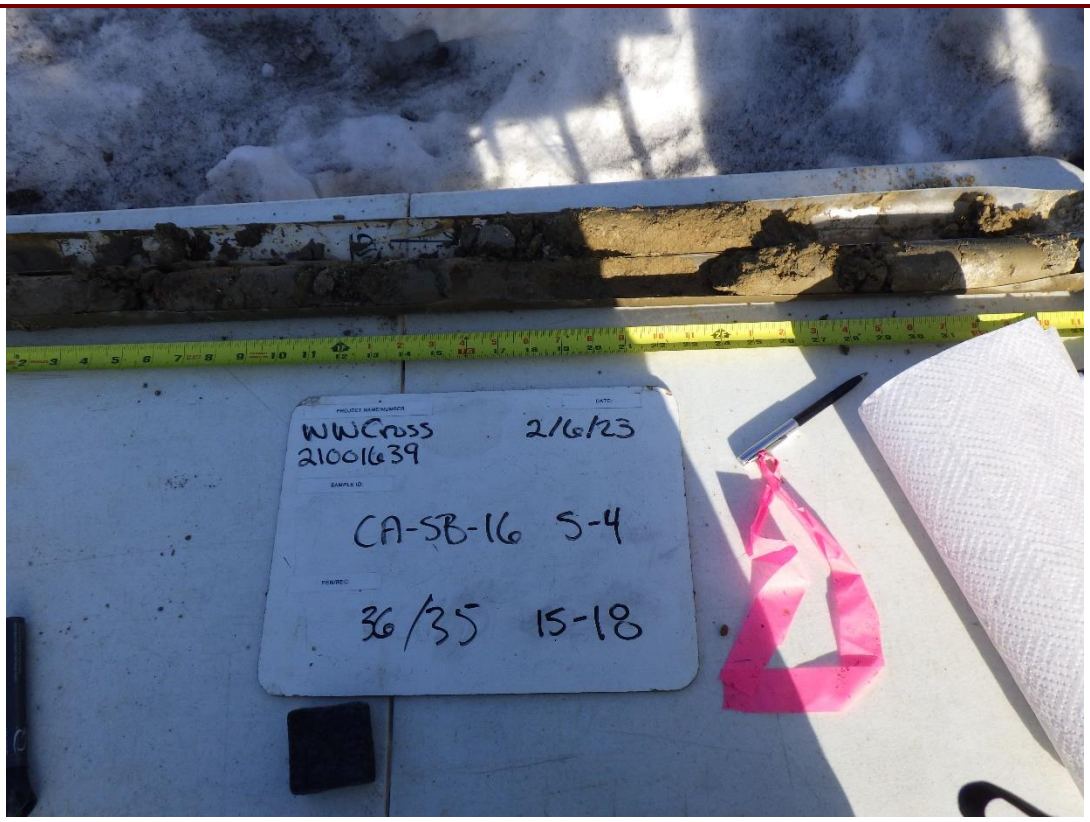


23. View of soil from boring CA-SB-16 (5-10 feet bgs)



24. View of soil from boring CA-SB-16 (10-15 feet bgs)

Appendix B – Phase II Photo Log
W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire



25. View of soil from boring CA-SB-16 (15-18 feet bgs)



26. View of soil from boring CA-SB-17 (3-5 feet bgs)

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27. View of soil from boring CA-SB-17 (5-7 feet bgs)



28. View of soil from boring CA-SB-17 (7-9 feet bgs)

Appendix B – Phase II Photo Log
W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire



29. View of soil from boring CA-SB-17 (9-11 feet bgs)



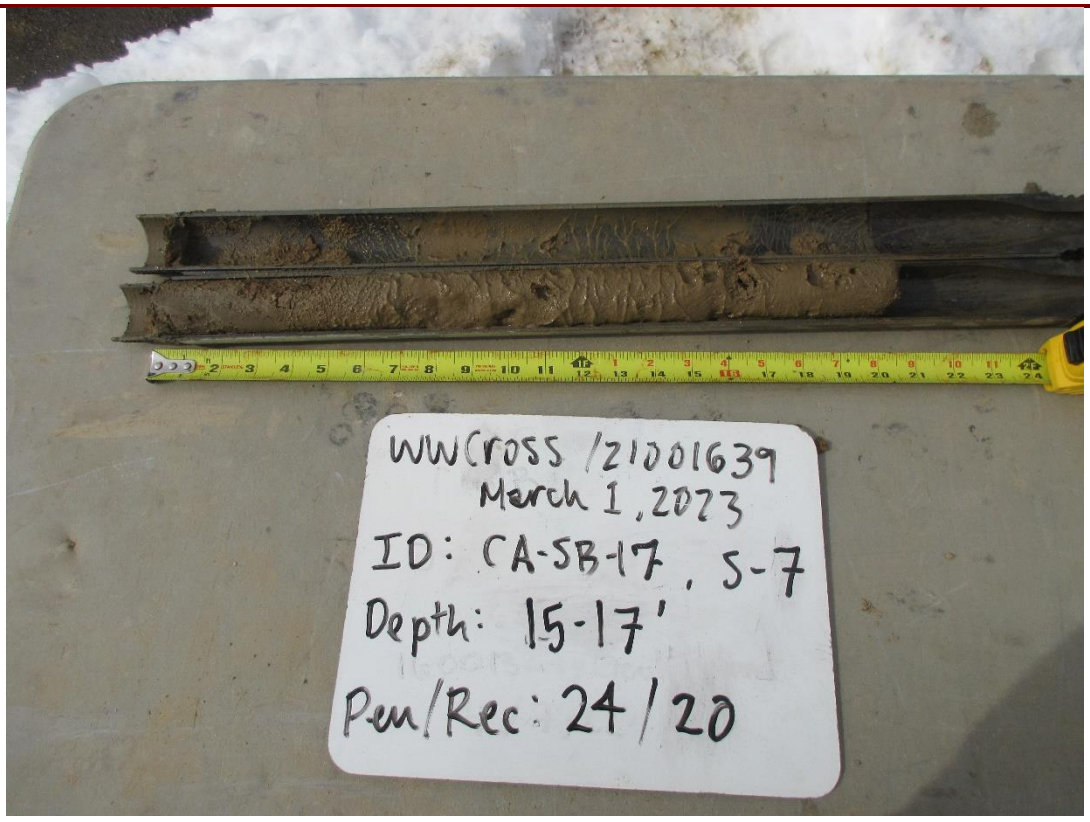
30. View of soil from boring CA-SB-17 (11-13 feet bgs)

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W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire



31. View of soil from boring CA-SB-17 (13-15 feet bgs)

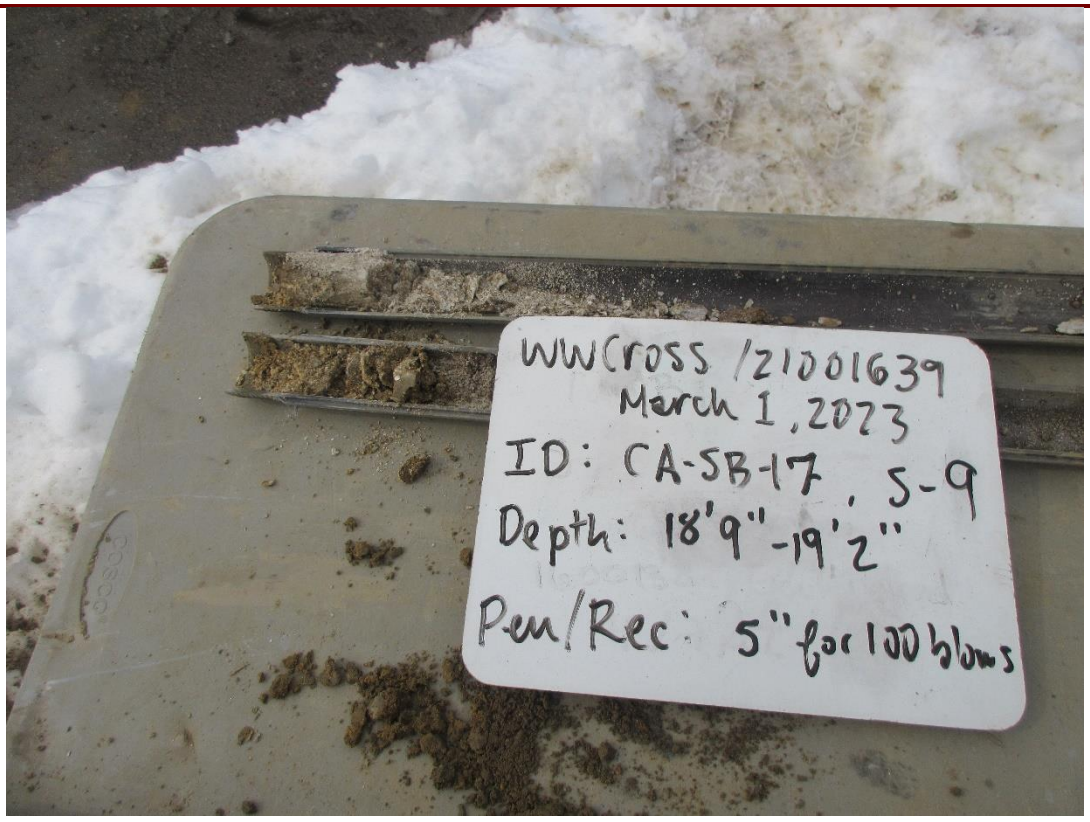


32. View of soil from boring CA-SB-17 (15-17 feet bgs)

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33. View of soil from boring CA-SB-17 (17-19 feet bgs)



34. View of soil from boring CA-SB-17 (18'9"-19'2" feet bgs)

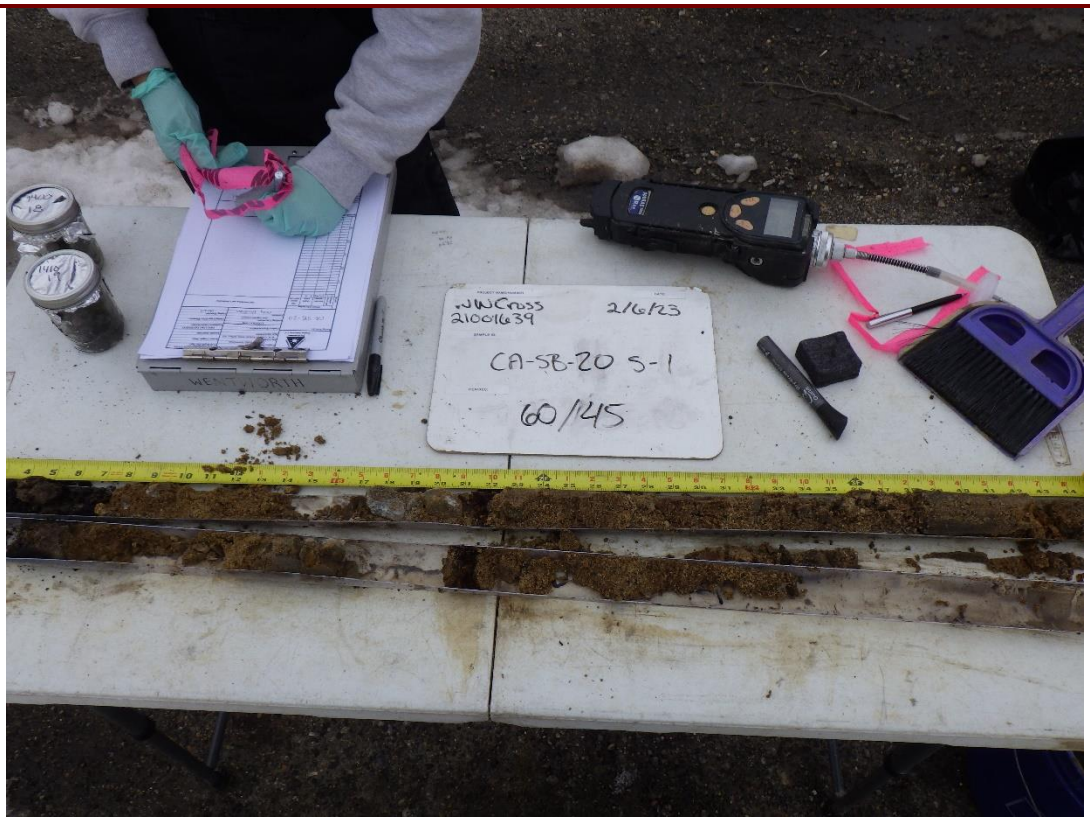


35. View of soil from boring CA-SB-18 (0-5 feet bgs)



36. View of soil from boring CA-SB-19 (0-5 feet bgs)

Appendix B – Phase II Photo Log
W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire



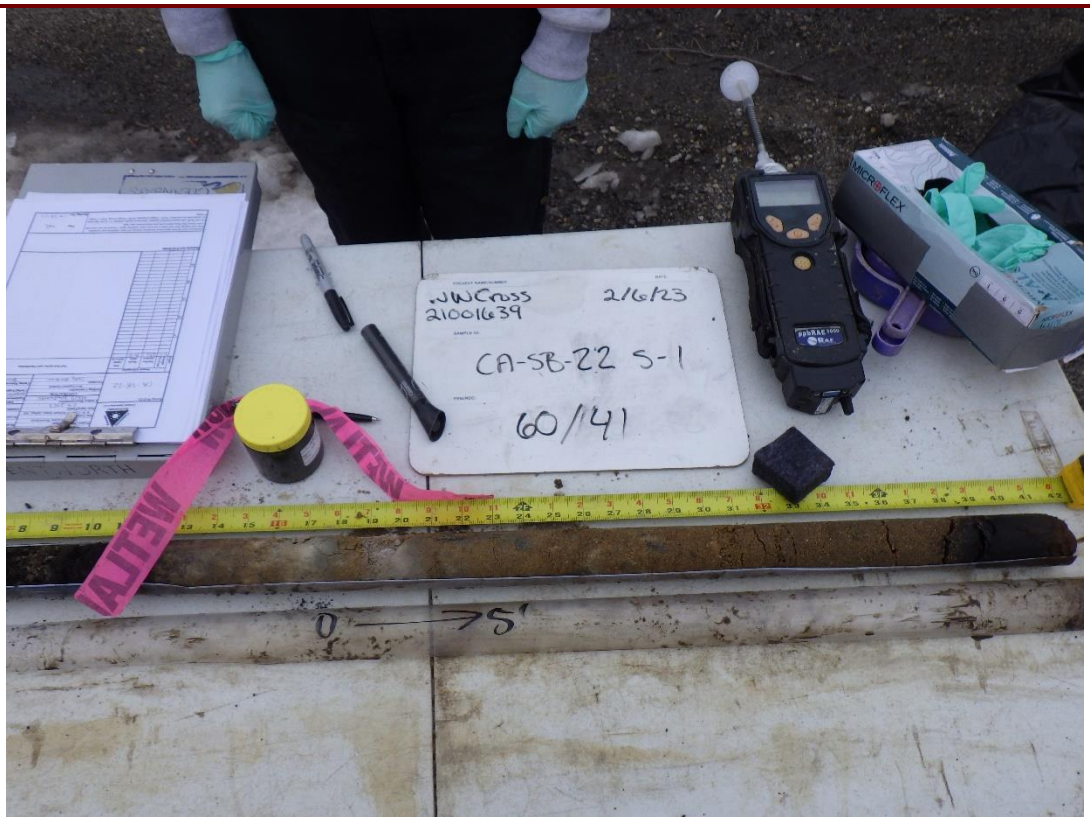
37. View of soil from boring CA-SB-20 (0-5 feet bgs)



38. View of soil from boring CA-SB-21 (0-5 feet bgs)

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Appendix B – Phase II Photo Log
W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire



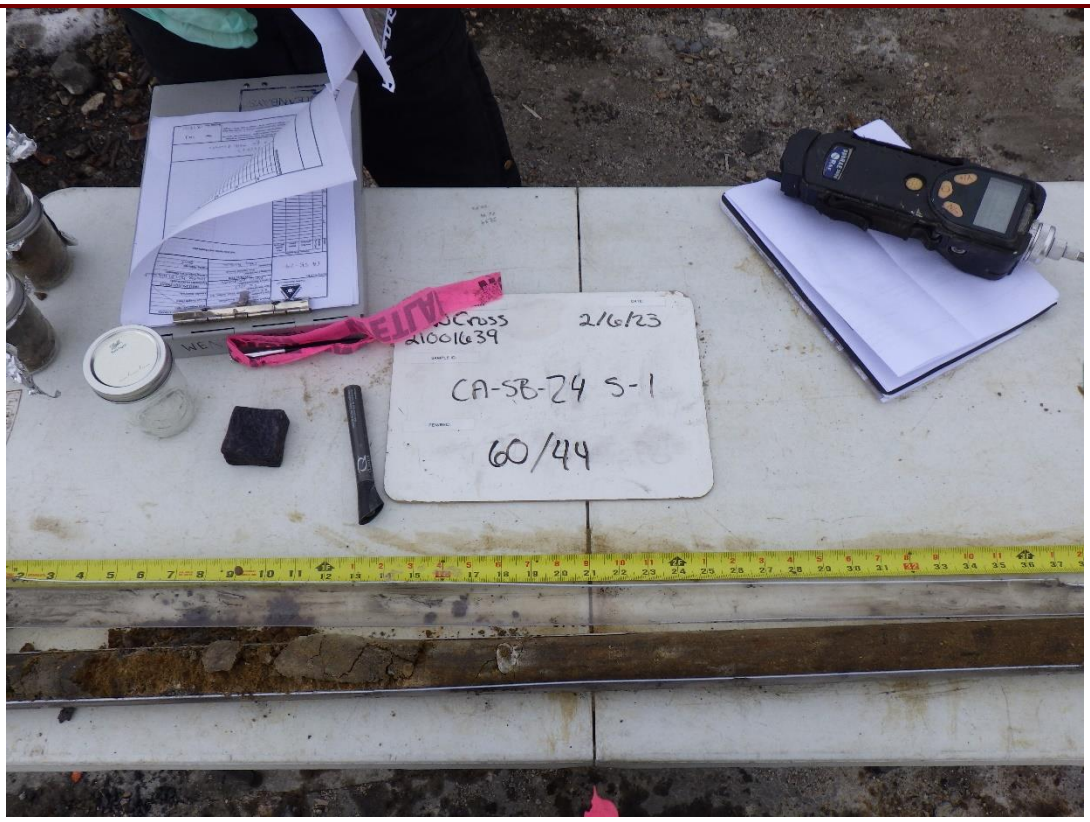
39. View of soil from boring CA-SB-22 (0-5 feet bgs)



40. View of soil from boring CA-SB-23 (0-5 feet bgs)

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Appendix B – Phase II Photo Log
W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire



41. View of soil from boring CA-SB-24 (0-5 feet bgs)



42. View of soil from boring CA-SB-25 (0-5 feet bgs)

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Appendix B – Phase II Photo Log
W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire



43. View of soil from boring CA-SB-26 (0-5 feet bgs)



44. View of soil from boring CA-SB-27 (0-5 feet bgs)

Appendix B – Phase II Photo Log
W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire



45. Photo of unknown area of interest



46. Photo of soil boring CA-SB-09 sample location

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Appendix B – Phase II Photo Log
W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire

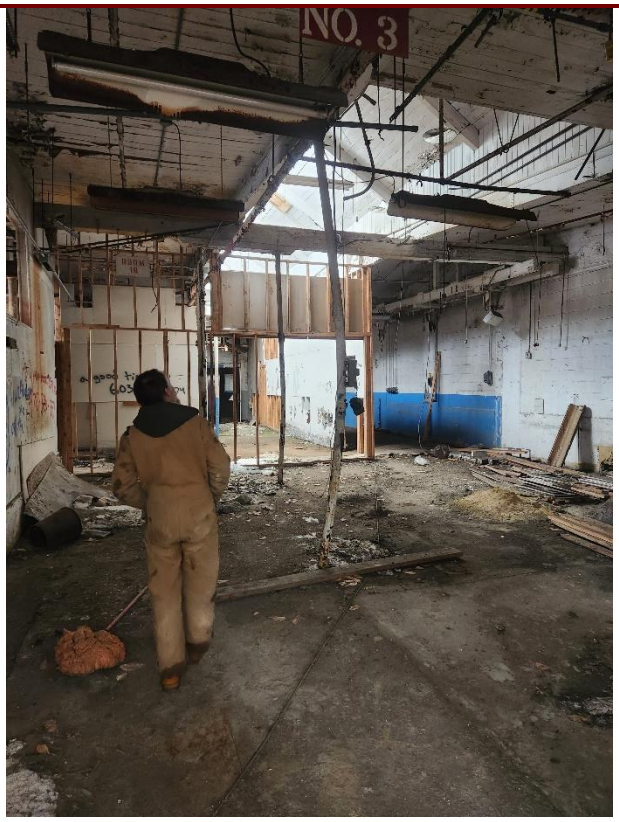


47. Photo of east side of W.W Cross sawtooth building, looking into sawtooth room



48. Photo of interior of W.W Cross sawtooth building showing deteriorating roof structure

Appendix B – Phase II Photo Log
W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire



49. Photo of interior of W.W Cross showing deteriorating building supports



50. Representative photo of layered paint from W.W Cross building

Appendix B – Phase II Photo Log
W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire



51. Representative photo of mastic from W.W Cross building

APPENDIX C

FIELD LOGS

Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

B111R

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 2/7/23 **LOGGED BY** M.Wentworth
DEPTH TO WATER Not encountered **WELL DIAMETER** N/A
CONTRACTOR New England Geotech/Maynor Mendoza
WELL MATERIALS N/A
DRILLING METHOD Direct Push
ANNULUS MATERIALS N/A,
DRILLING EQUIPMENT Geoprobe 7822 DT Track Rig, borehole diam. 2
MP ELEVATION **GROUND ELEVATION**
NOTES Sample analyzed for polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPH)

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0	60/48		0.639	B111R (6-8)		0-8" ASPHALT; black, crushed, dry	
			0.295			8-35" Brown, very fine to medium SAND, little fine Gravel, moist	
			0.237				
			0.203			35-38" Brown, very fine to medium SAND, some Silt, moist	
			0.180			38-43" Black, very fine to medium SAND and SILT, trace fine Gravel, noticeable sheen, moist	
5			0.152			43-48" Dark gray, very fine to fine SAND and SILT, some Clay, moist	
						60-63" Dark gray, very fine to fine SAND and SILT, some Clay, moist	
			0.133			63-65" Black very fine to fine SAND and SILT, some Clay, bituminous odor, noticeable sheen, moist	
	60/53					65-73" Gray, very fine to medium SAND and SILT, some Clay, wet	
			0.122			73-87" Gray very fine to fine SAND and SILT, wet	
			0.123			87-88" Reddish-brown (oxidation), very fine to medium SAND, moist	
			0.120			88-113" Brown, very fine to medium SAND, moist	
10						End of boring at 10' (no refusal)	
15							

CREDERE ENV 2015 - GINT STD US LAB.GDT - 8/7/23 15:25 - P:\21001639 JAFFREY BROWNFIELDS\WORK\W.W. CROSS\PHASE II ESA\WW CROSS LOGS_GWK.GPJ

Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

B117R

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 2/7/23 **LOGGED BY** M.Wentworth
DEPTH TO WATER Not encountered **WELL DIAMETER** N/A
CONTRACTOR New England Geotech/Maynor Mendoza
WELL MATERIALS N/A
DRILLING METHOD Direct Push
ANNULUS MATERIALS N/A,
DRILLING EQUIPMENT Geoprobe 7822 DT Track Rig, borehole diam. 2
MP ELEVATION **GROUND ELEVATION**
NOTES Sample analyzed for PAHs, PCBs, and TPH

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0	60/40		0.217	B117R (2-4)		0-9" ASPHALT; black, crushed, dry	
			0.216			9-16" Brown, very fine to medium SAND, little fine Gravel, moist	
			0.198			16-17" Brown, crushed FILL material, dry 17-33" Brown, very fine to medium SAND, little Silt and fine Gravel, moist	
			0.257				
			0.245			33-40" Brown, very fine to medium SAND, little Silt and fine Gravel, wet	
5						End of boring at 5' (no refusal)	
10							
15							

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Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

CA-SB-01

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 2/7/23 **LOGGED BY** M.Wentworth
DEPTH TO WATER Not encountered **WELL DIAMETER** N/A
CONTRACTOR New England Geotech/Maynor Mendoza
WELL MATERIALS N/A
DRILLING METHOD Direct Push
ANNULUS MATERIALS N/A,
DRILLING EQUIPMENT Geoprobe 7822 DT Track Rig, borehole diam. 2
MP ELEVATION **GROUND ELEVATION**
NOTES Samples analyzed for PAHs, PCBs, and TPH

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0	60/27		0.145 0.142 0.134 0.130 0.132	CA-SB-01 (0.5-2.5) & SB-DUP-1 (0.5-2.5)		0-6" ASPHALT; black, crushed, dry 6-14" Brown, very fine to fine SAND, some fine Gravel, trace Silt, moist 14-37" Brown, very fine to medium SAND, little fine Gravel, moist	
5						End of boring at 5' (no refusal)	
10							
15							

CREDERE ENV 2015 - GINT STD US LAB.GDT - 8/7/23 15:25 - P:\21001639 JAFFREY BROWNFIELDS\WORK\W.W. CROSS\PHASE II ESA\WW CROSS LOGS_GWK.GPJ

Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

CA-SB-02

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 2/7/23 **LOGGED BY** M.Wentworth
DEPTH TO WATER Not encountered **WELL DIAMETER** N/A
CONTRACTOR New England Geotech/Maynor Mendoza
WELL MATERIALS N/A
DRILLING METHOD Direct Push
ANNULUS MATERIALS N/A,
DRILLING EQUIPMENT Geoprobe 7822 DT Track Rig, borehole diam. 2
MP ELEVATION **GROUND ELEVATION**
NOTES Sample analyzed for PAHs, PCBs, and TPH

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0	60/44		0.159	CA-SB-02 (0.5-2.5)		0-6" ASPHALT; black, crushed, dry	
			0.166			6-15" Brown, very fine to medium SAND, little fine Gravel, moist	
			0.167			15-16" ASPHALT; black, crushed, dry 16-44" Light brown, very fine to medium SAND, trace fine Gravel, moist	
			0.159				
			0.158				
5						End of boring at 5' (no refusal)	
10							
15							

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Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

CA-SB-03

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 2/7/23 **LOGGED BY** M.Wentworth
DEPTH TO WATER Not encountered **WELL DIAMETER** N/A
CONTRACTOR New England Geotech/Maynor Mendoza
WELL MATERIALS N/A
DRILLING METHOD Direct Push
ANNULUS MATERIALS N/A,
DRILLING EQUIPMENT Geoprobe 7822 DT Track Rig, borehole diam. 2
MP ELEVATION **GROUND ELEVATION**
NOTES Sample analyzed for PAHs, PCBs, and TPH

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0	60/44		0.270 0.242 0.267 0.227 0.222	CA-SB-03 (0-2)		0-4" ASPHALT; black, crushed, dry 4-7" Gray, very fine to medium SAND, little fine Gravel, moist 7-44" Brown, very fine to medium SAND, little fine Gravel, moist	
5						End of boring at 5' (no refusal)	
10							
15							

CREDERE ENV 2015 - GINT STD US LAB.GDT - 8/7/23 15:25 - P:\21001639 JAFFREY BROWNFIELDS\WORK\W.W. CROSS\PHASE II ESA\WW CROSS LOGS_GWK.GPJ

Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

CA-SB-04

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 2/7/23 **LOGGED BY** M.Wentworth
DEPTH TO WATER Not encountered **WELL DIAMETER** N/A
CONTRACTOR New England Geotech/Maynor Mendoza
WELL MATERIALS N/A
DRILLING METHOD Direct Push
ANNULUS MATERIALS N/A,
DRILLING EQUIPMENT Geoprobe 7822 DT Track Rig, borehole diam. 2
MP ELEVATION **GROUND ELEVATION**
NOTES Sample analyzed for PAHs, PCBs, and TPH

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0	60/41		0.318	CA-SB-04 (0-2)		0-8" ASPHALT; black, crushed, dry	
			0.319			8-16" Brown, very fine to medium SAND, little fine Gravel, moist	
			0.289			16-28" Dark brown, very fine to medium SAND, little Silt and fine Gravel, moist	
			0.256			28-41" Brown, very fine to medium SAND, little Silt and fine Gravel, moist	
			0.261				
5						End of boring at 5' (no refusal)	
10							
15							

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776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

CA-SB-05

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 2/7/23 **LOGGED BY** M.Wentworth
DEPTH TO WATER Not encountered **WELL DIAMETER** N/A
CONTRACTOR New England Geotech/Maynor Mendoza
WELL MATERIALS N/A
DRILLING METHOD Direct Push
ANNULUS MATERIALS N/A,
DRILLING EQUIPMENT Geoprobe 7822 DT Track Rig, borehole diam. 2
MP ELEVATION **GROUND ELEVATION**
NOTES Sample analyzed for PAHs, PCBs, and TPH

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0	60/45		0.202 0.222 0.190 0.212 0.203	CA-SB-05 (0-2)		0-6" ASPHALT; black, crushed, dry 6-31" Light brown, very fine to coarse SAND, trace fine Gravel, moist 31-35" Gray, very fine to coarse SAND, trace fine Gravel, moist 35-39" Dark brown, very fine to medium SAND, some Clay, little Silt, moist 39-41" Reddish-brown, very fine to coarse SAND, some Silt, moist 41-45" Brown very fine to coarse SAND, trace Silt, moist End of boring at 5' (no refusal)	
5							
10							
15							

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Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

CA-SB-06

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 2/7/23 **LOGGED BY** M.Wentworth
DEPTH TO WATER Not encountered **WELL DIAMETER** N/A
CONTRACTOR New England Geotech/Maynor Mendoza
WELL MATERIALS N/A
DRILLING METHOD Direct Push
ANNULUS MATERIALS N/A,
DRILLING EQUIPMENT Geoprobe 7822 DT Track Rig, borehole diam. 2
MP ELEVATION **GROUND ELEVATION**
NOTES Sample analyzed for PAHs, PCBs, and TPH

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0	60/48		0.242	CA-SB-06 (0-2)		0-8" ASPHALT; black, crushed, dry	
						8-13" Brown, very fine to medium SAND, some crushed rock, moist	
			0.214			13-17" Light gray, crushed rock, dry	
						17-28" Brown, very fine to medium SAND, little crushed rock, moist	
			0.207			28-36" Dark brown, very fine to medium SAND, some Silt, moist	
			0.229			36-40" Brown, very fine to fine SAND and SILT, moist Black band at 39"	
			0.204			40-41" Dark brown, very fine to fine SAND and SILT, moist	
5						41-48" Orangeish-brown, very fine to fine SAND and SILT, moist End of boring at 5' (no refusal)	
10							
15							

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Boring Log

CA-SB-07

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 2/7/23 **LOGGED BY** M.Wentworth
DEPTH TO WATER Not encountered **WELL DIAMETER** N/A
CONTRACTOR New England Geotech/Maynor Mendoza
WELL MATERIALS N/A
DRILLING METHOD Direct Push
ANNULUS MATERIALS N/A,
DRILLING EQUIPMENT Geoprobe 7822 DT Track Rig, borehole diam. 2
MP ELEVATION **GROUND ELEVATION**
NOTES Sample analyzed for PAHs, PCBs, and TPH

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0	60/46		0.223	CA-SB-07 (0-2)		0-5" ASPHALT; black, crushed, dry	
			0.232			5-15" Brown, very fine to medium SAND, some fine Gravel, little Silt, moist	
			0.218			15-32" Light brown, very fine to medium SAND, some fine Gravel, little Silt, moist	
			0.253			32-37" Dark brown, very fine to medium SAND, very fine to medium SAND, some Silt and fine Gravel, moist	
			0.229			37-38" Orangeish-brown, very fine to fine SAND and SILT, little Clay, moist	
5						38-39" Dark brown, very fine to fine SAND and SILT, little Clay, moist 39-40" Reddish brown, very fine to fine SAND and SILT, little Clay, moist 40-46" Brown, very fine to fine SAND and SILT, some fine Gravel, moist End of boring at 5' (no refusal)	
10							
15							

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Boring Log

CA-SB-14

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 2/6/23 **LOGGED BY** M.Wentworth
DEPTH TO WATER Not encountered **WELL DIAMETER** N/A
CONTRACTOR New England Geotech/Cody Hinshaw
WELL MATERIALS N/A
DRILLING METHOD Direct Push
ANNULUS MATERIALS N/A,
DRILLING EQUIPMENT Geoprobe 7822 DT Track Rig, borehole diam. 2
MP ELEVATION **GROUND ELEVATION**
NOTES Sample analyzed for Resource Conservation and Recovery Act (RCRA) 8 metals and cyanide

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0	60/42		0.223	CA-SB-14 (7.5-8)		0-9" Light gray, crushed CONCRETE, dry	
			0.232			9-27" Light brown, very fine to fine SAND, little Silt and fine Gravel, moist	
			0.218				
			0.253			27-32" Light gray, crushed CONCRETE, moist	
			0.229			32-42" Brown, very fine to fine SAND, little Silt and fine Gravel, moist	
5			0.117			60-78" Brown, very fine to fine SAND, little Silt and fine Gravel, moist	
	36/36		0.147			78-81" Orange very fine to coarse SAND, trace Silt, moist	
			0.130			Unknown Debris at 18"	
						81-96" Brown, very fine to fine SAND, some Silt, little fine Gravel, moist	
						Refusal at 8'	
10							
15							

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Boring Log

CA-SB-15/CA-MW-302

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 3/1/23 **LOGGED BY** L. Kaija
DEPTH TO WATER 15 **WELL DIAMETER** 2
CONTRACTOR Technical Drilling Services/Donny Watson
WELL MATERIALS PVC, 0.010" slotted screen, solid riser
DRILLING METHOD Hollow Stem Auger
ANNULUS MATERIALS 0S Holliston Sand, Bentonite Chips
DRILLING EQUIPMENT Dietrich D50 Track Rig, borehole diam. 6
MP ELEVATION 101.3 **GROUND ELEVATION** 101.53
NOTES Sample analyzed for volatile organic carbons (VOCs)

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	LITHOLOGY
0	24/10	8 9 8 6	0.133		0-1" ASPHALT; black, crushed, dry 1-10" Reddish-orange, fine to coarse SAND, crushed Rock and Brick, metal Debris, Clinker and Coal, moist [urban fill]
			0.096		
	24/12	8 14 7 6	0.086		24-32" Reddish-orange, fine to coarse SAND, crushed rock and brick, metal debris, clinker and coal, moist (urban fill)
			0.098		32-34" Dark brown, fine to coarse SAND, trace Silt, some crushed asphalt, moist
					48-49" ASPHALT; black, crushed, moist
5	24/9	4 2 2 2	0.105		49-56" Reddish-orange, fine to coarse SAND and fine GRAVEL, trace Silt, some crsuhed asphalt, moist
			0.119		
	24/4	2 2 2 2	0.118		72-76" Asphalt; black, crushed, some fill containing clinker and slag, moist
					96-97" Crushed CONCRETE
	24/16	3 7 15 18	0.227		97-106" Light brown, very fine to medium SAND, little fine Gravel and Silt, moist
			0.895		106-112" Light brown, very fine to fine SAND, some Silt, moist
10					120-121" Crushed CONCRETE
	24/18	6 12 14 21	0.106		121-138" Light brown, very fine to fine SAND, some Silt, moist Redox at 137-138"
			0.141		
		26 39 28 26	0.125		144-145" Dark brown, fine to coarse SAND and crushed asphalt, little Silt, moist
	24/17				145-151" Light brown, very fine to fine SAND, some Silt, moist
			0.095		151-152" Crushed ROCK 152-161" Light brown, very fine to coarse SAND, some Silt, moist
		10 9 9 12	0.118		168-170" Light brown, very fine to fine SAND, some Silt, trace crushed rock, moist
15	24/16		0.106		170-178" Light brown, fine to coarse SAND, trace Silt, minor redox throughout, wet Groundwater at approximately 15'
		24 29 68 120	0.109		192-204" Brown, fine to coarse SAND, little Silt, wet
	23/16		0.114	CA-SB-15 (17-18/17.5)	204-212" Brown, very fine to fine SAND, some Silt, wet
					Refusal at 18'

Well Finish: Roadbox (flush)
Concrete
Backfill (0S Holliston Sand)
2" PVC Riser
Bentonite Seal
Backfill (0S Holliston Sand)
Screen (8-18' bgs) 2" 0.10" Slotted Schedule 40 PVC

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Boring Log

CA-SB-16/CA-MW-303

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 2/6/23 **LOGGED BY** L. Kaija
DEPTH TO WATER 14 **WELL DIAMETER** 2
CONTRACTOR Technical Drilling Services/Donny Watson
WELL MATERIALS PVC, 0.010" slotted screen, solid riser
DRILLING METHOD Hollow Stem Auger
ANNULUS MATERIALS 0S Holliston Sand, Bentonite Chips
DRILLING EQUIPMENT Dietrich D50 Track Rig, borehole diam. 6
MP ELEVATION 99.6 **GROUND ELEVATION** 100.11
NOTES Samples analyzed for VOCs

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY
0						0-8" Gray, crushed CONCRETE
			0.067			8-16" Brown, fine to coarse SAND, some fine Gravel, moist
			0.108			16-21" Dark brown, fine to coarse SAND, little fine gravel, moist
	60/51					21-27" Light brown, coarse SAND, moist
			0.081			27-34" Brown, fine to coarse SAND, trace fine Gravel, moist
			0.091			34-37" Orangeish-brown, very fine to fine SAND and SILT, little fine Gravel, moist
			0.080			37-51" Light brown, very fine to fine SAND and SILT, little fine Gravel, moist
5						60-66" Light brown, very fine to fine SAND and SILT, little fine Gravel, moist
			0.045			66-71" Gray, very fine to fine SAND, some fine Gravel, moist
			0.032			71-91" Brown, very fine to fine SAND and SILT, little fine Gravel, moist
	60/60		0.043			91-113" Brown (with orange mottling), very fine to fine SAND and SILT, trace fine Gravel, moist
			0.068			
			0.065			113-120" Gray, very fine to fine SAND and SILT, little fine Gravel, moist
10						120-132" Brown, very fine to fine SAND, some Silt, trace fine gravel, moist
			0.091			132-142" Orangeish-brown, very fine to fine SAND, some Silt, little fine Gravel, moist
			0.102			142-161" Brown, very fine to fine SAND and SILT, some fine Gravel, trace Clay, moist
	60/60		0.130			
			0.122			161-180" Brown, very fine to fine SAND and SILT, little Clay, trace fine Gravel, moist to wet Groundwater at approximately 14'
			0.075			
15						180-196" Brown, very fine to fine SAND and SILT, little Clay, trace fine Gravel, wet
			0.033			
	36/35		0.058			196-203" Brown, very fine to medium SAND and SILT, little fine Gravel, wet
			0.074	CA-SB-16 (16-18) & SB-DUP-3		203-214" Brown, very fine to medium SAND and SILT, little fine Gravel, moist
						214-215" Light brown, pulverized BEDROCK, dry
						Refusal at 18'

WELL DIAGRAM

Well Finish: Roadbox (flush)

- Concrete
- Backfill (0S Holliston Sand)
- 2" PVC Riser
- Bentonite Seal
- Backfill (0S Holliston Sand)
- Screen (9-19' bgs) 2" 0.10" Slotted Schedule 40 PVC

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Boring Log

CA-SB-17/CA-MW-304

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 3/1/23 **LOGGED BY** L. Kaija
DEPTH TO WATER 14 **WELL DIAMETER** 2
CONTRACTOR Technical Drilling Services/Donny Watson
WELL MATERIALS PVC, 0.010" slotted screen, solid riser
DRILLING METHOD Hollow Stem Auger
ANNULUS MATERIALS 0S Holliston Sand, Bentonite Chips
DRILLING EQUIPMENT Dietrich D50 Track Rig, borehole diam. 6
MP ELEVATION 99.69 **GROUND ELEVATION** 99.97
NOTES Sample analyzed for VOCs

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY
0						0-36" Concrete slab
	24/14	8 12 14 24	0.052 0.057			36-49" Light brown, fine to coarse SAND and GRAVEL, trace Silt, moist, medium dense
5						49-50" Brown, very fine to fine SAND, little Silt, moist
						60-61" fine GRAVEL/crushed rock, dry
	24/18	11 21 26 39	0.091 0.073			61-78" Brown fine to coarse SAND and coarse GRAVEL, little Silt, moist, dense
						84-94" Brown, fine to coarse SAND, some fine Gravel, little Silt, moist
	24/23	28 30 31 34	0.126 0.067			94-107" Light brown fine to medium SAND, some Silt, trace fine Gravel, moist, very dense Minor oxidation throughout
10	24/20	8 19 25 26	0.056 0.066			108-120" Light brown fine to medium SAND, some Silt, trace fine Gravel, moist, very dense Minor oxidation at 118-120" 120-122" fine GRAVEL/crushed rock, dry 122-128" Brown, coarse GRAVEL, some fine to coarse Sand, trace Silt, dense, moist
	24/20	21 25 26 37	0.112 0.097			132-142" Dark brown, fine to coarse SAND and fine GRAVEL, trace Silt, moist, very dense 142-145" Orangeish-brown, fine to coarse SAND, little Silt, moist Moderate oxidation throughout
	24/16	13 24 31 27	0.079 0.075	GW at 14'		156-172" Brown, fine to coarse SAND and GRAVEL, trace Silt, wet, very dense Moderate oxidation throughout 145-146" fine GRAVEL/crushed rock, dry 146-152" Light brown, fine to medium SAND, trace Silt, wet
15	24/20	6 20 32 34	0.103 0.093			180-198" Brown, fine to coarse SAND, some Silt, wet, very dense 198-200" Brown, fine to coarse SAND, some Silt, moist, very dense
	21/17	14 24 32 100	0.096 0.093	CA-SB-17 (17.5-18.5/18)		204-207" Brown, fine to coarse SAND, some Silt, wet, very dense 207-221" Brown, fine to coarse SAND, little fine Gravel, little Silt, moist, very dense
	5/5	100				End of boring at 19' (no refusal)

WELL DIAGRAM

Well Finish: Roadbox (flush)

- Concrete
- Backfill (0S Holliston Sand)
- 2" PVC Riser
- Bentonite Seal
- Backfill (0S Holliston Sand)
- Screen (9-19' bgs) 2" 0.10" Slotted Schedule 40 PVC

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Boring Log

CA-SB-18

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 2/6/23 **LOGGED BY** M.Wentworth
DEPTH TO WATER Not encountered **WELL DIAMETER** N/A
CONTRACTOR New England Geotech/Cody Hinshaw
WELL MATERIALS N/A
DRILLING METHOD Direct Push
ANNULUS MATERIALS N/A,
DRILLING EQUIPMENT Geoprobe 7822 DT Track Rig, borehole diam. 2
MP ELEVATION **GROUND ELEVATION**
NOTES Sample analyzed for PAHs and metals

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0	60/48		0.182	CA-SB-18 (0-2)		0-1" ASPHALT; crushed, black, moist 1-17" Brown, very fine to fine SAND, some Silt and fine Gravel, moist	
			0.213			17-20" ASPHALT; black, crushed, moist	
			0.195			20-35" Dark gray, very fine to fine SAND and SILT, some fine Gravel, moist	
			0.186			35-46" Dark gray, very fine to fine SAND, little Silt, moist	
			0.191			46-47" Black SILT, moist 47-48" Light gray, very fine to fine SAND, moist End of boring at 5' (no refusal)	
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15							

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Boring Log

CA-SB-19

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 2/6/23 **LOGGED BY** M.Wentworth
DEPTH TO WATER Not encountered **WELL DIAMETER** N/A
CONTRACTOR New England Geotech/Cody Hinshaw
WELL MATERIALS N/A
DRILLING METHOD Direct Push
ANNULUS MATERIALS N/A,
DRILLING EQUIPMENT Geoprobe 7822 DT Track Rig, borehole diam. 2
MP ELEVATION **GROUND ELEVATION**
NOTES Sample analyzed for PAHs and metals

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0	60/38		0.143 0.142 0.142 0.144 0.142	CA-SB-19 (0-2)		0-3" ASPHALT; black, crsuhed, moist 3-14" Brown, very fine to coarse SAND, some fine Gravel, little Silt, moist 14-27" Dark gray, very fine to fine SAND and SILT, some fine Gravel, moist 27-33" Dark gray, SILT, some very fine to fine Sand, trace fine Gravel, moist 33-38" Black, SILT (peat), some organic matter, little fine Sand, moist End of boring at 5' (no refusal)	
5							
10							
15							

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Boring Log

CA-SB-20

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 2/6/23 **LOGGED BY** M.Wentworth
DEPTH TO WATER Not encountered **WELL DIAMETER** N/A
CONTRACTOR New England Geotech/Cody Hinshaw
WELL MATERIALS N/A
DRILLING METHOD Direct Push
ANNULUS MATERIALS N/A,
DRILLING EQUIPMENT Geoprobe 7822 DT Track Rig, borehole diam. 2
MP ELEVATION **GROUND ELEVATION**
NOTES Sample analyzed for PAHs and metals

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0	60/45		0.200 0.196 0.190 0.199 0.189	CA-SB-20 (0-2)		0-4" ASPHALT; black, crushed, moist 4-16" Brown, very fine to fine SAND, some fine Gravel, moist 16-21" Gray, crushed ROCK, some Brown very fine to fine Sand, moist 21-22" Dark brown, very fine to medium SAND, moist 22-43" brown, very fine to coarse SAND, trace fine Gravel, moist 43-48" Black SILT (peat), some Organic Matter, moist End of boring at 5' (no refusal)	
5							
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Boring Log

CA-SB-21

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 2/6/23 **LOGGED BY** M.Wentworth
DEPTH TO WATER Not encountered **WELL DIAMETER** N/A
CONTRACTOR New England Geotech/Cody Hinshaw
WELL MATERIALS N/A
DRILLING METHOD Direct Push
ANNULUS MATERIALS N/A,
DRILLING EQUIPMENT Geoprobe 7822 DT Track Rig, borehole diam. 2
MP ELEVATION **GROUND ELEVATION**
NOTES Sample analyzed for PAHs and metals

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0	60/38		0.204	CA-SB-21 (0-2)		0-7" ASPHALT; black, crsuhed, moist	
			0.183			7-20" Brown, very fine to fine SAND, little fine Gravel, trace Silt, moist	
			0.171			20-25" Brown, very fine to fine SAND, trace Silt, moist	
			0.163			25-38" Brown, very fine to medium SAND, little fine Gravel, moist	
			0.160				
5						End of boring at 5' (no refusal)	
10							
15							

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Boring Log

CA-SB-22

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 2/6/23 **LOGGED BY** M.Wentworth
DEPTH TO WATER Not encountered **WELL DIAMETER** N/A
CONTRACTOR New England Geotech/Cody Hinshaw
WELL MATERIALS N/A
DRILLING METHOD Direct Push
ANNULUS MATERIALS N/A,
DRILLING EQUIPMENT Geoprobe 7822 DT Track Rig, borehole diam. 2
MP ELEVATION **GROUND ELEVATION**
NOTES Sample analyzed for PAHs and metals

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0	60/41		0.150 0.153 0.153 0.150 0.152	CA-SB-22 (0-2)		0-3" ASPHALT; black, crushed, moist 3-7" Light brown, very fine to fine SAND, some fine Gravel, moist 7-11" Gray, very fine to fine SAND, some fine Gravel, moist 11-19" Brown, very fine to fine SAND, little fine Gravel, trace Silt, moist 19-21" Gray, crushed ROCK, dry 21-37" Brown, very fine to coarse SAND, little fine Gravel, trace Silt, moist 37-41" Black, SILT (peat), some Organic Matter, trace fine Gravel, moist End of boring at 5 (no refusal)	
5							
10							
15							

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Boring Log

CA-SB-23

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 2/6/23 **LOGGED BY** M.Wentworth
DEPTH TO WATER Not encountered **WELL DIAMETER** N/A
CONTRACTOR New England Geotech/Cody Hinshaw
WELL MATERIALS N/A
DRILLING METHOD Direct Push
ANNULUS MATERIALS N/A,
DRILLING EQUIPMENT Geoprobe 7822 DT Track Rig, borehole diam. 2
MP ELEVATION **GROUND ELEVATION**
NOTES Sample analyzed for PAHs and metals

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0	60/41		0.190	CA-SB-23 (0-2)		0-2" ASPHALT; black, crushed, moist 2-10" Brown, very fine to fine SAND and SILT, little fine Gravel, moist	
			0.173			10-29" Brown, very fine to medium SAND, trace fine Gravel, moist	
			0.166				
			0.167			29-34" Gray, very fine to medium SAND, trace fine Gravel, moist	
			0.174			34-41" Black, SILT (peat), some Organic Matter, moist	
5						End of boring at 5' (no refusal)	
10							
15							

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Boring Log

CA-SB-24

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 2/6/23 **LOGGED BY** M.Wentworth
DEPTH TO WATER Not encountered **WELL DIAMETER** N/A
CONTRACTOR New England Geotech/Cody Hinshaw
WELL MATERIALS N/A
DRILLING METHOD Direct Push
ANNULUS MATERIALS N/A,
DRILLING EQUIPMENT Geoprobe 7822 DT Track Rig, borehole diam. 2
MP ELEVATION **GROUND ELEVATION**
NOTES Sample analyzed for PAHs and metals

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0	60/44		0.139 0.140 0.138 0.137 0.137	CA-SB-24 (0-2)		0-6" Brown, very fine to medium SAND, some fine Gravel, trace Silt, moist 6-44" Brown, very fine to medium SAND, little Silt and fine Gravel, moist	
5						End of boring at 5' (no refusal)	
10							
15							

CREDERE ENV 2015 - GINT STD US LAB.GDT - 8/7/23 15:25 - P:\21001639 JAFFREY BROWNFIELDS\WORK\W.W. CROSS\PHASE II ESA\WW CROSS LOGS_GWK.GPJ

Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

CA-SB-25

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 2/6/23 **LOGGED BY** M.Wentworth
DEPTH TO WATER Not encountered **WELL DIAMETER** N/A
CONTRACTOR New England Geotech/Cody Hinshaw
WELL MATERIALS N/A
DRILLING METHOD Direct Push
ANNULUS MATERIALS N/A,
DRILLING EQUIPMENT Geoprobe 7822 DT Track Rig, borehole diam. 2
MP ELEVATION **GROUND ELEVATION**
NOTES Sample analyzed for PAHs and metals

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0	72/53		0.133	CA-SB-25 (0-2)		0-6" Light gray, crushed CONCRETE, dry	
						6-12" Brown very fine to coarse SAND, some fine Gravel, little Silt, moist	
			0.132			12-49" Brown, very fine to fine SAND, some Silt and fine Gravel, moist	
			0.132				
			0.130				
5			0.132			49-53" Light gray, crushed ROCK, moist	
						End of boring at 6' (no refusal)	
10							
15							

CREDERE ENV 2015 - GINT STD US LAB.GDT - 8/7/23 15:25 - P:\21001639 JAFFREY BROWNFIELDS\WORK\W.W. CROSS\PHASE II ESA\WW CROSS LOGS_GWK.GPJ

Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

CA-SB-26

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 2/6/23 **LOGGED BY** M.Wentworth
DEPTH TO WATER Not encountered **WELL DIAMETER** N/A
CONTRACTOR New England Geotech/Cody Hinshaw
WELL MATERIALS N/A
DRILLING METHOD Direct Push
ANNULUS MATERIALS N/A,
DRILLING EQUIPMENT Geoprobe 7822 DT Track Rig, borehole diam. 2
MP ELEVATION **GROUND ELEVATION**
NOTES Sample analyzed for PAHs and metals

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0	72/55		0.137 0.136 0.135 0.136 0.137	CA-SB-26 (0-2)		0-3" Light gray, crushed CONCRETE, dry 3-7" Brown, fine GRAVEL, some very fine to fine Sand, moist 7-41" Brown, very fine to fine SAND, some Silt, little fine Gravel, moist 41-55" Brown, very fine to fine SAND and SILT, some fine Gravel, moist End of boring at 6' (no refusal)	
5							
10							
15							

CREDERE ENV 2015 - GINT STD US LAB.GDT - 8/7/23 15:25 - P:\21001639 JAFFREY BROWNFIELDS\WORK\W.W. CROSS\PHASE II ESA\WW CROSS LOGS_GWK.GPJ

Credere Associates, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

Boring Log

CA-SB-27
PAGE 1 OF 1

CLIENT Town of Jaffrey
PROJECT NAME WW Cross
PROJECT # 21001639
PROJECT LOCATION 39 Webster Street, Jaffrey, New Hampshire
DATE STARTED 2/6/23 **LOGGED BY** M.Wentworth
DEPTH TO WATER Not encountered **WELL DIAMETER** N/A
CONTRACTOR New England Geotech/Cody Hinshaw
WELL MATERIALS N/A
DRILLING METHOD Direct Push
ANNULUS MATERIALS N/A,
DRILLING EQUIPMENT Geoprobe 7822 DT Track Rig, borehole diam. 2
MP ELEVATION **GROUND ELEVATION**
NOTES Sample analyzed for PAHs and metals

Depth (ft)	Penetration/ Recovery (in)	Blow Counts	Field Screening (ppm)	Lab Analytical Sample	Graphic Log	LITHOLOGY	WELL DIAGRAM
0	72/49		0.146	CA-SB-27 (0-2)		0-8" Light gray, crushed CONCRETE, dry	
						8-12" Brown, very fine to coarse SAND, little fine Gravel, moist	
			0.143			12-16" Light brown, very fine to fine SAND, moist	
						16-18" Dark brown, very fine to fine SAND, little Silt, trace fine Gravel, moist	
			0.142			18-20" Orangeish-brown with gray bands, very fine to fine SAND, little Silt, trace fine Gravel, moist	
						20-25" Dark brown, very fine to fine SAND and SILT, little fine Gravel, moist	
			0.140			25-31" Reddish-brown, very fine to fine SAND, little Silt, moist	
5						31-45" Orangeish-brown, very fine to fine SAND, little Silt, moist	
			0.147			45-49" Light brown, very fine to fine SAND, little Silt, moist	
						End of boring at 6' (no refusal)	
10							
15							

CREDERE ENV 2015 - GINT STD US LAB.GDT - 8/7/23 15:25 - P:\21001639 JAFFREY BROWNFIELDS\WORK\W.W. CROSS\PHASE II ESA\WW CROSS LOGS_GWK.GPJ

INSTRUMENT CALIBRATION LOG

Credere Associates, LLC. 776 Main Street. Westbrook. ME 04092

PROJECT NAME: WW. CROSS
PROJECT NUMBER: 21001639
WEATHER: 774.1 EVEREST DRIZZLE 45-50°
(barometric pressure, temperature, precipitation)

DATE: 5/29/23

WATER QUALITY INSTRUMENT SN: 15A101441
TURBIDITY METER SN: 16030C07 8465
FIELD STAFF ASSIGNED TO EQUIPMENT: S. TOURNE

TEMPERATURE
Bulb thermometer: 11.52 °C
Instrument: 11.45 °C

pH 3 POINT CALIBRATION

ph 4 solution #: L.129-17 pH 7 solution #: MOCC-02 pH 10 solution #: 2222300050
Expiration: 5/23 Expiration: 7/24 Expiration: 4/24

	Morning		Evening Drift Check		
	before	after	before	after (if needed)	Comment
pH 4 calibration	3.44	4.00			
pH 7 calibration	7.09	7.01			
pH 10 calibration	8.89	10.03			

CONDUCTIVITY CALIBRATION *(0.718 µS/cm calibration required only for landfill work in New Hampshire)*

0.718 mS/cm Conductivity solution #: 1.413 mS/cm Conductivity solution #: 7170
Expiration: Expiration: 11/26

	Morning		Evening Drift Check		
	before	after	before	after (if needed)	Comment
Conduc. Calibration 0.718 mS/CM					
Conduc. Calibration 1.413 mS/CM	1.307	1.413			

DO Calibration

Barometric Pressure: 737.7 mm HG Calibration value*: 96.5
0 DO Solution #: Expiration:

	Morning		Evening Drift Check		
	before	after	before	after (if needed)	Comment
DO Calibration	85.6	96.8			
0 DO Check	NA				

ORP Calibration

ORP solution #: 2213268 Expiration: 4/27
Solution temperature: 11.45 Adjusted solution reading*: 248.0

	Morning		Evening Drift Check		
	before	after	before	after (if needed)	Comment
ORP Calibration	241.4	231.5			

TURBIDITY CHECK

	Morning		Evening Drift Check		
	before	after (if needed)	before	after (if needed)	Comment
NTU check	9.95				
NTU check	19.9				
NTU check	103				
NTU check	791				

CALIBRATOR SIGNATURE

Signature: Stacy Tourne

* see second page attachment for adjustment tables

INSTRUMENT CALIBRATION LOG

Credere Associates. LLC. 776 Main Street. Westbrook. ME 04092

PROJECT NAME: NH CROSS
PROJECT NUMBER: 210 1439
WEATHER:
(barometric pressure, temperature, precipitation)

DATE: 5/24/23

WATER QUALITY INSTRUMENT SN: 05C1108 AD
TURBIDITY METER SN: 160300 49965
FIELD STAFF ASSIGNED TO EQUIPMENT: S. TOWNE

TEMPERATURE
Bulb thermometer: 4.8 °C
Instrument: 4.65 °C

pH 3 POINT CALIBRATION

ph 4 solution #: 4121-17 pH 7 solution #: MG-LC-02 pH 10 solution #: 2222206850
Expiration: 5/23 Expiration: 3/24 Expiration: 6/24

	Morning		Evening Drift Check		
	before	after	before	after (if needed)	Comment
pH 4 calibration	4.46	4.00			
pH 7 calibration	6.72	6.99			
pH 10 calibration	9.97	10.00			

CONDUCTIVITY CALIBRATION *(0.718 µS/cm calibration required only for landfill work in New Hampshire)*

0.718 mS/cm Conductivity solution #: 1.413 mS/cm Conductivity solution #: 7170
Expiration: Expiration: 6/24

	Morning		Evening Drift Check		
	before	after	before	after (if needed)	Comment
Conduc. Calibration 0.718 mS/CM					
Conduc. Calibration 1.413 mS/CM	1.461	1.413			

DO Calibration

Barometric Pressure: 732.9 mm HG Calibration value*: 96.2
0 DO Solution #: Expiration:

	Morning		Evening Drift Check		
	before	after	before	after (if needed)	Comment
DO Calibration	94.8	96.3			
0 DO Check	NA				

ORP Calibration

ORP solution #: 7213.02 Expiration: 11/24
Solution temperature: 4.65 Adjusted solution reading*: 235

	Morning		Evening Drift Check		
	before	after	before	after (if needed)	Comment
ORP Calibration	241.8	231.9			

TURBIDITY CHECK

	Morning		Evening Drift Check		
	before	after (if needed)	before	after (if needed)	Comment
NTU check	9.92				
NTU check	19.7				
NTU check	101				
NTU check	790				

CALIBRATOR SIGNATURE

Signature

* see second page attachment for adjustment tables

INSTRUMENT CALIBRATION LOG

Credere Associates. LLC. 776 Main Street. Westbrook. ME 04092

PROJECT NAME: WW Cross
PROJECT NUMBER: 21001639
WEATHER: 40's, overcast, rain
(barometric pressure, temperature, precipitation)

DATE: 3/23/23

WATER QUALITY INSTRUMENT SN: 22B101958
TURBIDITY METER SN: 15030C040050
FIELD STAFF ASSIGNED TO EQUIPMENT: C. Duffy

TEMPERATURE
Bulb thermometer: 7.0 °C
Instrument: 6.8 °C

pH 3 POINT CALIBRATION

ph 4 solution #: L124-17 pH 7 solution #: M066-02 pH 10 solution #: 22223050
Expiration: 5/23 Expiration: 3/24 Expiration: 6/24

	Morning		Evening Drift Check		
	before	after	before	after (if needed)	Comment
pH 4 calibration	4.03	4.00			
pH 7 calibration	7.05	7.00			
pH 10 calibration	9.87	10.00			

CONDUCTIVITY CALIBRATION *(0.718 µS/cm calibration required only for landfill work in New Hampshire)*

0.718 mS/cm Conductivity solution #: — 1.413 mS/cm Conductivity solution #: 7170
Expiration: — Expiration: 11/26

	Morning		Evening Drift Check		
	before	after	before	after (if needed)	Comment
Conduc. Calibration 0.718 mS/CM	—	—			
Conduc. Calibration 1.413 mS/CM	1.546	1.413			

DO Calibration

Barometric Pressure: 732.45 mm HG Calibration value*: 96.4%
0 DO Solution #: 18282722 Expiration: 6/23

	Morning		Evening Drift Check		
	before	after	before	after (if needed)	Comment
DO Calibration	105.2	96.4			
0 DO Check	NA	Waited 10-15 mins, DO stalled ~50-60%,			Did not complete zero check

ORP Calibration

ORP solution #: 22130200 Expiration: 4/27
Solution temperature: 11.5 Adjusted solution reading*: 248.6

	Morning		Evening Drift Check		
	before	after	before	after (if needed)	Comment
ORP Calibration	258.3	248.6			

TURBIDITY CHECK

	Morning		Evening Drift Check		
	before	after (if needed)	before	after (if needed)	Comment
800 NTU check	790				
100 NTU check	98.6				
20 NTU check	20.3				
10 NTU check	10.1				

CALIBRATOR SIGNATURE

Signature

* see second page attachment for adjustment tables

INSTRUMENT CALIBRATION LOG

Credere Associates, LLC. 776 Main Street. Westbrook. ME 04092

PROJECT NAME: WW Cross
PROJECT NUMBER: 210616.39
WEATHER: 30s/40's, clear
(barometric pressure, temperature, precipitation)

DATE: 3/24/23

WATER QUALITY INSTRUMENT SN: 22B101958
TURBIDITY METER SN: 150300040050
FIELD STAFF ASSIGNED TO EQUIPMENT: C. Duffy

TEMPERATURE
Bulb thermometer: ~~2.6~~ 2.9 °C
Instrument: 2.9 °C

pH 3 POINT CALIBRATION

ph 4 solution #: L124-17 Expiration: 5/23
pH 7 solution #: M066-02 Expiration: 3/24
pH 10 solution #: 22230050 Expiration: 6/24

	Morning		Evening Drift Check		
	before	after	before	after (if needed)	Comment
pH 4 calibration	3.95	4.00			
pH 7 calibration	7.14	7.00			
pH 10 calibration	10.05	10.00			

CONDUCTIVITY CALIBRATION *(0.718 µS/cm calibration required only for landfill work in New Hampshire)*

0.718 mS/cm Conductivity solution #: — Expiration: —
1.413 mS/cm Conductivity solution #: 7170 Expiration: 11/26

	Morning		Evening Drift Check		
	before	after	before	after (if needed)	Comment
Conduc. Calibration 0.718 mS/CM	—	—			
Conduc. Calibration 1.413 mS/CM	1.352	1.413			

DO Calibration

Barometric Pressure: 731.4 mm HG Calibration value*: 96.2
0 DO Solution #: Expiration:

	Morning		Evening Drift Check		
	before	after	before	after (if needed)	Comment
DO Calibration	96.4	96.2			
0 DO Check	NA				

ORP Calibration

ORP solution #: 22130300 Expiration: 4/27
Solution temperature: 4.3°C Adjusted solution reading*: 257.9

	Morning		Evening Drift Check		
	before	after	before	after (if needed)	Comment
ORP Calibration	256.9	257.9			

TURBIDITY CHECK

	Morning		Evening Drift Check		
	before	after (if needed)	before	after (if needed)	Comment
800 NTU check	812				
~~100~~ NTU check	103				
~~100~~ 20 NTU check	20.5				
10 NTU check	10.6				

CALIBRATOR SIGNATURE

Signature: C. Duff

* see second page attachment for adjustment tables

LOW FLOW SAMPLING LOG
CREDERE ASSOCIATES, LLC

PROJECT NAME: WW. CROSS

DATE: 7/20/23

PROJECT NUMBER: 21001639

LOCATION ACTIVITY
START: 1100
END: 1320

SAMPLE LOCATION ID: MW-108

WELL DATA:

WELL DEPTH (ft): 10.95 — [✓] MEASURED [ ] HISTORICAL — [ ] TOP OF WELL [✓] TOP OF CASING [ ] FROM GRADE [ ] _____

WATER DEPTH (ft): 3.86 — [✓] MEASURED [ ] HISTORICAL

WATER LEVEL EQUIPMENT USED:
[ ] ELECT. COND. PROBE
[ ] FLOAT ACTIVATED PROBE
[ ] PRESSURE TRANSDUCER
[ ] _____
[ ] _____

DEPTH OF PUMP INTAKE (ft): ≈10.0 — Stick-up (in): N/A

WELL MATERIAL: [X] PVC [ ] SS [ ] _____

WELL LOCKED: [ ] YES [✓] NO

PROTECTIVE CASING SECURE: [✓] YES [ ] NO

CONCRETE COLLAR INTACT: [✓] YES [ ] NO

AMBIENT AIR VOC: NA PPM

WELL MOUTH VOC: NA PPM

EQUIPMENT DATA:

PURGING	SAMPLING		Equipment
[✓]	[✓]	PERISTALTIC PUMP	Solinst interface probe, Lamotte 2020 turbidity meter, YSI multi-parameter meter with display, geopump peristaltic pump
[ ]	[ ]	SUBMERSIBLE	
[ ]	[ ]	BLADDER PUMP	
[ ]	[ ]	HAND PUMP	506 mL flow through cell
[ ]	[ ]	DEDICATED HDPE	
[✓]	[✓]	NEW HDPE	
[ ]	[ ]	DEDICATED LDPE	YSI SN: 15A101441
[ ]	[✓]	NEW LDPE	Turbidity SN: 16J0C048465
	[✓]	FILTER	
[ ]	[ ]	_____	

DECONTAMINATION FLUIDS USED:
[ ] DISTILLED WATER
[✓] DEIONIZED WATER
[ ] POTABLE WATER
[ ] TSP SOLUTION
[ ] ALCONOX SOLUTION
[ ] NONE
[ ] _____
[ ] _____

FIELD ANALYSIS DATA:

TIME	TEMP (°C)	pH	SP. COND. (mS/cm)	ORP (mV)	D.O. (mg/l)	TURBID. (ntu)	Flow Rate (mL/min)	DTW (ft)	Comments/Flow Rate (indicate stable flow rate)
1125	START	PURGE					200	4.00	
1135	5.81	6.78	0.047	22.8	11.15	26.9	200	4.10	
1140	5.72	6.93	0.046	20.9	11.13	19.5	200	4.10	
1145	5.76	7.26	0.039	16.9	11.19	14.2	200	4.12	
1150	5.78	7.39	0.040	12.8	11.14	13.2	200	4.12	
1155	5.88	7.29	0.037	16.7	11.00	14.5	200	4.12	
1200	5.87	7.40	0.038	16.3	10.98	14.1	200	4.16	
1205	5.99	7.36	0.039	17.2	10.86	17.1	200	4.15	
1210	6.03	7.40	0.038	17.7	10.77	16.1	200	4.16	
1215	6.10	7.38	0.038	17.6	10.69	17.2	200	4.16	
1220	6.19	7.36	0.039	17.7	10.62	17.8	200	4.15	
1230	6.40	7.29	0.037	17.7	10.51	9.62	200	4.15	
1235	6.27	7.28	0.039	17.9	10.39	9.07	200	4.16	
1240	6.21	7.30	0.038	17.3	10.27	8.72	200	4.16	
	3%	±0.1	3%	±10	10%, <0.5	<5	100-400 mL/min		

SAMPLE DATA:

SAMPLE BOTTLE ID TIME	SAMPLE BOTTLE ID LOCATION	PRESERVATION METHOD	SAMPLE CONTAINER #	SAMPLE CONTAINER TYPE	LABORATORY ANALYSIS
1310	MW-108	HCL	3	40 mL VOA	8260 VOC
1310		HNO3	1	250 mL PLASTIC	DISSOLVED METALS
		NAOH	1	250 mL PLASTIC	TCN
		NONE	2	250 mL AMBER	AZ-1,4 DIOXANE: SIM
		~~NONE~~	~~2~~	~~250 mL AMBER~~	

PURGE DATA

[ ] 0.04 GAL/FT (1" DIAM.)
[✓] 0.16 GAL/FT (2" DIAM.)
[ ] 0.65 GAL/FT (4" DIAM.)
[ ] 1.47 GAL/FT (6" DIAM.)

x length of water column = 7.1
Total Well Volume: 1.1 g
Total Purge Volume: 5.7 g
of well volumes: 5

Stable flow not achieved, sampled via no-purge: [ ]

S.W. TANNER
SAMPLER

LOW FLOW SAMPLING LOG
CREDERE ASSOCIATES, LLC

Community Economy Environment
Credere Associates LLC

PROJECT NAME: WIN. CROSS DATE: 8/23

PROJECT NUMBER: 21001699

SAMPLE LOCATION ID: MW-108 PAGE 2

LOCATION ACTIVITY
START: 1100
END: 1320

WELL DATA:

WELL DEPTH (ft): SEE PG 1 — [✓] MEASURED [ ] HISTORICAL
WATER DEPTH (ft): SEE PG 1 — [✓] MEASURED [ ] HISTORICAL

[ ] TOP OF WELL [✓] TOP OF CASING [ ] FROM GRADE [ ] _____

WATER LEVEL EQUIPMENT USED:
[✓] ELECT. COND. PROBE
[ ] FLOAT ACTIVATED PROBE
[ ] PRESSURE TRANSDUCER
[ ] _____
[ ] _____

DEPTH OF PUMP INTAKE (ft): ≈10.0 Stick-up (in): N/A

WELL MATERIAL: [X] PVC [ ] SS [ ] _____
WELL LOCKED: [ ] YES [✓] NO
PROTECTIVE CASING SECURE: [✓] YES [ ] NO
CONCRETE COLLAR INTACT: [✓] YES [ ] NO

AMBIENT AIR VOC: NA PPM
WELL MOUTH VOC: NA PPM

EQUIPMENT DATA:

PURGING	SAMPLING		Equipment
[✓]	[✓]	PERISTALTIC PUMP	Solinst interface probe, Lamotte 2020 turbidity meter, YSI multi-parameter meter with display, geopump peristaltic pump
[ ]	[ ]	SUBMERSIBLE	
[ ]	[ ]	BLADDER PUMP	
[ ]	[ ]	HAND PUMP	500 mL flow through cell
[ ]	[ ]	DEDICATED HDPE	
[✓]	[✓]	NEW HDPE	
[ ]	[ ]	DEDICATED LDPE	YSI SN: 15A101441
[ ]	[ ]	NEW LDPE	Turbidity SN: 16036C048465
	[✓]	FILTER	
[ ]	[ ]	_____	

DECONTAMINATION FLUIDS USED:
[ ] DISTILLED WATER
[✓] DEIONIZED WATER
[ ] POTABLE WATER
[ ] TSP SOLUTION
[ ] ALCONOX SOLUTION
[ ] NONE
[ ] _____
[ ] _____

FIELD ANALYSIS DATA:

TIME	TEMP (°C)	pH	SP. COND. (mS/cm)	ORP (mV)	D.O. (mg/l)	TURBID. (ntu)	Flow Rate (mL/min)	DTW (ft)	Comments/Flow Rate (indicate stable flow rate)
1245	6.12	7.39	0.038	15.9	10.19	9.35	200	4.16	
1250	6.08	7.50	0.042	13.8	9.88	15.1	200	4.16	
1255	6.07	7.51	0.042	12.8	9.80	15.0	200	4.16	
1300	6.00	7.55	0.043	13.7	9.73	15.5	200	4.16	
1310	SAMPLED								
	3%	±0.1	3%	±10	10%, <0.5	<5	100-400 mL/min		

SAMPLE DATA:

SAMPLE BOTTLE ID TIME	LOCATION	PRESERVATION METHOD	SAMPLE CONTAINER #	TYPE	LABORATORY ANALYSIS
1310	MW-108	SEE PG 1			

PURGE DATA

[ ] 0.04 GAL/FT (1" DIAM.)
[X] 0.16 GAL/FT (2" DIAM.)
[ ] 0.65 GAL/FT (4" DIAM.)
[ ] 1.47 GAL/FT (6" DIAM.)

x length of water column = 7.1
Total Well Volume: 1.1 g
Total Purge Volume: 55.3 g
of well volumes: 5

Stable flow not achieved, sampled via no-purge: [ ]

S. Winterle Stacy Winterle
SAMPLER

LOW FLOW SAMPLING LOG
CREDERE ASSOCIATES. LLC

Credere Associates LLC

PROJECT NAME: NW CROSS

DATE: 3/23/23

PROJECT NUMBER: 21001639

LOCATION ACTIVITY
START: 1525
END:

SAMPLE LOCATION ID: MW-102

WELL DATA:

WELL DEPTH (ft): 10.56 — [✓] MEASURED [ ] HISTORICAL — [ ] TOP OF WELL [✓] TOP OF CASING [ ] FROM GRADE [ ] ____

WATER DEPTH (ft): 8.17 — [ ] MEASURED [✓] HISTORICAL

WATER LEVEL EQUIPMENT USED:
[✓] ELECT. COND. PROBE
[ ] FLOAT ACTIVATED PROBE
[ ] PRESSURE TRANSDUCER
[ ] ____
[ ] ____

DEPTH OF PUMP INTAKE (ft): ~ 9.5 — Stick-up (in): N/A

WELL MATERIAL: [X] PVC [ ] SS [ ] ____

WELL LOCKED: [ ] YES [✓] NO

PROTECTIVE CASING SECURE: [✓] YES [ ] NO

CONCRETE COLLAR INTACT: [✓] YES [ ] NO

AMBIENT AIR VOC: NA PPM

WELL MOUTH VOC: NA PPM

EQUIPMENT DATA:

PURGING	SAMPLING		Equipment
[✓]	[✓]	PERISTALTIC PUMP	Solinst interface probe, Lamotte 2020 turbidity meter, YSI multi-parameter meter with display, geopump peristaltic pump
[ ]	[ ]	SUBMERSIBLE	
[ ]	[ ]	BLADDER PUMP	
[ ]	[ ]	HAND PUMP	
[✓]	[✓]	DEDICATED HDPE	500 mL flow through cell
[ ]	[ ]	NEW HDPE	
[ ]	[ ]	DEDICATED LDPE	
[ ]	[ ]	NEW LDPE	YSI SN:
	[✓]	FILTER	Turbidity SN:
[ ]	[ ]	____	

DECONTAMINATION FLUIDS USED:
[ ] DISTILLED WATER
[✓] DEIONIZED WATER
[ ] POTABLE WATER
[ ] TSP SOLUTION
[ ] ALCONOX SOLUTION
[ ] NONE
[ ] ____
[ ] ____

FIELD ANALYSIS DATA:

TIME	TEMP (°C)	pH	SP. COND. (mS/cm)	ORP (mV)	D.O. (mg/l)	TURBID. (ntu)	Flow Rate (mL/min)	DTW (ft)	Comments/Flow Rate (indicate stable flow rate)
1635	5.87	8.24	4.771	3.0	9.39	6.2	—	—	CAL CURVE DUE TO
ATTEMPTED TO PUMP WELL FOR PURGE. WELL DREW DOWN									NO CHARGE —
@ LOWEST	40-60 mL/MIN. NOTED				APPROX	30 MIN FOR			NO FLOW RATE
RELIANCE	NONE NOTED. RECHECKED								ESTABLISHED
	3%	±0.1	3%	±10	10%, <0.5	<5	100-400 mL/min		

SAMPLE DATA:

SAMPLE BOTTLE ID TIME	LOCATION	PRESERVATION METHOD	#	SAMPLE CONTAINER TYPE	LABORATORY ANALYSIS
1635	MW-102	HNO3	1	250 mL PLASTIC	# only VOC'S (+ Diss. Metals
		HCL	3	40 mL VOA	8260
			—		
			—		
			—		

PURGE DATA

[ ] 0.04 GAL/FT (1" DIAM.)
[✓] 0.16 GAL/FT (2" DIAM.)
[ ] 0.65 GAL/FT (4" DIAM.)
[ ] 1.47 GAL/FT (6" DIAM.)

x length of water column = 2.39

Total Well Volume: 0.38 g

Total Purge Volume: N/A g

of well volumes: N/A

Stable flow not achieved, sampled via no-purge: [✓]

Stacy Towne S.W. TOWNE
SAMPLER

LOW FLOW SAMPLING LOG
CREDERE ASSOCIATES, LLC

Credere Associates LLC

PROJECT NAME: WW. CROSS

DATE: 3/23/17

PROJECT NUMBER: 2100639

LOCATION ACTIVITY
START: 1435
END: 1650

SAMPLE LOCATION ID: MW-203

WELL DATA:

WELL DEPTH (ft): 11.98 — [✓] MEASURED [ ] HISTORICAL — [ ] TOP OF WELL [✓] TOP OF CASING [ ] FROM GRADE [ ] ____

WATER DEPTH (ft): 7.65 — [✓] MEASURED [ ] HISTORICAL

WATER LEVEL EQUIPMENT USED:
[✓] ELECT. COND. PROBE
[ ] FLOAT ACTIVATED PROBE
[ ] PRESSURE TRANSDUCER
[ ] ____
[ ] ____

DEPTH OF PUMP INTAKE (ft): ≈ 10.5 — Stick-up (in): N/A

WELL MATERIAL: [X] PVC [ ] SS [ ] ____

WELL LOCKED: [ ] YES [✓] NO

PROTECTIVE CASING SECURE: [✓] YES [ ] NO

CONCRETE COLLAR INTACT: [✓] YES [ ] NO

AMBIENT AIR VOC: NA PPM

WELL MOUTH VOC: NA PPM

EQUIPMENT DATA:

PURGING	SAMPLING		Equipment
[✓]	[✓]	PERISTALTIC PUMP	Solinst interface probe, [redacted]
[ ]	[ ]	SUBMERSIBLE	turbidity meter, YSI 650 multi-parameter
[ ]	[ ]	BLADDER PUMP	meter with display, geopump peristaltic pump
[ ]	[ ]	HAND PUMP	500 mL flow through cell
[✓]	[✓]	DEDICATED HDPE	
[ ]	[ ]	NEW HDPE	
[ ]	[ ]	DEDICATED LDPE	YSI SN: 05C1108 AD
[ ]	[✓]	NEW LDPE	Turbidity SN: 16070CC48465
[ ]	[ ]	FILTER	

DECONTAMINATION FLUIDS USED:
[ ] DISTILLED WATER
[✓] DEIONIZED WATER
[ ] POTABLE WATER
[ ] TSP SOLUTION
[ ] ALCONOX SOLUTION
[ ] NONE
[ ] ____
[ ] ____

FIELD ANALYSIS DATA:

TIME	TEMP (°C)	pH	SP. COND. (mS/cm)	ORP (mV)	D.O. (mg/l)	TURBID. (ntu)	Flow Rate (mL/min)	DTW (ft)	Comments/Flow Rate (indicate stable flow rate)
1435	START PURGE							7.65	
	WELL DRAWING DOWN @ SLOWEST PUMP SETTING								
	WELL @						60 –	8.2	
1645	6.24	8.44	3.785	-7.7	7.99	9.55	✓	✓	CAL CUP ONLY –
						FINAL –		11.20	
	3%	±0.1	3%	±10	10%, <0.5	<5	100-400 mL/min		

SAMPLE DATA:

SAMPLE BOTTLE ID TIME	LOCATION	PRESERVATION METHOD	#	SAMPLE CONTAINER TYPE	LABORATORY ANALYSIS
1645	MW-203	HCL	3	40 mL VOA	8260 VOC
		HNO3	1	250 mL PLASTIC	DISSOLVED METALS
		NAOH	1	250 mL PLASTIC	TCN
		NONE	2	250 mL AMBER	A2-1, 1, DIOXANE SIM
		NONE	2	250 mL PLASTIC	PFAS

PURGE DATA

[ ] 0.04 GAL/FT (1" DIAM.)
[✓] 0.16 GAL/FT (2" DIAM.)
[ ] 0.65 GAL/FT (4" DIAM.)
[ ] 1.47 GAL/FT (6" DIAM.)

x length of water column = 4.33
Total Well Volume: 0.7 g
Total Purge Volume: N/A g
of well volumes: ____

Stable flow not achieved, sampled via no-purge: [✓]

S. W. TOWNE
SAMPLER

LOW FLOW SAMPLING LOG
CREDERE ASSOCIATES, LLC

Credere Associates LLC

PROJECT NAME: NW. CROSS

DATE: 3/21/23

PROJECT NUMBER: 21001639

LOCATION ACTIVITY START: 0940

SAMPLE LOCATION ID: MW-2 (MS/MSD)

END:

WELL DATA:

WELL DEPTH (ft): 30.50 — [✓] MEASURED [ ] HISTORICAL

WATER DEPTH (ft): 25.11 — [✓] MEASURED [ ] HISTORICAL

[ ] TOP OF WELL [✓] TOP OF CASING [ ] FROM GRADE [ ] _____

WATER LEVEL EQUIPMENT USED: [ ] ELECT. COND. PROBE [ ] FLOAT ACTIVATED PROBE [ ] PRESSURE TRANSDUCER [ ] _____ [ ] _____

DEPTH OF PUMP INTAKE (ft): ~28.50 Stick-up (in): = 18"

WELL MATERIAL: [X] PVC [ ] SS [ ] _____

WELL LOCKED: [ ] YES [✓] NO

PROTECTIVE CASING SECURE: [✓] YES [ ] NO

CONCRETE COLLAR INTACT: N/A [ ] YES [ ] NO

AMBIENT AIR VOC: NA PPM

WELL MOUTH VOC: NA PPM

EQUIPMENT DATA:

PURGING	SAMPLING	
[✓]	[✓]	PERISTALTIC PUMP
[ ]	[ ]	SUBMERSIBLE
[ ]	[ ]	BLADDER PUMP
[ ]	[ ]	HAND PUMP
[ ]	[ ]	DEDICATED HDPE
[✓]	[✓]	NEW HDPE
[ ]	[ ]	DEDICATED LDPE
[ ]	[ ]	NEW LDPE
	[✓]	FILTER
[ ]	[ ]	_____

Equipment: Solinst interface probe, Lamotte 2020 turbidity meter, YSI multi-parameter meter with display, geopump peristaltic pump 520 mL flow through cell

YSI SN: 15A101441

Turbidity SN: 14070C048465

DECONTAMINATION FLUIDS USED:
[ ] DISTILLED WATER
[✓] DEIONIZED WATER
[ ] POTABLE WATER
[ ] TSP SOLUTION
[ ] ALCONOX SOLUTION
[ ] NONE
[ ] _____
[ ] _____

FIELD ANALYSIS DATA:

TIME	TEMP (°C)	pH	SP. COND. (mS/cm)	ORP (mV)	D.O. (mg/l)	TURBID. (ntu)	Flow Rate (mL/min)	DTW (ft)	Comments/Flow Rate (indicate stable flow rate)
~~0945~~	0950	-					160	25.67	Begin purge
1150	11.81	6.84	0.242	55.3	6.59	1.09	160	25.40	
1155	11.82	6.80	0.255	55.2	6.62	0.74	160	25.40	—
1200	11.87	6.81	0.253	54.8	6.63	0.35	160	25.40	—
1210	SAMPLED								
	3%	±0.1	3%	±10	10%, <0.5	<5	100-400 mL/min		

SAMPLE DATA:

SAMPLE BOTTLE ID TIME	LOCATION	PRESERVATION METHOD	#	SAMPLE CONTAINER TYPE	LABORATORY ANALYSIS
1210	MW-2	HCL	9	40 mL VOA	VOC 8260
	~~MS/MSD~~	HNO3	3	250 mL PLASTIC	DISSOLVED METALS
		NAOH	3	250 mL PLASTIC	TCN
		NONE	6	250 mL AMBER	AZ-1,4 DIOXANE-SIM

PURGE DATA

[ ] 0.04 GAL/FT (1" DIAM.)
[✓] 0.16 GAL/FT (2" DIAM.)
[ ] 0.65 GAL/FT (4" DIAM.)
[ ] 1.47 GAL/FT (6" DIAM.)

x length of water column = 5.39
Total Well Volume: 0.8 g
Total Purge Volume: 5.9 g
of well volumes: 7.4

Stable flow not achieved, sampled via no-purge: [ ]

S.W TOWNE
SAMPLER

LOW FLOW SAMPLING LOG
CREDERE ASSOCIATES, LLC

Credere Associates LLC

PROJECT NAME: NW CROSS

DATE: 7/24/17

PROJECT NUMBER: 21001439

LOCATION ACTIVITY
START: 0920
END: 1120

SAMPLE LOCATION ID: MW-303

WELL DATA:

WELL DEPTH (ft): 18.0
[✓] MEASURED [ ] HISTORICAL

WATER DEPTH (ft): 11.28
[✓] MEASURED [ ] HISTORICAL

[ ] TOP OF WELL [✓] TOP OF CASING [ ] FROM GRADE [ ] _____

WATER LEVEL EQUIPMENT USED:
[✓] ELECT. COND. PROBE
[ ] FLOAT ACTIVATED PROBE
[ ] PRESSURE TRANSDUCER
[ ] _____
[ ] _____

DEPTH OF PUMP INTAKE (ft): _____ Stick-up (in): _____

WELL MATERIAL: [X] PVC [ ] SS [ ] _____

WELL LOCKED: [ ] YES [✓] NO

PROTECTIVE CASING SECURE: [✓] YES [ ] NO

CONCRETE COLLAR INTACT: [✓] YES [ ] NO

AMBIENT AIR VOC: NA PPM

WELL MOUTH VOC: NA PPM

EQUIPMENT DATA:

PURGING	SAMPLING	
[✓]	[ ]	PERISTALTIC PUMP
[ ]	[ ]	SUBMERSIBLE
[ ]	[ ]	BLADDER PUMP
[ ]	[ ]	HAND PUMP
[ ]	[ ]	DEDICATED HDPE
[✓]	[✓]	NEW HDPE
[ ]	[ ]	DEDICATED LDPE
[ ]	[✓]	NEW LDPE
	[✓]	FILTER
[ ]	[ ]	_____

Equipment
Solinst interface probe, Lamotte 2020 turbidity meter, YSI multi-parameter meter with display, geopump peristaltic pump
500 mL flow through cell

YSI SN: 15A101441
Turbidity SN: 16070C048465

DECONTAMINATION FLUIDS USED:
[ ] DISTILLED WATER
[✓] DEIONIZED WATER
[ ] POTABLE WATER
[ ] TSP SOLUTION
[ ] ALCONOX SOLUTION
[ ] NONE
[ ] _____
[ ] _____

FIELD ANALYSIS DATA:

TIME	TEMP (°C)	pH	SP. COND. (mS/cm)	ORP (mV)	D.O. (mg/l)	TURBID. (ntu)	Flow Rate (mL/min)	DTW (ft)	Comments/Flow Rate (indicate stable flow rate)
0925	START PURGE							11.28	
0935	WELL DRAWING DOWN @ 60 mL/min								
0950	INCREASED FLOW TO 100 WELL STARTING TO STABILIZE								
1000	DECREASED TO 100 WELL SEEMS STABLE							12.05	- ON FLOWCELL
1005	8.43	8.88	0.382	5.4	5.62	5.17	100	12.08	
1010	8.34	8.86	0.386	3.9	4.58	4.13	100	12.10	
1015	8.14	8.87	0.387	3.4	4.39	13.7	100	12.10	
1020	8.20	8.93	0.387	-0.1	4.39	14.5	100	12.10	
1025	8.25	8.92	0.391	-0.5	4.36	14.4	100	12.10	
1030	8.39	8.91	0.392	0.1	4.37	10.8	100	12.10	
1035	8.57	8.90	0.396	-1.0	4.51	10.0	100	12.10	
1040	8.76	8.88	0.398	-1.6	4.41	9.77	100	12.10	
1045	8.77	8.86	0.401	-0.6	4.45	7.68	100	12.10	
1050	8.49	8.96	0.408	-1.7	4.42	6.75	100	12.10	
	3%	±0.1	3%	±10	10%, <0.5	<5	100-400 mL/min		

SAMPLE DATA:

SAMPLE BOTTLE ID TIME	LOCATION	PRESERVATION METHOD	#	SAMPLE CONTAINER TYPE	LABORATORY ANALYSIS
1115	MW-303	HCL	3	40 mL VOA	VOC 8260
		HNO3	1	250 mL PLASTIC	DISSOLVED METALS
		NAOH	1	250 mL PLASTIC	TCN
		NONE	2	250 mL AMBER	1,4-DIOXANE SIM
		NONE	2	250 mL PLASTIC	PFAS

PURGE DATA

[ ] 0.04 GAL/FT (1" DIAM.)
[✓] 0.16 GAL/FT (2" DIAM.)
[ ] 0.65 GAL/FT (4" DIAM.)
[ ] 1.47 GAL/FT (6" DIAM.)

x length of water column = 6.72
Total Well Volume: 1.07 g
Total Purge Volume: 3.00 g
of well volumes: 3

Stable flow not achieved, sampled via no-purge: [ ]

S. WTOWNE
SAMPLER

LOW FLOW SAMPLING LOG
CREDERE ASSOCIATES. LLC

Community Economy Environment
Credere Associates LLC

PROJECT NAME: WU CROSS

DATE: 3/24/23

PROJECT NUMBER: 21001629

LOCATION ACTIVITY
START: 0920
END: 1120

SAMPLE LOCATION ID: MW-303 2 OF 2

WELL DATA:

WELL DEPTH (ft): SEE PG 1 — [✓] MEASURED [ ] HISTORICAL
WATER DEPTH (ft): SEE PG. 1 — [✓] MEASURED [ ] HISTORICAL

[ ] TOP OF WELL [✓] TOP OF CASING [ ] FROM GRADE [ ] ____

WATER LEVEL EQUIPMENT USED:
[✓] ELECT. COND. PROBE
[ ] FLOAT ACTIVATED PROBE
[ ] PRESSURE TRANSDUCER
[ ] ____
[ ] ____

DEPTH OF PUMP INTAKE (ft): SEE PG. 1 Stick-up (in): SEE. PG. 1

WELL MATERIAL: [X] PVC [ ] SS [ ] ____

WELL LOCKED: [ ] YES [✓] NO

PROTECTIVE CASING SECURE: [✓] YES [ ] NO

CONCRETE COLLAR INTACT: [✓] YES [ ] NO

AMBIENT AIR VOC: NA PPM

WELL MOUTH VOC: NA PPM

EQUIPMENT DATA:

PURGING	SAMPLING	
[✓]	[✓]	PERISTALTIC PUMP
[ ]	[ ]	SUBMERSIBLE
[ ]	[ ]	BLADDER PUMP
[ ]	[ ]	HAND PUMP
[ ]	[ ]	DEDICATED HDPE
[✓]	[✓]	NEW HDPE
[ ]	[ ]	DEDICATED LDPE
[ ]	[ ]	NEW LDPE
	[✓]	FILTER
[ ]	[ ]	____

Equipment
Solinst interface probe, Lamotte 2020 turbidity meter, YSI multi-parameter meter with display, geopump peristaltic pump mL flow through cell

YSI SN: SEE PG 1
Turbidity SN:

DECONTAMINATION FLUIDS USED:
[ ] DISTILLED WATER
[✓] DEIONIZED WATER
[ ] POTABLE WATER
[ ] TSP SOLUTION
[ ] ALCONOX SOLUTION
[ ] NONE
[ ] ____
[ ] ____

FIELD ANALYSIS DATA:

TIME	TEMP (°C)	pH	SP. COND. (mS/cm)	ORP (mV)	D.O. (mg/l)	TURBID. (ntu)	Flow Rate (mL/min)	DTW (ft)	Comments/Flow Rate (indicate stable flow rate)
1055	8.50	8.93	0.410	-3.2	4.38	5.5	100	12.10	
1100	8.65	8.89	0.411	-2.0	4.50	5.2	100	12.10	
1105	8.66	8.97	0.413	-3.8	4.51	4.8	100	12.10	
1110	8.58	8.95	0.414	-5.2	4.60	4.5	100	12.10	
1115	SAMPLED								
	3%	±0.1	3%	±10	10%, <0.5	<5	100-400 mL/min		

SAMPLE DATA:

SAMPLE BOTTLE ID TIME	LOCATION	PRESERVATION METHOD	SAMPLE CONTAINER #	TYPE	LABORATORY ANALYSIS
1115	MW-303	SEE PG-1			

PURGE DATA

[ ] 0.04 GAL/FT (1" DIAM.)
[✓] 0.16 GAL/FT (2" DIAM.)
[ ] 0.65 GAL/FT (4" DIAM.)
[ ] 1.47 GAL/FT (6" DIAM.)

x length of water column = 6.72
Total Well Volume: 1.07 g
Total Purge Volume: 3.60 g
of well volumes: 3

Stable flow not achieved, sampled via no-purge: [ ]

S. Towne Stacy Towne
SAMPLER

LOW FLOW SAMPLING LOG
CREDERE ASSOCIATES. LLC

PROJECT NAME: WW Cross
DATE: 3/23/23
PROJECT NUMBER: 21001639
LOCATION ACTIVITY START: 1150
SAMPLE LOCATION ID: MW-106
END: 1250

WELL DATA:

WELL DEPTH (ft): 9.15 [✓] MEASURED [ ] HISTORICAL
WATER DEPTH (ft): 1.44 [✓] MEASURED [ ] HISTORICAL
[✓] TOP OF WELL [ ] TOP OF CASING [ ] FROM GRADE [ ]

WATER LEVEL EQUIPMENT USED:
[✓] ELECT. COND. PROBE
[ ] FLOAT ACTIVATED PROBE
[ ] PRESSURE TRANSDUCER
[ ]
[ ]

DEPTH OF PUMP INTAKE (ft): 8.15 Stick-up (in): N/A

WELL MATERIAL: [X] PVC [ ] SS [ ]
WELL LOCKED: [ ] YES [✓] NO
PROTECTIVE CASING SECURE: [✓] YES [ ] NO
CONCRETE COLLAR INTACT: [✓] YES [ ] NO

AMBIENT AIR VOC: NA PPM
WELL MOUTH VOC: NA PPM

EQUIPMENT DATA:

PURGING	SAMPLING		Equipment
[✓]	[✓]	PERISTALTIC PUMP	Solinst interface probe, Lamotte 2020
[ ]	[ ]	SUBMERSIBLE	turbidity meter, YSI multi-parameter
[ ]	[ ]	BLADDER PUMP	meter with display, geopump peristaltic pump
[ ]	[ ]	HAND PUMP	mL flow through cell
[ ]	[ ]	DEDICATED HDPE	
[✓]	[✓]	NEW HDPE	YSI Pro Quatro
[ ]	[ ]	DEDICATED LDPE	YSI SN: 22B101955
[ ]	[ ]	NEW LDPE	Turbidity SN: Hach 1503nC040500
	[✓]	FILTER	
[ ]	[ ]		

DECONTAMINATION FLUIDS USED:
[✓] DISTILLED WATER
[ ] DEIONIZED WATER
[ ] POTABLE WATER
[ ] TSP SOLUTION
[ ] ALCONOX SOLUTION
[ ] NONE
[ ]
[ ]

FIELD ANALYSIS DATA:

TIME	TEMP (°C)	pH	SP. COND. (mS/cm)	ORP (mV)	D.O. (mg/l)	TURBID. (ntu)	Flow Rate (mL/min)	DTW (ft)	Comments/Flow Rate (indicate stable flow rate)
1150							400	1.49	Began pumping
1205	2.6	7.70	0.0148	162.5	12.02	43.8	400	1.49	
1210	2.6	6.67	0.0132	147.1	11.41	31.7	400	1.49	
1215	2.7	6.50	0.0135	154.2	11.50	22.3	400	1.49	
1220	2.6	6.40	0.0137	162.4	11.82	9.15	400	1.49	
1225	2.6	6.35	0.0147	167.3	11.92	11.3	400	1.49	
1230	2.7	6.31	0.0148	173.4	12.10	9.54	400	1.49	
1235	2.8	6.27	0.0161	175.9	12.21	4.57	400	1.49	
1240	2.7	6.24	0.0175	178.6	12.21	4.76	400	1.49	
1245	2.7	6.21	0.0189	181.5	12.16	4.32	400	1.49	
1250									Sampled
	3%	±0.1	3%	±10	10%, <0.5	<5	100-400 mL/min		

SAMPLE DATA:

SAMPLE BOTTLE ID TIME	LOCATION	PRESERVATION METHOD	#	SAMPLE CONTAINER TYPE	LABORATORY ANALYSIS
1250	MW-106	HCl	3	40 mL VOA	VOCs
		None	2	250 mL Amber	Dioxane SIM
		HNO3	1	250 mL HDPE	RCRA-8 Diss.
		NaOH	1	"	cyanide
		None	2	250 mL HDPE	PFAS

PURGE DATA

[ ] 0.04 GAL/FT (1" DIAM.)
[✓] 0.16 GAL/FT (2" DIAM.)
[ ] 0.65 GAL/FT (4" DIAM.)
[ ] 1.47 GAL/FT (6" DIAM.)

x length of water column = 7.7
Total Well Volume: 1.2 g
Total Purge Volume: ~7 g
of well volumes: ~5.8

Stable flow not achieved, sampled via no-purge: [ ]

SAMPLER

LOW FLOW SAMPLING LOG
CREDERE ASSOCIATES, LLC

Credere Associates LLC

PROJECT NAME: NW Cross

DATE: 3/23/23

PROJECT NUMBER: 2100639

LOCATION ACTIVITY
START: 1105
END: 1140

SAMPLE LOCATION ID: MW-105

WELL DATA:

WELL DEPTH (ft): 11.40 [✓] MEASURED [ ] HISTORICAL

WATER DEPTH (ft): 2.39 [✓] MEASURED [ ] HISTORICAL

[✓] TOP OF WELL [ ] TOP OF CASING [ ] FROM GRADE [ ] _____

WATER LEVEL EQUIPMENT USED:
[✓] ELECT. COND. PROBE
[ ] FLOAT ACTIVATED PROBE
[ ] PRESSURE TRANSDUCER
[ ] _____
[ ] _____

DEPTH OF PUMP INTAKE (ft): ~10.40 Stick-up (in): N/A

WELL MATERIAL: [X] PVC [ ] SS [ ] _____

WELL LOCKED: [ ] YES [✓] NO

PROTECTIVE CASING SECURE: [✓] YES [ ] NO

CONCRETE COLLAR INTACT: [✓] YES [ ] NO

AMBIENT AIR VOC: NA PPM

WELL MOUTH VOC: NA PPM

EQUIPMENT DATA:

PURGING	SAMPLING		Equipment
[ ]	[✓]	PERISTALTIC PUMP	Solinst interface probe, Lamotte 2020
[ ]	[ ]	SUBMERSIBLE	turbidity meter, YSI multi-parameter
[ ]	[ ]	BLADDER PUMP	meter with display, geopump peristaltic pump
[ ]	[ ]	HAND PUMP	mL flow through cell
[ ]	[ ]	DEDICATED HDPE	
[ ]	[✓]	NEW HDPE	YSI Pro Quatro
[ ]	[ ]	DEDICATED LDPE	YSI SN: 22B101958
[ ]	[ ]	NEW LDPE	Turbidity SN: Hach 130300400050
	[✓]	FILTER	
[ ]	[ ]	_____	

DECONTAMINATION FLUIDS USED:
[✓] DISTILLED WATER
[ ] DEIONIZED WATER
[ ] POTABLE WATER
[ ] TSP SOLUTION
[ ] ALCONOX SOLUTION
[ ] NONE
[ ] _____
[ ] _____

FIELD ANALYSIS DATA:

TIME	TEMP (°C)	pH	SP. COND. (mS/cm)	ORP (mV)	D.O. (mg/l)	TURBID. (ntu)	Flow Rate (mL/min)	DTW (ft)	Comments/Flow Rate (indicate stable flow rate)
1105							320	2.49	Began pumping
1125	4.8	7.53	0.1800	209.7	9.50	4.77	400	2.49	
1130	4.7	7.57	0.1811	203.4	9.85	3.79	380	2.52	
1135	4.6	7.58	0.1852	200.6	9.83	1.81	360		
1140									Sampled @ 1140
	3%	±0.1	3%	±10	10%, <0.5	<5	100-400 mL/min		

SAMPLE DATA:

SAMPLE BOTTLE ID TIME	LOCATION	PRESERVATION METHOD	SAMPLE CONTAINER #	TYPE	LABORATORY ANALYSIS
1140	MW-105	HCl	3	40 mL VOA	VOC's
		NaOH	2	250 mL Amber	Dioxane SIM
		HNO3	1	250 mL HDPE	RCRA-8 (Diss.)
		NaOH	1	"	cyanide

PURGE DATA

[ ] 0.04 GAL/FT (1" DIAM.)
[✓] 0.16 GAL/FT (2" DIAM.)
[ ] 0.65 GAL/FT (4" DIAM.)
[ ] 1.47 GAL/FT (6" DIAM.)

x length of water column = 9.01
Total Well Volume: 1.44 g
Total Purge Volume: 3.5 g
of well volumes: 2.5

Stable flow not achieved, sampled via no-purge: [ ]

SAMPLER

LOW FLOW SAMPLING LOG
CREDERE ASSOCIATES. LLC

Credere Associates LLC

PROJECT NAME: WVV Cross

DATE: 3/29/23

PROJECT NUMBER: 210616.39

LOCATION ACTIVITY
START: 1320
END: 1400

SAMPLE LOCATION ID: MW-302

WELL DATA:

WELL DEPTH (ft): ~~18.75~~ 17.75 CD
[✓] MEASURED
[ ] HISTORICAL

WATER DEPTH (ft): 16.32
[✓] MEASURED
[ ] HISTORICAL

[✓] TOP OF WELL
[ ] TOP OF CASING
[ ] FROM GRADE
[ ] _____

WATER LEVEL EQUIPMENT USED:
[✓] ELECT. COND. PROBE
[ ] FLOAT ACTIVATED PROBE
[ ] PRESSURE TRANSDUCER
[ ] _____
[ ] _____

DEPTH OF PUMP INTAKE (ft): ~16.75

Stick-up (in): N/A

WELL MATERIAL:
[X] PVC
[ ] SS
[ ] _____

WELL LOCKED:
[ ] YES
[✓] NO

PROTECTIVE CASING SECURE:
[✓] YES
[ ] NO

CONCRETE COLLAR INTACT:
[✓] YES
[ ] NO

AMBIENT AIR VOC: NA PPM

WELL MOUTH VOC: NA PPM

EQUIPMENT DATA:

PURGING	SAMPLING	
[✓]	[✓]	PERISTALTIC PUMP
[ ]	[ ]	SUBMERSIBLE
[ ]	[ ]	BLADDER PUMP
[ ]	[ ]	HAND PUMP
[ ]	[ ]	DEDICATED HDPE
[✓]	[✓]	NEW HDPE
[ ]	[ ]	DEDICATED LDPE
[ ]	[ ]	NEW LDPE
	[✓]	FILTER
[ ]	[ ]	_____

Equipment
Solinst interface probe, Lamotte 2020 turbidity meter, YSI multi-parameter meter with display, geopump peristaltic pump mL flow through cell
YSI Pro Quatro
YSI SN: 22B101955
Turbidity SN: Hach 1S030C040500

DECONTAMINATION FLUIDS USED:
[✓] DISTILLED WATER
[ ] DEIONIZED WATER
[ ] POTABLE WATER
[ ] TSP SOLUTION
[ ] ALCONOX SOLUTION
[ ] NONE
[ ] _____
[ ] _____

FIELD ANALYSIS DATA:

TIME	TEMP (°C)	pH	SP. COND. (mS/cm)	ORP (mV)	D.O. (mg/l)	TURBID. (ntu)	Flow Rate (mL/min)	DTW (ft)	Comments/Flow Rate (indicate stable flow rate)
1320							200	16.55	Began pumping
1345							100	16.55	Flow unsteady
1350	9.2	6.68	0.4235	194.6	7.14	21.1	160	16.60	Purged / recharged - 3 times
1355	Not	enough	volume					16.60	Unsteady flow w/ pump set @ 100
1400	Sampled	no	purge						
	3%	±0.1	3%	±10	10%, <0.5	<5	100-400 mL/min		

SAMPLE DATA:

SAMPLE BOTTLE ID TIME	LOCATION	PRESERVATION METHOD	#	SAMPLE CONTAINER TYPE	LABORATORY ANALYSIS
1400	MW-302	None	2 CD	250 mL ~~HDPE~~ Amber CD	* only 1 jar for dioxane SIM CD ~~out of note~~
		HCl	3	40 mL VOA	VOCs
		HNO_3	1	250 mL HDPE	RCRA-8 diss.
		NaOH	1	250mL HDPE	cyanide
		None	2	250 mL HDPE	PFAS

Noticed afterward, informed lab

PURGE DATA

[ ] 0.04 GAL/FT (1" DIAM.)
[✓] 0.16 GAL/FT (2" DIAM.)
[ ] 0.65 GAL/FT (4" DIAM.)
[ ] 1.47 GAL/FT (6" DIAM.)

x length of water column = 1.43
Total Well Volume: 0.2 g
Total Purge Volume: ≤1 g
of well volumes: ~4

Stable flow not achieved, sampled via no-purge: [✓]

SAMPLER

LOW FLOW SAMPLING LOG
CREDERE ASSOCIATES, LLC

Credere Associates LLC

PROJECT NAME: NW Cross

DATE: 3/28/23

PROJECT NUMBER: 21001639

LOCATION ACTIVITY
START: 1500
END: 1550

SAMPLE LOCATION ID: MW-103

WELL DATA:

WELL DEPTH (ft): 11.25 [✓] MEASURED [ ] HISTORICAL

WATER DEPTH (ft): 9.25 [✓] MEASURED [ ] HISTORICAL

[✓] TOP OF WELL [ ] TOP OF CASING [ ] FROM GRADE [ ] _____

WATER LEVEL EQUIPMENT USED:
[✓] ELECT. COND. PROBE
[ ] FLOAT ACTIVATED PROBE
[ ] PRESSURE TRANSDUCER
[ ] _____
[ ] _____

DEPTH OF PUMP INTAKE (ft): ~10.25 Stick-up (in): N/A

WELL MATERIAL: [X] PVC [ ] SS [ ] _____

WELL LOCKED: [ ] YES [✓] NO

PROTECTIVE CASING SECURE: [✓] YES [ ] NO

CONCRETE COLLAR INTACT: [✓] YES [ ] NO

AMBIENT AIR VOC: NA PPM

WELL MOUTH VOC: NA PPM

EQUIPMENT DATA:

PURGING	SAMPLING		Equipment
[✓]	[✓]	PERISTALTIC PUMP	Solinst interface probe, Lamotte 2020 turbidity meter, YSI multi-parameter meter with display, geopump peristaltic pump mL flow through cell
[ ]	[ ]	SUBMERSIBLE	
[ ]	[ ]	BLADDER PUMP	
[ ]	[ ]	HAND PUMP	
[ ]	[ ]	DEDICATED HDPE	
[✓]	[✓]	NEW HDPE	YSI Pro Quattro
[ ]	[ ]	DEDICATED LDPE	YSI SN: 22B101958
[ ]	[ ]	NEW LDPE	Turbidity SN: Hach 1503C040560
	[✓]	FILTER	
[ ]	[ ]	_____	

DECONTAMINATION FLUIDS USED:
[✓] DISTILLED WATER
[ ] DEIONIZED WATER
[ ] POTABLE WATER
[ ] TSP SOLUTION
[ ] ALCONOX SOLUTION
[ ] NONE
[ ] _____
[ ] _____

FIELD ANALYSIS DATA:

TIME	TEMP (°C)	pH	SP. COND. (mS/cm)	ORP (mV)	D.O. (mg/l)	TURBID. (ntu)	Flow Rate (mL/min)	DTW (ft)	Comments/Flow Rate (indicate stable flow rate)
1500							360	9.35	Began pumping
1510							300	9.44	
1515	7.5	~~86.74~~	0.0633	182.7	~~72.8~~	7.95	300	9.52	
1520	7.7	6.45	0.0693	191.6	10.45	8.40	250	9.61	
1525	7.7	6.46	0.0840	150.5	9.31	8.89	200	9.66	
1530	7.7	6.45	0.0857	154.9	9.36	6.37	200	9.68	
1535	7.7	6.46	0.0890	162.5	9.65	4.63	200	9.69	
1540	7.7	6.46	0.0912	168.4	9.73	3.74	200	9.69	
1545	7.6	6.47	0.0945	172.2	9.97	2.53	200	9.69	
1550									Sampled
	3%	±0.1	3%	±10	10%, <0.5	<5	100-400 mL/min		

SAMPLE DATA:

SAMPLE BOTTLE ID TIME	LOCATION	PRESERVATION METHOD	#	SAMPLE CONTAINER TYPE	LABORATORY ANALYSIS
1550	MW-103	HCl	3	40 mL VOA	VOC's
		None	2	250 mL Amber	Dioxane SIM
		HNO3	1	250 mL HDPE	RCRA-8 (Diss.)
		NaOH	1	250mL HDPE	Cyanide

PURGE DATA

[ ] 0.04 GAL/FT (1" DIAM.)
[✓] 0.16 GAL/FT (2" DIAM.)
[ ] 0.65 GAL/FT (4" DIAM.)
[ ] 1.47 GAL/FT (6" DIAM.)

x length of water column = 2
Total Well Volume: 0.32 g
Total Purge Volume: 3.5 g
of well volumes: 11.69

Stable flow not achieved, sampled via no-purge: [ ]

SAMPLER

LOW FLOW SAMPLING LOG
CREDERE ASSOCIATES, LLC

Credere Associates LLC

PROJECT NAME: WW Cross

DATE: 3/24/23

PROJECT NUMBER: 20016039

LOCATION ACTIVITY
START: 0905
END: 1045

SAMPLE LOCATION ID: MW-304 (PACE 1/2)

WELL DATA:

WELL DEPTH (ft): 19.15 [✓] MEASURED [ ] HISTORICAL
WATER DEPTH (ft): 10.81 [✓] MEASURED [ ] HISTORICAL
[✓] TOP OF WELL [ ] TOP OF CASING [ ] FROM GRADE [ ] _____

WATER LEVEL EQUIPMENT USED:
[✓] ELECT. COND. PROBE
[ ] FLOAT ACTIVATED PROBE
[ ] PRESSURE TRANSDUCER
[ ] _____
[ ] _____

DEPTH OF PUMP INTAKE (ft): ~18.15 Stick-up (in): NA

WELL MATERIAL:	WELL LOCKED:	PROTECTIVE CASING SECURE:	CONCRETE COLLAR INTACT:
[X] PVC	[ ] YES	[✓] YES	[✓] YES
[ ] SS	[✓] NO	[ ] NO	[ ] NO
[ ] _____			

AMBIENT AIR VOC: NA PPM

WELL MOUTH VOC: NA PPM

EQUIPMENT DATA:

PURGING	SAMPLING		Equipment
[✓]	[✓]	PERISTALTIC PUMP	Solinst interface probe, Lamotte 2020
[ ]	[ ]	SUBMERSIBLE	turbidity meter, YSI multi-parameter
[ ]	[ ]	BLADDER PUMP	meter with display, geopump peristaltic pump
[ ]	[ ]	HAND PUMP	mL flow through cell
[ ]	[ ]	DEDICATED HDPE	
[✓]	[✓]	NEW HDPE	YSI Pro Quattro
[ ]	[ ]	DEDICATED LDPE	YSI SN: 22B101958
[ ]	[ ]	NEW LDPE	Turbidity SN: Hach 1503000400030
	[✓]	FILTER	
[ ]	[ ]	_____	

DECONTAMINATION FLUIDS USED:
[✓] DISTILLED WATER
[ ] DEIONIZED WATER
[ ] POTABLE WATER
[ ] TSP SOLUTION
[ ] ALCONOX SOLUTION
[ ] NONE
[ ] _____
[ ] _____

FIELD ANALYSIS DATA:

TIME	TEMP (°C)	pH	SP. COND. (mS/cm)	ORP (mV)	D.O. (mg/l)	TURBID. (ntu)	Flow Rate (mL/min)	DTW (ft)	Comments/Flow Rate (indicate stable flow rate)
0905							200	11.55	Began pumping
0915							160	11.65	
0920	8.3	8.56	0.1111	185.5	11.31	335	160	11.65	
0925	8.3	8.49	0.1050	175.5	11.18	327	160	11.69	
0935	8.3	8.44	0.1013	156.4	10.70	325	120	11.65	
0945	8.3	8.23	0.0849	138.7	10.75	107	120	11.65	
0955	8.3	7.43	0.0848	134.7	10.48	28	120	11.65	
1005	8.3	7.26	0.0848	132.9	10.47	17.5	120	11.65	
1010	8.3	7.14	0.0886	132.7	10.51	12.6	120	11.65	
1015	8.2	7.08	0.0884	130.6	10.48	11.4	120	11.65	
1020	8.2	7.02	0.0901	129.6	10.42	10.8	120	11.65	
1025	8.3	7.03	0.0901	128.7	10.41	10.5	120	11.65	
1030	8.3	6.98	0.0916	126.9	10.48	11.5	120	11.65	
1035	8.3	6.97	0.0916	125.4	10.45	11.6	120	11.65	
	3%	±0.1	3%	±10	10%, <0.5	<5	100-400 mL/min		

SAMPLE DATA:

SAMPLE BOTTLE ID TIME	LOCATION	PRESERVATION METHOD	#	SAMPLE CONTAINER TYPE	LABORATORY ANALYSIS
1045	MW-304	HCl	3	40 mL VOA	VOCs
	DUP-1	None	2	250 mL amber	Dioxane SIM
		HNO3	1	250 mL HDPE	RCRA-8 dissolved
		NaOH	1	"	cyanide
		None	2	"	PFAS

PURGE DATA

[ ] 0.04 GAL/FT (1" DIAM.)
[✓] 0.16 GAL/FT (2" DIAM.)
[ ] 0.65 GAL/FT (4" DIAM.)
[ ] 1.47 GAL/FT (6" DIAM.)

x length of water column =
Total Well Volume: See pg 2 g
Total Purge Volume: 10 g
of well volumes:

Stable flow not achieved, sampled via no-purge: [ ]

SAMPLER

LOW FLOW SAMPLING LOG
CREDERE ASSOCIATES. LLC

PROJECT NAME: NW Cross

DATE: 3/24/23

PROJECT NUMBER: 21001639

LOCATION ACTIVITY
START: 0905
END: 1045

SAMPLE LOCATION ID: MW-304 (PAGE 2/2)

WELL DATA: (see pg. 1)

WELL DEPTH (ft): _____ [ ] MEASURED [ ] HISTORICAL [ ] TOP OF WELL [ ] TOP OF CASING [ ] FROM GRADE

WATER DEPTH (ft): _____ [ ] MEASURED [ ] HISTORICAL [ ] _____

WATER LEVEL EQUIPMENT USED:
[ ] ELECT. COND. PROBE
[ ] FLOAT ACTIVATED PROBE
[ ] PRESSURE TRANSDUCER
[ ] _____
[ ] _____

DEPTH OF PUMP INTAKE (ft): _____ Stick-up (in): _____

WELL MATERIAL:	WELL LOCKED:	PROTECTIVE CASING SECURE:	CONCRETE COLLAR INTACT:
[X] PVC	[ ] YES	[ ] YES	[ ] YES
[ ] SS	[ ] NO	[ ] NO	[ ] NO
[ ] _____			

AMBIENT AIR VOC: NA PPM

WELL MOUTH VOC: NA PPM

EQUIPMENT DATA: (see pg 1).

PURGING	SAMPLING	
[ ]	[ ]	PERISTALTIC PUMP
[ ]	[ ]	SUBMERSIBLE
[ ]	[ ]	BLADDER PUMP
[ ]	[ ]	HAND PUMP
[ ]	[ ]	DEDICATED HDPE
[ ]	[ ]	NEW HDPE
[ ]	[ ]	DEDICATED LDPE
[ ]	[ ]	NEW LDPE
	[ ]	FILTER
[ ]	[ ]	_____

Equipment
Solinst interface probe, Lamotte 2020 turbidity meter, YSI multi-parameter meter with display, geopump peristaltic pump mL flow through cell

YSI SN:
Turbidity SN:

DECONTAMINATION FLUIDS USED:
[ ] DISTILLED WATER
[ ] DEIONIZED WATER
[ ] POTABLE WATER
[ ] TSP SOLUTION
[ ] ALCONOX SOLUTION
[ ] NONE
[ ] _____
[ ] _____

FIELD ANALYSIS DATA:

TIME	TEMP (°C)	pH	SP. COND. (mS/cm)	ORP (mV)	D.O. (mg/l)	TURBID. (ntu)	Flow Rate (mL/min)	DTW (ft)	Comments/Flow Rate (indicate stable flow rate)
1040	8.3	6.90	0.0953	125.2	10.46	11.2*	120	11.65	
1045									sampled
		Turbidity stable ~ 10-11				for 30 mins now			
					NTU				
		All other parameters have been stable							
	3%	±0.1	3%	±10	10%, <0.5	<5	100-400 mL/min		

*

SAMPLE DATA:

SAMPLE BOTTLE ID TIME	LOCATION	PRESERVATION METHOD	#	SAMPLE CONTAINER TYPE	LABORATORY ANALYSIS
1045	MW-304	(see page 1)			
	DUP-1				

PURGE DATA

[ ] 0.04 GAL/FT (1" DIAM.)
[✓] 0.16 GAL/FT (2" DIAM.)
[ ] 0.65 GAL/FT (4" DIAM.)
[ ] 1.47 GAL/FT (6" DIAM.)

x length of water column = 8.3
Total Well Volume: 1.3 g
Total Purge Volume: 3.5+ g
of well volumes: 2.7

Stable flow not achieved, sampled via no-purge: [ ]

SAMPLER

LOW FLOW SAMPLING LOG
CREDERE ASSOCIATES, LLC

Credere Associates LLC

PROJECT NAME: WW crossing

DATE: 3/24/23

PROJECT NUMBER: 21001639

LOCATION ACTIVITY
START: 1200
END: 1320

SAMPLE LOCATION ID: MW-6D

WELL DATA:

WELL DEPTH (ft): 20.46 [✓] MEASURED [ ] HISTORICAL

WATER DEPTH (ft): 5.32 [✓] MEASURED [ ] HISTORICAL

[✓] TOP OF WELL [ ] TOP OF CASING [ ] FROM GRADE [ ] _____

WATER LEVEL EQUIPMENT USED:
[✓] ELECT. COND. PROBE
[ ] FLOAT ACTIVATED PROBE
[ ] PRESSURE TRANSDUCER
[ ] _____
[ ] _____

DEPTH OF PUMP INTAKE (ft): 18.46 Stick-up (in): _____

WELL MATERIAL:	WELL LOCKED:	PROTECTIVE CASING SECURE:	CONCRETE COLLAR INTACT:
[X] PVC	[✓] YES	[✓] YES	[✓] YES
[ ] SS	[ ] NO	[ ] NO	[ ] NO
[ ] _____			

AMBIENT AIR VOC: NA PPM

WELL MOUTH VOC: NA PPM

EQUIPMENT DATA:

PURGING	SAMPLING		Equipment
[✓]	[✓]	PERISTALTIC PUMP	Solinst interface probe, Lamotte 2020
[ ]	[ ]	SUBMERSIBLE	turbidity meter, YSI multi-parameter
[ ]	[ ]	BLADDER PUMP	meter with display, geopump peristaltic pump
[ ]	[ ]	HAND PUMP	mL flow through cell
[ ]	[ ]	DEDICATED HDPE	
[✓]	[✓]	NEW HDPE	YSI Pro Quatro
[ ]	[ ]	DEDICATED LDPE	YSI SN: 22B101958
[ ]	[ ]	NEW LDPE	Turbidity SN: Hach 1503C040050
	[✓]	FILTER	
[ ]	[ ]	_____	

DECONTAMINATION FLUIDS USED:
[✓] DISTILLED WATER
[ ] DEIONIZED WATER
[ ] POTABLE WATER
[ ] TSP SOLUTION
[ ] ALCONOX SOLUTION
[ ] NONE
[ ] _____
[ ] _____

FIELD ANALYSIS DATA:

TIME	TEMP (°C)	pH	SP. COND. (mS/cm)	ORP (mV)	D.O. (mg/l)	TURBID. (ntu)	Flow Rate (mL/min)	DTW (ft)	Comments/Flow Rate (indicate stable flow rate)
1200							100	8.94	Began purge
1215						148	100	~~8.99~~ 9.10 @	(pumped down 3' quickly
1225						46.4	~~100~~ 80 @	9.15	@~200 mL/min)
1230						26.8	80	9.10	
1235						186	80*	9.20	*Pump unsteady below 100
1250						126	100	8.72	Tried a diff. battery, still unstea
1310						48.6	100	~~8.06~~ 8.31	Tried ANOTHER, better flow @ 100
1315	7.5	4.30	1.070	235.2	8.45	49.2	100	8.79 →	Still drawing down @ 100
1320						↑			Sampled no purge
						Gave lab heads up on			high turb.
	3%	±0.1	3%	±10	10%, <0.5	<5	100-400 mL/min		

SAMPLE DATA:

SAMPLE BOTTLE ID TIME	LOCATION	PRESERVATION METHOD	#	SAMPLE CONTAINER TYPE	LABORATORY ANALYSIS
1320	MW-6D	HCl	3	40 mL VOA	VOCs
		None	2	250mL Amber	Dioxane SIM
		HNO3	1	250 mL HDPE	RCRA - 8 Diss.
		NaOH	1	250 mL HDPE	cyanide

PURGE DATA

[ ] 0.04 GAL/FT (1" DIAM.)
[✓] 0.16 GAL/FT (2" DIAM.)
[ ] 0.65 GAL/FT (4" DIAM.)
[ ] 1.47 GAL/FT (6" DIAM.)

x length of water column = 15.14
Total Well Volume: 2.4 g
Total Purge Volume: ~2 g
of well volumes: <1

Stable flow not achieved, sampled via no-purge: [✓]

SAMPLER

APPENDIX D

ASBESTOS INSPECTOR CERTIFICATION DOCUMENTATION

Lori A. Shibinette
Commissioner

Patricia M. Tilley
Director

STATE OF NEW HAMPSHIRE

DEPARTMENT OF HEALTH AND HUMAN SERVICES

DIVISION OF PUBLIC HEALTH SERVICES

BUREAU OF PUBLIC HEALTH PROTECTION

29 HAZEN DRIVE, CONCORD, NH 03301
603-271-4507 1-800-852-3345 Ext. 4507
Fax: 603-271-3991 TDD Access: 1-800-735-2964
www.dhhs.nh.gov

April 8, 2022

Moira Wentworth
121 Stone Hill Rd
Limerick, ME 04048

RE: Healthy Homes and Lead Poisoning Prevention Program (HHLPPP) Lead Risk Assessor Renewal Application Approval Letter

Dear Moira Wentworth:

Your application has been received and approved. Enclosed is your paper ID. All employees working on a lead abatement project shall have this photo ID on site. Your employer should retain this letter as a record of licensure or certification. Your license or certification number is **RA000086**. The expiration date is **4/8/2023** and is located on the attached ID. The Healthy Homes and Lead Poisoning Prevention Program (HHLPPP) has 120 days to process all applications. To ensure timely **renewal**, we recommend you plan in advance to **submit all required paperwork a minimum of 60 days before you expiration date of 4/8/2023.**

All applicants are required to provide documentation of meeting the annual educational requirements pursuant to He-P 1612.02. Your training expires on **1/6/2023**, this is also indicated on your ID card. Additionally, applicants must provide proof of passing the proficiency examinations required in He-P 1612.04. It is your responsibility to ensure these requirements are met prior to the submittal of your next application. The dates of expiration for your refresher class is located on the back of your card.

As of June 11, 2020 there is a revised version of He-P 1600. This document can be found at http://www.gencourt.state.nh.us/rules/state_agencies/he-p1600.html. It is your responsibility to comply with Chapter He-P 1600 Lead Poisoning Prevention and Control Rules and RSA 130-A Lead Paint Poisoning Prevention and Control.

You cannot perform lead abatement or risk assessment work in the State of New Hampshire without a valid license or certificate. In addition, your name cannot be published on the lists of Licensed Lead Abatement Contractors or Licensed Lead Risk Assessors if not renewed within the specified timeframe.

Please contact me at 800-852-3345, ext. 4719 (within NH) or 603-271-7011 or by e-mail at Michael.Doherty@dhhs.nh.gov for any additional information or questions.

Sincerely,

NH HHLPPP
Licensing Dept. Manager
Environmentalist II

Attention: HHLPPP will no longer be issuing wallet ID cards. Below is the identification HHLPPP will be issuing going forward. This ID can be kept in digital format on your phone and/or printed and kept in the compliance notebook / binder on the jobsite

Lori A. Shibinette
Commissioner

Patricia M. Tilley
Director

Healthy Homes & Lead Poisoning
Prevention Program (HHLPPP)
29 Hazen Drive
Concord, NH 03301

Tel: 1-800-852-3345
Fax: 603-271-3991

State of New Hampshire

Division of Public Health Services
Healthy Homes and Lead Poisoning Prevention Program (HHLPPP)

Member of CONEST

Lead Risk Assessor

Moira Wentworth

License / Certification #: RA000086

Eff. 4/8/2022 Exp. 4/8/2023

Training Exp. 1/6/2023



NOT A LEGAL FORM OF ID

APPENDIX E

LABORATORY ANALYTICAL REPORTS

Laboratory Report

Absolute Resource associates
124 Heritage Avenue Portsmouth NH 03801

Moira Wentworth
CREDERE Associates
776 Main Street
Westbrook, ME 04092

PO Number: None
Job ID: 64495
Date Received: 2/10/23

Project: WW Cross 21001639

Attached please find results for the analysis of the samples received on the date referenced above.

Unless otherwise noted in the attached report, the analyses performed met the requirements of Absolute Resource Associates' Quality Assurance Plan. The Standard Operating Procedures are based upon USEPA SW-846, USEPA Methods for Chemical Analysis of Water and Wastewater, Standard Methods for the Examination of Water and Wastewater and other recognized methodologies. The results contained in this report pertain only to the samples as indicated on the chain of custody.

Absolute Resource Associates maintains certification with the agencies listed below. The reported results apply to the sample(s) in the condition as received at the time the laboratory took custody. This report shall not be reproduced except in full, without written approval of the laboratory. The liability of ARA is limited to the cost of the requested analyses, unless otherwise agreed upon in writing.

We appreciate the opportunity to provide laboratory services. If you have any questions regarding the enclosed report, please contact the laboratory and we will be glad to assist you.

Sincerely,
Absolute Resource Associates

Alex Alterisio
Authorized Signature

Date of Approval: 2/22/2023
Total number of pages: 64

Absolute Resource Associates Certifications

New Hampshire	1732	Massachusetts	M-NH902
Maine	NH902		

Project ID: WW Cross 21001639

Sample Association Table

Field ID	Matrix	Date-Time Sampled	Lab#	Analysis
CA-SB-16(16-18)	Solid	2/6/2023 10:00	64495-001	
				VOCs in solids by 8260 Petro & Haz Waste
SB-DUP-3(16-18)	Solid	2/6/2023 10:02	64495-002	
				VOCs in solids by 8260 Petro & Haz Waste
CA-SB-14(7.5-8)	Solid	2/6/2023 11:55	64495-003	
				Cadmium in solids by 6020
				Solids Digestion for ICPMS Analysis
				Total cyanide in solids by 9014
CA-SB-27(0-2)	Solid	2/6/2023 12:55	64495-004	
				Arsenic in solids by 6020
				Barium in solids by 6020
				Cadmium in solids by 6020
				Chromium in solids by 6020
				Combo: RCRA 8 Metals
				Lead in solids by 6020
				Mercury in solids by 7471
				PAHs in solids by 8270
				Selenium in solids by 6020
				Silver in solids by 6020
				Solids Digestion for ICPMS Analysis
CA-SB-25(0-2)	Solid	2/6/2023 13:05	64495-005	
				Arsenic in solids by 6020
				Barium in solids by 6020
				Cadmium in solids by 6020
				Chromium in solids by 6020
				Combo: RCRA 8 Metals
				Lead in solids by 6020
				Mercury in solids by 7471
				PAHs in solids by 8270
				Selenium in solids by 6020
				Silver in solids by 6020
				Solids Digestion for ICPMS Analysis
CA-SB-26(0-2)	Solid	2/6/2023 13:15	64495-006	
				Arsenic in solids by 6020
				Barium in solids by 6020
				Cadmium in solids by 6020
				Chromium in solids by 6020
				Combo: RCRA 8 Metals
				Lead in solids by 6020
				Mercury in solids by 7471
				PAHs in solids by 8270
				Selenium in solids by 6020
				Silver in solids by 6020
				Solids Digestion for ICPMS Analysis

Project ID: WW Cross 21001639

Sample Association Table

Field ID	Matrix	Date-Time Sampled	Lab#	Analysis
CA-SB-24(0-2)	Solid	2/6/2023 13:25	64495-007	
				Arsenic in solids by 6020
				Barium in solids by 6020
				Cadmium in solids by 6020
				Chromium in solids by 6020
				Combo: RCRA 8 Metals
				Lead in solids by 6020
				Mercury in solids by 7471
				PAHs in solids by 8270
				Selenium in solids by 6020
				Silver in solids by 6020
				Solids Digestion for ICPMS Analysis
CA-SB-18(0-2)	Solid	2/6/2023 14:05	64495-008	
				Arsenic in solids by 6020
				Barium in solids by 6020
				Cadmium in solids by 6020
				Chromium in solids by 6020
				Combo: RCRA 8 Metals
				Lead in solids by 6020
				Mercury in solids by 7471
				PAHs in solids by 8270
				Selenium in solids by 6020
				Silver in solids by 6020
				Solids Digestion for ICPMS Analysis
CA-SB-19(0-2)	Solid	2/6/2023 14:15	64495-009	
				Arsenic in solids by 6020
				Barium in solids by 6020
				Cadmium in solids by 6020
				Chromium in solids by 6020
				Combo: RCRA 8 Metals
				Lead in solids by 6020
				Mercury in solids by 7471
				PAHs in solids by 8270
				Selenium in solids by 6020
				Silver in solids by 6020
				Solids Digestion for ICPMS Analysis
CA-SB-20(0-2)	Solid	2/6/2023 14:25	64495-010	
				Arsenic in solids by 6020
				Barium in solids by 6020
				Cadmium in solids by 6020
				Chromium in solids by 6020
				Combo: RCRA 8 Metals
				Lead in solids by 6020
				Mercury in solids by 7471
				PAHs in solids by 8270
				Selenium in solids by 6020
				Silver in solids by 6020
				Solids Digestion for ICPMS Analysis

Project ID: WW Cross 21001639

Sample Association Table

Field ID	Matrix	Date-Time Sampled	Lab#	Analysis
CA-SB-23(0-2)	Solid	2/6/2023 14:40	64495-011	
				Arsenic in solids by 6020
				Barium in solids by 6020
				Cadmium in solids by 6020
				Chromium in solids by 6020
				Combo: RCRA 8 Metals
				Lead in solids by 6020
				Mercury in solids by 7471
				PAHs in solids by 8270
				Selenium in solids by 6020
				Silver in solids by 6020
				Solids Digestion for ICPMS Analysis
CA-SB-22(0-2)	Solid	2/6/2023 14:50	64495-012	
				Arsenic in solids by 6020
				Barium in solids by 6020
				Cadmium in solids by 6020
				Chromium in solids by 6020
				Combo: RCRA 8 Metals
				Lead in solids by 6020
				Mercury in solids by 7471
				PAHs in solids by 8270
				Selenium in solids by 6020
				Silver in solids by 6020
				Solids Digestion for ICPMS Analysis
CA-SB-21(0-2)	Solid	2/6/2023 14:55	64495-013	
				Arsenic in solids by 6020
				Barium in solids by 6020
				Cadmium in solids by 6020
				Chromium in solids by 6020
				Combo: RCRA 8 Metals
				Lead in solids by 6020
				Mercury in solids by 7471
				PAHs in solids by 8270
				Selenium in solids by 6020
				Silver in solids by 6020
				Solids Digestion for ICPMS Analysis
B111R(6-8)	Solid	2/7/2023 9:00	64495-014	
				PAHs in solids by 8270
				PCBs in solids by 8082
				TPH in solids by 8100
CA-SB-01(0-2)	Solid	2/7/2023 9:10	64495-015	
				PAHs in solids by 8270
				PCBs in solids by 8082
				TPH in solids by 8100
SB-DUP-1(0-2)	Solid	2/7/2023 9:12	64495-016	
				PAHs in solids by 8270
				PCBs in solids by 8082
				TPH in solids by 8100

Project ID: WW Cross 21001639

Sample Association Table

Field ID	Matrix	Date-Time Sampled	Lab#	Analysis
CA-SB-02(0-2)	Solid	2/7/2023 9:25	64495-017	
				Field Specified Laboratory Duplicate
				Field Specified Matrix Spike
				PAHs in solids by 8270
				PCBs in solids by 8082
				TPH in solids by 8100
B117R(2-4)	Solid	2/7/2023 10:25	64495-018	
				PAHs in solids by 8270
				PCBs in solids by 8082
				TPH in solids by 8100
CA-SB-05(0-2)	Solid	2/7/2023 10:50	64495-019	
				PAHs in solids by 8270
				PCBs in solids by 8082
				TPH in solids by 8100
CA-SB-06(0-2)	Solid	2/7/2023 11:00	64495-020	
				PAHs in solids by 8270
				PCBs in solids by 8082
				TPH in solids by 8100
CA-SB-07(0-2)	Solid	2/7/2023 11:15	64495-021	
				PAHs in solids by 8270
				PCBs in solids by 8082
				TPH in solids by 8100
CA-SB-04(0-2)	Solid	2/7/2023 11:40	64495-022	
				PAHs in solids by 8270
				PCBs in solids by 8082
				TPH in solids by 8100
CA-SB-03(0-2)	Solid	2/7/2023 11:50	64495-023	
				PAHs in solids by 8270
				PCBs in solids by 8082
				TPH in solids by 8100
TB-SOIL-1	Solid	2/7/2023 0:00	64495-024	
				Report on Weight As Received basis
				VOCs in solids by 8260 Petro & Haz Waste

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-001
Sample ID: CA-SB-16(16-18)
Matrix: Solid Percent Dry: 87.9% Results expressed on a dry weight basis.
Sampled: 2/6/23 10:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
dichlorodifluoromethane	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
chloromethane	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
vinyl chloride	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
bromomethane	< 0.27	0.27	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
chloroethane	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
trichlorofluoromethane	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
diethyl ether	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
acetone	< 2.7	2.7	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
1,1-dichloroethene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
methylene chloride	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
carbon disulfide	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
methyl t-butyl ether (MTBE)	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
trans-1,2-dichloroethene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
isopropyl ether (DIPE)	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
ethyl t-butyl ether (ETBE)	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
1,1-dichloroethane	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
t-butanol (TBA)	< 2.7	2.7	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
2-butanone (MEK)	< 0.32	0.32	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
2,2-dichloropropane	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
cis-1,2-dichloroethene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
chloroform	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
bromochloromethane	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
tetrahydrofuran (THF)	< 0.54	0.54	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
1,1,1-trichloroethane	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
1,1-dichloropropene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
t-amyl-methyl ether (TAME)	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
carbon tetrachloride	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
1,2-dichloroethane	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
benzene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
trichloroethene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
1,2-dichloropropane	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
bromodichloromethane	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
1,4-dioxane	< 2.7	2.7	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
dibromomethane	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
4-methyl-2-pentanone (MIBK)	< 0.48	0.48	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
cis-1,3-dichloropropene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
toluene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
trans-1,3-dichloropropene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
2-hexanone	< 0.54	0.54	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
1,1,2-trichloroethane	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
1,3-dichloropropane	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
tetrachloroethene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
dibromochloromethane	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-001
Sample ID: CA-SB-16(16-18)
Matrix: Solid Percent Dry: 87.9% Results expressed on a dry weight basis.
Sampled: 2/6/23 10:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
1,2-dibromoethane (EDB)	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
chlorobenzene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
1,1,1,2-tetrachloroethane	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
ethylbenzene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
m&p-xylenes	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
o-xylene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
styrene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
bromoform	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
isopropylbenzene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
1,1,2,2-tetrachloroethane	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
1,2,3-trichloropropane	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
n-propylbenzene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
bromobenzene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
1,3,5-trimethylbenzene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
2-chlorotoluene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
4-chlorotoluene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
tert-butylbenzene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
1,2,4-trimethylbenzene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
sec-butylbenzene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
1,3-dichlorobenzene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
4-isopropyltoluene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
1,4-dichlorobenzene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
1,2-dichlorobenzene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
n-butylbenzene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
1,2-dibromo-3-chloropropane (DBCP)	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
1,2,4-trichlorobenzene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
1,3,5-trichlorobenzene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
hexachlorobutadiene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
naphthalene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
1,2,3-trichlorobenzene	< 0.11	0.11	ug/g	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
Surrogate Recovery		**Limits**								
dibromofluoromethane SUR	**96**	78-114	%	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
toluene-D8 SUR	**97**	88-110	%	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
4-bromofluorobenzene SUR	**103**	86-115	%	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D
a,a,a-trifluorotoluene SUR	**111**	70-130	%	1	LMM	2/14/23	15951	2/14/23	20:06	SW5035A8260D

Project ID: WW Cross 21001639
Job ID: 64495

Sample#: 64495-002
Sample ID: SB-DUP-3(16-18)
Matrix: Solid Percent Dry: 87.4% Results expressed on a dry weight basis.
Sampled: 2/6/23 10:02

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
dichlorodifluoromethane	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
chloromethane	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
vinyl chloride	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
bromomethane	< 0.24	0.24	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
chloroethane	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
trichlorofluoromethane	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
diethyl ether	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
acetone	< 2.4	2.4	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
1,1-dichloroethene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
methylene chloride	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
carbon disulfide	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
methyl t-butyl ether (MTBE)	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
trans-1,2-dichloroethene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
isopropyl ether (DIPE)	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
ethyl t-butyl ether (ETBE)	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
1,1-dichloroethane	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
t-butanol (TBA)	< 2.4	2.4	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
2-butanone (MEK)	< 0.29	0.29	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
2,2-dichloropropane	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
cis-1,2-dichloroethene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
chloroform	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
bromochloromethane	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
tetrahydrofuran (THF)	< 0.48	0.48	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
1,1,1-trichloroethane	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
1,1-dichloropropene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
t-amyl-methyl ether (TAME)	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
carbon tetrachloride	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
1,2-dichloroethane	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
benzene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
trichloroethene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
1,2-dichloropropane	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
bromodichloromethane	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
1,4-dioxane	< 2.4	2.4	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
dibromomethane	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
4-methyl-2-pentanone (MIBK)	< 0.43	0.43	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
cis-1,3-dichloropropene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
toluene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
trans-1,3-dichloropropene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
2-hexanone	< 0.48	0.48	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
1,1,2-trichloroethane	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
1,3-dichloropropane	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
tetrachloroethene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
dibromochloromethane	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-002
Sample ID: SB-DUP-3(16-18)
Matrix: Solid Percent Dry: 87.4% Results expressed on a dry weight basis.
Sampled: 2/6/23 10:02

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
1,2-dibromoethane (EDB)	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
chlorobenzene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
1,1,1,2-tetrachloroethane	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
ethylbenzene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
m&p-xylenes	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
o-xylene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
styrene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
bromoform	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
isopropylbenzene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
1,1,2,2-tetrachloroethane	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
1,2,3-trichloropropane	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
n-propylbenzene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
bromobenzene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
1,3,5-trimethylbenzene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
2-chlorotoluene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
4-chlorotoluene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
tert-butylbenzene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
1,2,4-trimethylbenzene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
sec-butylbenzene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
1,3-dichlorobenzene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
4-isopropyltoluene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
1,4-dichlorobenzene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
1,2-dichlorobenzene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
n-butylbenzene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
1,2-dibromo-3-chloropropane (DBCP)	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
1,2,4-trichlorobenzene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
1,3,5-trichlorobenzene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
hexachlorobutadiene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
naphthalene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
1,2,3-trichlorobenzene	< 0.095	0.095	ug/g	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
Surrogate Recovery		**Limits**								
dibromofluoromethane SUR	**97**	78-114	%	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
toluene-D8 SUR	**97**	88-110	%	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
4-bromofluorobenzene SUR	**97**	86-115	%	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D
a,a,a-trifluorotoluene SUR	**105**	70-130	%	1	LMM	2/14/23	15951	2/14/23	20:37	SW5035A8260D

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-024
Sample ID: TB-SOIL-1
Matrix: Solid Results expressed on a weight as received basis.
Sampled: 2/7/23 0:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
dichlorodifluoromethane	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
chloromethane	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
vinyl chloride	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
bromomethane	< 0.25	0.25	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
chloroethane	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
trichlorofluoromethane	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
diethyl ether	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
acetone	< 2.5	2.5	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
1,1-dichloroethene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
methylene chloride	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
carbon disulfide	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
methyl t-butyl ether (MTBE)	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
trans-1,2-dichloroethene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
isopropyl ether (DIPE)	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
ethyl t-butyl ether (ETBE)	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
1,1-dichloroethane	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
t-butanol (TBA)	< 2.5	2.5	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
2-butanone (MEK)	< 0.30	0.30	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
2,2-dichloropropane	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
cis-1,2-dichloroethene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
chloroform	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
bromochloromethane	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
tetrahydrofuran (THF)	< 0.50	0.50	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
1,1,1-trichloroethane	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
1,1-dichloropropene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
t-amyl-methyl ether (TAME)	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
carbon tetrachloride	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
1,2-dichloroethane	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
benzene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
trichloroethene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
1,2-dichloropropane	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
bromodichloromethane	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
1,4-dioxane	< 2.5	2.5	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
dibromomethane	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
4-methyl-2-pentanone (MIBK)	< 0.45	0.45	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
cis-1,3-dichloropropene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
toluene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
trans-1,3-dichloropropene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
2-hexanone	< 0.50	0.50	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
1,1,2-trichloroethane	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
1,3-dichloropropane	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
tetrachloroethene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
dibromochloromethane	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-024
Sample ID: TB-SOIL-1
Matrix: Solid Results expressed on a weight as received basis.
Sampled: 2/7/23 0:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
1,2-dibromoethane (EDB)	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
chlorobenzene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
1,1,1,2-tetrachloroethane	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
ethylbenzene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
m&p-xylenes	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
o-xylene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
styrene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
bromoform	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
isopropylbenzene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
1,1,2,2-tetrachloroethane	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
1,2,3-trichloropropane	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
n-propylbenzene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
bromobenzene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
1,3,5-trimethylbenzene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
2-chlorotoluene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
4-chlorotoluene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
tert-butylbenzene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
1,2,4-trimethylbenzene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
sec-butylbenzene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
1,3-dichlorobenzene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
4-isopropyltoluene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
1,4-dichlorobenzene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
1,2-dichlorobenzene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
n-butylbenzene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
1,2-dibromo-3-chloropropane (DBCP)	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
1,2,4-trichlorobenzene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
1,3,5-trichlorobenzene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
hexachlorobutadiene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
naphthalene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
1,2,3-trichlorobenzene	< 0.10	0.10	ug/g	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
Surrogate Recovery		**Limits**								
dibromofluoromethane SUR	**98**	78-114	%	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
toluene-D8 SUR	**96**	88-110	%	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
4-bromofluorobenzene SUR	**102**	86-115	%	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D
a,a,a-trifluorotoluene SUR	**98**	70-130	%	1	LMM	2/14/23	15951	2/14/23	19:35	SW5035A8260D

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-004
Sample ID: CA-SB-27(0-2)
Matrix: Solid Percent Dry: 86.6% Results expressed on a dry weight basis.
Sampled: 2/6/23 12:55

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.53	0.53	ug/g	1	CL	2/14/23	15953	2/15/23	18:03	SW3550C8270E
2-methylnaphthalene	< 0.53	0.53	ug/g	1	CL	2/14/23	15953	2/15/23	18:03	SW3550C8270E
acenaphthylene	< 0.53	0.53	ug/g	1	CL	2/14/23	15953	2/15/23	18:03	SW3550C8270E
acenaphthene	< 0.53	0.53	ug/g	1	CL	2/14/23	15953	2/15/23	18:03	SW3550C8270E
dibenzofuran	< 0.53	0.53	ug/g	1	CL	2/14/23	15953	2/15/23	18:03	SW3550C8270E
fluorene	< 0.53	0.53	ug/g	1	CL	2/14/23	15953	2/15/23	18:03	SW3550C8270E
phenanthrene	< 0.53	0.53	ug/g	1	CL	2/14/23	15953	2/15/23	18:03	SW3550C8270E
anthracene	< 0.53	0.53	ug/g	1	CL	2/14/23	15953	2/15/23	18:03	SW3550C8270E
fluoranthene	< 0.53	0.53	ug/g	1	CL	2/14/23	15953	2/15/23	18:03	SW3550C8270E
pyrene	< 0.53	0.53	ug/g	1	CL	2/14/23	15953	2/15/23	18:03	SW3550C8270E
benzo(a)anthracene	< 0.53	0.53	ug/g	1	CL	2/14/23	15953	2/15/23	18:03	SW3550C8270E
chrysene	< 0.42	0.42	ug/g	1	CL	2/14/23	15953	2/15/23	18:03	SW3550C8270E
benzo(b)fluoranthene	< 0.53	0.53	ug/g	1	CL	2/14/23	15953	2/15/23	18:03	SW3550C8270E
benzo(k)fluoranthene	< 0.53	0.53	ug/g	1	CL	2/14/23	15953	2/15/23	18:03	SW3550C8270E
benzo(a)pyrene	< 0.42	0.42	ug/g	1	CL	2/14/23	15953	2/15/23	18:03	SW3550C8270E
indeno(1,2,3-cd)pyrene	< 0.53	0.53	ug/g	1	CL	2/14/23	15953	2/15/23	18:03	SW3550C8270E
dibenzo(a,h)anthracene	< 0.42	0.42	ug/g	1	CL	2/14/23	15953	2/15/23	18:03	SW3550C8270E
benzo(g,h,i)perylene	< 0.53	0.53	ug/g	1	CL	2/14/23	15953	2/15/23	18:03	SW3550C8270E
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**96**	43-116	%	1	CL	2/14/23	15953	2/15/23	18:03	SW3550C8270E
o-terphenyl SUR	**100**	33-141	%	1	CL	2/14/23	15953	2/15/23	18:03	SW3550C8270E

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-005
Sample ID: CA-SB-25(0-2)
Matrix: Solid Percent Dry: 88.4% Results expressed on a dry weight basis.
Sampled: 2/6/23 13:05

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.52	0.52	ug/g	1	CL	2/14/23	15953	2/15/23	18:34	SW3550C8270E
2-methylnaphthalene	< 0.52	0.52	ug/g	1	CL	2/14/23	15953	2/15/23	18:34	SW3550C8270E
acenaphthylene	< 0.52	0.52	ug/g	1	CL	2/14/23	15953	2/15/23	18:34	SW3550C8270E
acenaphthene	< 0.52	0.52	ug/g	1	CL	2/14/23	15953	2/15/23	18:34	SW3550C8270E
dibenzofuran	< 0.52	0.52	ug/g	1	CL	2/14/23	15953	2/15/23	18:34	SW3550C8270E
fluorene	< 0.52	0.52	ug/g	1	CL	2/14/23	15953	2/15/23	18:34	SW3550C8270E
phenanthrene	< 0.52	0.52	ug/g	1	CL	2/14/23	15953	2/15/23	18:34	SW3550C8270E
anthracene	< 0.52	0.52	ug/g	1	CL	2/14/23	15953	2/15/23	18:34	SW3550C8270E
fluoranthene	< 0.52	0.52	ug/g	1	CL	2/14/23	15953	2/15/23	18:34	SW3550C8270E
pyrene	< 0.52	0.52	ug/g	1	CL	2/14/23	15953	2/15/23	18:34	SW3550C8270E
benzo(a)anthracene	< 0.52	0.52	ug/g	1	CL	2/14/23	15953	2/15/23	18:34	SW3550C8270E
chrysene	< 0.41	0.41	ug/g	1	CL	2/14/23	15953	2/15/23	18:34	SW3550C8270E
benzo(b)fluoranthene	< 0.52	0.52	ug/g	1	CL	2/14/23	15953	2/15/23	18:34	SW3550C8270E
benzo(k)fluoranthene	< 0.52	0.52	ug/g	1	CL	2/14/23	15953	2/15/23	18:34	SW3550C8270E
benzo(a)pyrene	< 0.41	0.41	ug/g	1	CL	2/14/23	15953	2/15/23	18:34	SW3550C8270E
indeno(1,2,3-cd)pyrene	< 0.52	0.52	ug/g	1	CL	2/14/23	15953	2/15/23	18:34	SW3550C8270E
dibenzo(a,h)anthracene	< 0.41	0.41	ug/g	1	CL	2/14/23	15953	2/15/23	18:34	SW3550C8270E
benzo(g,h,i)perylene	< 0.52	0.52	ug/g	1	CL	2/14/23	15953	2/15/23	18:34	SW3550C8270E
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**122***	43-116	%	1	CL	2/14/23	15953	2/15/23	18:34	SW3550C8270E
o-terphenyl SUR	**130**	33-141	%	1	CL	2/14/23	15953	2/15/23	18:34	SW3550C8270E

**** This surrogate is above the acceptance criteria. Since no targets were detected above the quantitation limit, there is no impact to the data.***

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-006
Sample ID: CA-SB-26(0-2)
Matrix: Solid Percent Dry: 92% Results expressed on a dry weight basis.
Sampled: 2/6/23 13:15

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	19:05	SW3550C8270E
2-methylnaphthalene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	19:05	SW3550C8270E
acenaphthylene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	19:05	SW3550C8270E
acenaphthene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	19:05	SW3550C8270E
dibenzofuran	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	19:05	SW3550C8270E
fluorene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	19:05	SW3550C8270E
phenanthrene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	19:05	SW3550C8270E
anthracene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	19:05	SW3550C8270E
fluoranthene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	19:05	SW3550C8270E
pyrene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	19:05	SW3550C8270E
benzo(a)anthracene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	19:05	SW3550C8270E
chrysene	< 0.40	0.40	ug/g	1	CL	2/14/23	15953	2/15/23	19:05	SW3550C8270E
benzo(b)fluoranthene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	19:05	SW3550C8270E
benzo(k)fluoranthene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	19:05	SW3550C8270E
benzo(a)pyrene	< 0.40	0.40	ug/g	1	CL	2/14/23	15953	2/15/23	19:05	SW3550C8270E
indeno(1,2,3-cd)pyrene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	19:05	SW3550C8270E
dibenzo(a,h)anthracene	< 0.40	0.40	ug/g	1	CL	2/14/23	15953	2/15/23	19:05	SW3550C8270E
benzo(g,h,i)perylene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	19:05	SW3550C8270E
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**96**	43-116	%	1	CL	2/14/23	15953	2/15/23	19:05	SW3550C8270E
o-terphenyl SUR	**105**	33-141	%	1	CL	2/14/23	15953	2/15/23	19:05	SW3550C8270E

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-007
Sample ID: CA-SB-24(0-2)
Matrix: Solid Percent Dry: 93.2% Results expressed on a dry weight basis.
Sampled: 2/6/23 13:25

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:07	SW3550C8270E
2-methylnaphthalene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:07	SW3550C8270E
acenaphthylene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:07	SW3550C8270E
acenaphthene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:07	SW3550C8270E
dibenzofuran	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:07	SW3550C8270E
fluorene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:07	SW3550C8270E
phenanthrene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:07	SW3550C8270E
anthracene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:07	SW3550C8270E
fluoranthene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:07	SW3550C8270E
pyrene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:07	SW3550C8270E
benzo(a)anthracene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:07	SW3550C8270E
chrysene	< 0.40	0.40	ug/g	1	CL	2/14/23	15953	2/15/23	20:07	SW3550C8270E
benzo(b)fluoranthene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:07	SW3550C8270E
benzo(k)fluoranthene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:07	SW3550C8270E
benzo(a)pyrene	< 0.40	0.40	ug/g	1	CL	2/14/23	15953	2/15/23	20:07	SW3550C8270E
indeno(1,2,3-cd)pyrene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:07	SW3550C8270E
dibenzo(a,h)anthracene	< 0.40	0.40	ug/g	1	CL	2/14/23	15953	2/15/23	20:07	SW3550C8270E
benzo(g,h,i)perylene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:07	SW3550C8270E
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**105**	43-116	%	1	CL	2/14/23	15953	2/15/23	20:07	SW3550C8270E
o-terphenyl SUR	**111**	33-141	%	1	CL	2/14/23	15953	2/15/23	20:07	SW3550C8270E

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-008
Sample ID: CA-SB-18(0-2)
Matrix: Solid Percent Dry: 88.5% Results expressed on a dry weight basis.
Sampled: 2/6/23 14:05

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	**2.8**	0.52	ug/g	1	CL	2/14/23	15953	2/16/23	19:23	SW3550C8270E
2-methylnaphthalene	**1.8**	0.52	ug/g	1	CL	2/14/23	15953	2/16/23	19:23	SW3550C8270E
acenaphthylene	**0.75**	0.52	ug/g	1	CL	2/14/23	15953	2/16/23	19:23	SW3550C8270E
acenaphthene	< 0.52	0.52	ug/g	1	CL	2/14/23	15953	2/16/23	19:23	SW3550C8270E
dibenzofuran	**1.2**	0.52	ug/g	1	CL	2/14/23	15953	2/16/23	19:23	SW3550C8270E
fluorene	**2.3**	0.52	ug/g	1	CL	2/14/23	15953	2/16/23	19:23	SW3550C8270E
phenanthrene	**12**	0.52	ug/g	1	CL	2/14/23	15953	2/16/23	19:23	SW3550C8270E
anthracene	**1.6**	0.52	ug/g	1	CL	2/14/23	15953	2/16/23	19:23	SW3550C8270E
fluoranthene	**8.6**	0.52	ug/g	1	CL	2/14/23	15953	2/16/23	19:23	SW3550C8270E
pyrene	**7.0**	0.52	ug/g	1	CL	2/14/23	15953	2/16/23	19:23	SW3550C8270E
benzo(a)anthracene	**3.0**	0.52	ug/g	1	CL	2/14/23	15953	2/16/23	19:23	SW3550C8270E
chrysene	**3.3**	0.42	ug/g	1	CL	2/14/23	15953	2/16/23	19:23	SW3550C8270E
benzo(b)fluoranthene	**2.8**	0.52	ug/g	1	CL	2/14/23	15953	2/16/23	19:23	SW3550C8270E
benzo(k)fluoranthene	**2.6**	0.52	ug/g	1	CL	2/14/23	15953	2/16/23	19:23	SW3550C8270E
benzo(a)pyrene	**2.8**	0.42	ug/g	1	CL	2/14/23	15953	2/16/23	19:23	SW3550C8270E
indeno(1,2,3-cd)pyrene	**1.6**	0.52	ug/g	1	CL	2/14/23	15953	2/16/23	19:23	SW3550C8270E
dibenzo(a,h)anthracene	**0.65**	0.42	ug/g	1	CL	2/14/23	15953	2/16/23	19:23	SW3550C8270E
benzo(g,h,i)perylene	**2.0**	0.52	ug/g	1	CL	2/14/23	15953	2/16/23	19:23	SW3550C8270E
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**96**	43-116	%	1	CL	2/14/23	15953	2/16/23	19:23	SW3550C8270E
o-terphenyl SUR	**97**	33-141	%	1	CL	2/14/23	15953	2/16/23	19:23	SW3550C8270E

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-009
Sample ID: CA-SB-19(0-2)
Matrix: Solid Percent Dry: 91.5% Results expressed on a dry weight basis.
Sampled: 2/6/23 14:15

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	1:47	SW3550C8270E
2-methylnaphthalene	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	1:47	SW3550C8270E
acenaphthylene	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	1:47	SW3550C8270E
acenaphthene	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	1:47	SW3550C8270E
dibenzofuran	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	1:47	SW3550C8270E
fluorene	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	1:47	SW3550C8270E
phenanthrene	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	1:47	SW3550C8270E
anthracene	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	1:47	SW3550C8270E
fluoranthene	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	1:47	SW3550C8270E
pyrene	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	1:47	SW3550C8270E
benzo(a)anthracene	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	1:47	SW3550C8270E
chrysene	< 0.41	0.41	ug/g	1	CL	2/14/23	15953	2/16/23	1:47	SW3550C8270E
benzo(b)fluoranthene	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	1:47	SW3550C8270E
benzo(k)fluoranthene	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	1:47	SW3550C8270E
benzo(a)pyrene	< 0.41	0.41	ug/g	1	CL	2/14/23	15953	2/16/23	1:47	SW3550C8270E
indeno(1,2,3-cd)pyrene	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	1:47	SW3550C8270E
dibenzo(a,h)anthracene	< 0.41	0.41	ug/g	1	CL	2/14/23	15953	2/16/23	1:47	SW3550C8270E
benzo(g,h,i)perylene	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	1:47	SW3550C8270E
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**96**	43-116	%	1	CL	2/14/23	15953	2/16/23	1:47	SW3550C8270E
o-terphenyl SUR	**102**	33-141	%	1	CL	2/14/23	15953	2/16/23	1:47	SW3550C8270E

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-010
Sample ID: CA-SB-20(0-2)
Matrix: Solid Percent Dry: 92.3% Results expressed on a dry weight basis.
Sampled: 2/6/23 14:25

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:38	SW3550C8270E
2-methylnaphthalene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:38	SW3550C8270E
acenaphthylene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:38	SW3550C8270E
acenaphthene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:38	SW3550C8270E
dibenzofuran	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:38	SW3550C8270E
fluorene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:38	SW3550C8270E
phenanthrene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:38	SW3550C8270E
anthracene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:38	SW3550C8270E
fluoranthene	**1.1**	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:38	SW3550C8270E
pyrene	**0.82**	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:38	SW3550C8270E
benzo(a)anthracene	**0.55**	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:38	SW3550C8270E
chrysene	**0.64**	0.40	ug/g	1	CL	2/14/23	15953	2/15/23	20:38	SW3550C8270E
benzo(b)fluoranthene	**0.58**	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:38	SW3550C8270E
benzo(k)fluoranthene	**0.61**	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:38	SW3550C8270E
benzo(a)pyrene	**0.63**	0.40	ug/g	1	CL	2/14/23	15953	2/15/23	20:38	SW3550C8270E
indeno(1,2,3-cd)pyrene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:38	SW3550C8270E
dibenzo(a,h)anthracene	< 0.40	0.40	ug/g	1	CL	2/14/23	15953	2/15/23	20:38	SW3550C8270E
benzo(g,h,i)perylene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	20:38	SW3550C8270E
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**116**	43-116	%	1	CL	2/14/23	15953	2/15/23	20:38	SW3550C8270E
o-terphenyl SUR	**126**	33-141	%	1	CL	2/14/23	15953	2/15/23	20:38	SW3550C8270E

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-011
Sample ID: CA-SB-23(0-2)
Matrix: Solid Percent Dry: 89.5% Results expressed on a dry weight basis.
Sampled: 2/6/23 14:40

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	18:21	SW3550C8270E
2-methylnaphthalene	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	18:21	SW3550C8270E
acenaphthylene	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	18:21	SW3550C8270E
acenaphthene	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	18:21	SW3550C8270E
dibenzofuran	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	18:21	SW3550C8270E
fluorene	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	18:21	SW3550C8270E
phenanthrene	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	18:21	SW3550C8270E
anthracene	< 0.51	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	18:21	SW3550C8270E
fluoranthene	**1.2**	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	18:21	SW3550C8270E
pyrene	**1.3**	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	18:21	SW3550C8270E
benzo(a)anthracene	**0.52**	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	18:21	SW3550C8270E
chrysene	**0.82**	0.41	ug/g	1	CL	2/14/23	15953	2/16/23	18:21	SW3550C8270E
benzo(b)fluoranthene	**0.94**	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	18:21	SW3550C8270E
benzo(k)fluoranthene	**0.87**	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	18:21	SW3550C8270E
benzo(a)pyrene	**0.96**	0.41	ug/g	1	CL	2/14/23	15953	2/16/23	18:21	SW3550C8270E
indeno(1,2,3-cd)pyrene	**0.75**	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	18:21	SW3550C8270E
dibenzo(a,h)anthracene	< 0.41	0.41	ug/g	1	CL	2/14/23	15953	2/16/23	18:21	SW3550C8270E
benzo(g,h,i)perylene	**0.85**	0.51	ug/g	1	CL	2/14/23	15953	2/16/23	18:21	SW3550C8270E
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**109**	43-116	%	1	CL	2/14/23	15953	2/16/23	18:21	SW3550C8270E
o-terphenyl SUR	**112**	33-141	%	1	CL	2/14/23	15953	2/16/23	18:21	SW3550C8270E

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-012
Sample ID: CA-SB-22(0-2)
Matrix: Solid Percent Dry: 95.7% Results expressed on a dry weight basis.
Sampled: 2/6/23 14:50

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.48	0.48	ug/g	1	CL	2/14/23	15953	2/17/23	0:31	SW3550C8270E
2-methylnaphthalene	< 0.48	0.48	ug/g	1	CL	2/14/23	15953	2/17/23	0:31	SW3550C8270E
acenaphthylene	**1.5**	0.48	ug/g	1	CL	2/14/23	15953	2/17/23	0:31	SW3550C8270E
acenaphthene	< 0.48	0.48	ug/g	1	CL	2/14/23	15953	2/17/23	0:31	SW3550C8270E
dibenzofuran	**0.87**	0.48	ug/g	1	CL	2/14/23	15953	2/17/23	0:31	SW3550C8270E
fluorene	**1.6**	0.48	ug/g	1	CL	2/14/23	15953	2/17/23	0:31	SW3550C8270E
phenanthrene	**22**	0.48	ug/g	1	CL	2/14/23	15953	2/17/23	0:31	SW3550C8270E
anthracene	**3.2**	0.48	ug/g	1	CL	2/14/23	15953	2/17/23	0:31	SW3550C8270E
fluoranthene	**25**	0.48	ug/g	1	CL	2/14/23	15953	2/17/23	0:31	SW3550C8270E
pyrene	**23**	0.48	ug/g	1	CL	2/14/23	15953	2/17/23	0:31	SW3550C8270E
benzo(a)anthracene	**9.5**	0.48	ug/g	1	CL	2/14/23	15953	2/17/23	0:31	SW3550C8270E
chrysene	**10**	0.39	ug/g	1	CL	2/14/23	15953	2/17/23	0:31	SW3550C8270E
benzo(b)fluoranthene	**8.7**	0.48	ug/g	1	CL	2/14/23	15953	2/17/23	0:31	SW3550C8270E
benzo(k)fluoranthene	**8.7**	0.48	ug/g	1	CL	2/14/23	15953	2/17/23	0:31	SW3550C8270E
benzo(a)pyrene	**8.2**	0.39	ug/g	1	CL	2/14/23	15953	2/17/23	0:31	SW3550C8270E
indeno(1,2,3-cd)pyrene	**6.0**	0.48	ug/g	1	CL	2/14/23	15953	2/17/23	0:31	SW3550C8270E
dibenzo(a,h)anthracene	**2.1**	0.39	ug/g	1	CL	2/14/23	15953	2/17/23	0:31	SW3550C8270E
benzo(g,h,i)perylene	**6.8**	0.48	ug/g	1	CL	2/14/23	15953	2/17/23	0:31	SW3550C8270E
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**90**	43-116	%	1	CL	2/14/23	15953	2/17/23	0:31	SW3550C8270E
o-terphenyl SUR	**96**	33-141	%	1	CL	2/14/23	15953	2/17/23	0:31	SW3550C8270E

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-013
Sample ID: CA-SB-21(0-2)
Matrix: Solid Percent Dry: 91% Results expressed on a dry weight basis.
Sampled: 2/6/23 14:55

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	21:09	SW3550C8270E
2-methylnaphthalene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	21:09	SW3550C8270E
acenaphthylene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	21:09	SW3550C8270E
acenaphthene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	21:09	SW3550C8270E
dibenzofuran	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	21:09	SW3550C8270E
fluorene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	21:09	SW3550C8270E
phenanthrene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	21:09	SW3550C8270E
anthracene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	21:09	SW3550C8270E
fluoranthene	**0.64**	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	21:09	SW3550C8270E
pyrene	**0.56**	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	21:09	SW3550C8270E
benzo(a)anthracene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	21:09	SW3550C8270E
chrysene	**0.42**	0.40	ug/g	1	CL	2/14/23	15953	2/15/23	21:09	SW3550C8270E
benzo(b)fluoranthene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	21:09	SW3550C8270E
benzo(k)fluoranthene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	21:09	SW3550C8270E
benzo(a)pyrene	**0.41**	0.40	ug/g	1	CL	2/14/23	15953	2/15/23	21:09	SW3550C8270E
indeno(1,2,3-cd)pyrene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	21:09	SW3550C8270E
dibenzo(a,h)anthracene	< 0.40	0.40	ug/g	1	CL	2/14/23	15953	2/15/23	21:09	SW3550C8270E
benzo(g,h,i)perylene	< 0.50	0.50	ug/g	1	CL	2/14/23	15953	2/15/23	21:09	SW3550C8270E
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**101**	43-116	%	1	CL	2/14/23	15953	2/15/23	21:09	SW3550C8270E
o-terphenyl SUR	**108**	33-141	%	1	CL	2/14/23	15953	2/15/23	21:09	SW3550C8270E

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-014
Sample ID: B111R(6-8)
Matrix: Solid Percent Dry: 80% Results expressed on a dry weight basis.
Sampled: 2/7/23 9:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.58	0.58	ug/g	1	CL	2/13/23	15947	2/15/23	19:36	SW3550C8270E
2-methylnaphthalene	< 0.58	0.58	ug/g	1	CL	2/13/23	15947	2/15/23	19:36	SW3550C8270E
acenaphthylene	< 0.58	0.58	ug/g	1	CL	2/13/23	15947	2/15/23	19:36	SW3550C8270E
acenaphthene	< 0.58	0.58	ug/g	1	CL	2/13/23	15947	2/15/23	19:36	SW3550C8270E
dibenzofuran	< 0.58	0.58	ug/g	1	CL	2/13/23	15947	2/15/23	19:36	SW3550C8270E
fluorene	< 0.58	0.58	ug/g	1	CL	2/13/23	15947	2/15/23	19:36	SW3550C8270E
phenanthrene	< 0.58	0.58	ug/g	1	CL	2/13/23	15947	2/15/23	19:36	SW3550C8270E
anthracene	< 0.58	0.58	ug/g	1	CL	2/13/23	15947	2/15/23	19:36	SW3550C8270E
fluoranthene	< 0.58	0.58	ug/g	1	CL	2/13/23	15947	2/15/23	19:36	SW3550C8270E
pyrene	< 0.58	0.58	ug/g	1	CL	2/13/23	15947	2/15/23	19:36	SW3550C8270E
benzo(a)anthracene	< 0.58	0.58	ug/g	1	CL	2/13/23	15947	2/15/23	19:36	SW3550C8270E
chrysene	< 0.46	0.46	ug/g	1	CL	2/13/23	15947	2/15/23	19:36	SW3550C8270E
benzo(b)fluoranthene	< 0.58	0.58	ug/g	1	CL	2/13/23	15947	2/15/23	19:36	SW3550C8270E
benzo(k)fluoranthene	< 0.58	0.58	ug/g	1	CL	2/13/23	15947	2/15/23	19:36	SW3550C8270E
benzo(a)pyrene	< 0.46	0.46	ug/g	1	CL	2/13/23	15947	2/15/23	19:36	SW3550C8270E
indeno(1,2,3-cd)pyrene	< 0.58	0.58	ug/g	1	CL	2/13/23	15947	2/15/23	19:36	SW3550C8270E
dibenzo(a,h)anthracene	< 0.46	0.46	ug/g	1	CL	2/13/23	15947	2/15/23	19:36	SW3550C8270E
benzo(g,h,i)perylene	< 0.58	0.58	ug/g	1	CL	2/13/23	15947	2/15/23	19:36	SW3550C8270E
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**67**	43-116	%	1	CL	2/13/23	15947	2/15/23	19:36	SW3550C8270E
o-terphenyl SUR	**73**	33-141	%	1	CL	2/13/23	15947	2/15/23	19:36	SW3550C8270E

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-015
Sample ID: CA-SB-01(0-2)
Matrix: Solid Percent Dry: 94.5% Results expressed on a dry weight basis.
Sampled: 2/7/23 9:10

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	21:40	SW3550C8270E
2-methylnaphthalene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	21:40	SW3550C8270E
acenaphthylene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	21:40	SW3550C8270E
acenaphthene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	21:40	SW3550C8270E
dibenzofuran	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	21:40	SW3550C8270E
fluorene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	21:40	SW3550C8270E
phenanthrene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	21:40	SW3550C8270E
anthracene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	21:40	SW3550C8270E
fluoranthene	**0.93**	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	21:40	SW3550C8270E
pyrene	**0.84**	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	21:40	SW3550C8270E
benzo(a)anthracene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	21:40	SW3550C8270E
chrysene	**0.48**	0.39	ug/g	1	CL	2/13/23	15947	2/15/23	21:40	SW3550C8270E
benzo(b)fluoranthene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	21:40	SW3550C8270E
benzo(k)fluoranthene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	21:40	SW3550C8270E
benzo(a)pyrene	**0.39**	0.39	ug/g	1	CL	2/13/23	15947	2/15/23	21:40	SW3550C8270E
indeno(1,2,3-cd)pyrene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	21:40	SW3550C8270E
dibenzo(a,h)anthracene	< 0.39	0.39	ug/g	1	CL	2/13/23	15947	2/15/23	21:40	SW3550C8270E
benzo(g,h,i)perylene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	21:40	SW3550C8270E
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**92**	43-116	%	1	CL	2/13/23	15947	2/15/23	21:40	SW3550C8270E
o-terphenyl SUR	**97**	33-141	%	1	CL	2/13/23	15947	2/15/23	21:40	SW3550C8270E

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-016
Sample ID: SB-DUP-1(0-2)
Matrix: Solid Percent Dry: 93.8% Results expressed on a dry weight basis.
Sampled: 2/7/23 9:12

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	22:11	SW3550C8270E
2-methylnaphthalene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	22:11	SW3550C8270E
acenaphthylene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	22:11	SW3550C8270E
acenaphthene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	22:11	SW3550C8270E
dibenzofuran	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	22:11	SW3550C8270E
fluorene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	22:11	SW3550C8270E
phenanthrene	**0.79**	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	22:11	SW3550C8270E
anthracene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	22:11	SW3550C8270E
fluoranthene	**1.5**	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	22:11	SW3550C8270E
pyrene	**1.3**	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	22:11	SW3550C8270E
benzo(a)anthracene	**0.57**	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	22:11	SW3550C8270E
chrysene	**0.67**	0.39	ug/g	1	CL	2/13/23	15947	2/15/23	22:11	SW3550C8270E
benzo(b)fluoranthene	**0.54**	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	22:11	SW3550C8270E
benzo(k)fluoranthene	**0.56**	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	22:11	SW3550C8270E
benzo(a)pyrene	**0.56**	0.39	ug/g	1	CL	2/13/23	15947	2/15/23	22:11	SW3550C8270E
indeno(1,2,3-cd)pyrene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	22:11	SW3550C8270E
dibenzo(a,h)anthracene	< 0.39	0.39	ug/g	1	CL	2/13/23	15947	2/15/23	22:11	SW3550C8270E
benzo(g,h,i)perylene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/15/23	22:11	SW3550C8270E
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**85**	43-116	%	1	CL	2/13/23	15947	2/15/23	22:11	SW3550C8270E
o-terphenyl SUR	**91**	33-141	%	1	CL	2/13/23	15947	2/15/23	22:11	SW3550C8270E

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-017
Sample ID: CA-SB-02(0-2)
Matrix: Solid Percent Dry: 96.1% Results expressed on a dry weight basis.
Sampled: 2/7/23 9:25

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	18:52	SW3550C8270E
2-methylnaphthalene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	18:52	SW3550C8270E
acenaphthylene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	18:52	SW3550C8270E
acenaphthene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	18:52	SW3550C8270E
dibenzofuran	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	18:52	SW3550C8270E
fluorene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	18:52	SW3550C8270E
phenanthrene	**4.0**	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	18:52	SW3550C8270E
anthracene	**0.79**	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	18:52	SW3550C8270E
fluoranthene	**8.6**M	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	18:52	SW3550C8270E
pyrene	**6.8**	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	18:52	SW3550C8270E
benzo(a)anthracene	**3.9**	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	18:52	SW3550C8270E
chrysene	**4.2**	0.39	ug/g	1	CL	2/13/23	15947	2/16/23	18:52	SW3550C8270E
benzo(b)fluoranthene	**4.5**M	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	18:52	SW3550C8270E
benzo(k)fluoranthene	**3.5**	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	18:52	SW3550C8270E
benzo(a)pyrene	**3.7**	0.39	ug/g	1	CL	2/13/23	15947	2/16/23	18:52	SW3550C8270E
indeno(1,2,3-cd)pyrene	**2.2**	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	18:52	SW3550C8270E
dibenzo(a,h)anthracene	**0.64**	0.39	ug/g	1	CL	2/13/23	15947	2/16/23	18:52	SW3550C8270E
benzo(g,h,i)perylene	**2.3**	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	18:52	SW3550C8270E
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**99**	43-116	%	1	CL	2/13/23	15947	2/16/23	18:52	SW3550C8270E
o-terphenyl SUR	**104**	33-141	%	1	CL	2/13/23	15947	2/16/23	18:52	SW3550C8270E

M = The percent recovery in the matrix spike was outside acceptance criteria.

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-018
Sample ID: B117R(2-4)
Matrix: Solid Percent Dry: 90.1% Results expressed on a dry weight basis.
Sampled: 2/7/23 10:25

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.51	0.51	ug/g	1	CL	2/13/23	15947	2/16/23	17:50	SW3550C8270E
2-methylnaphthalene	< 0.51	0.51	ug/g	1	CL	2/13/23	15947	2/16/23	17:50	SW3550C8270E
acenaphthylene	< 0.51	0.51	ug/g	1	CL	2/13/23	15947	2/16/23	17:50	SW3550C8270E
acenaphthene	< 0.51	0.51	ug/g	1	CL	2/13/23	15947	2/16/23	17:50	SW3550C8270E
dibenzofuran	< 0.51	0.51	ug/g	1	CL	2/13/23	15947	2/16/23	17:50	SW3550C8270E
fluorene	< 0.51	0.51	ug/g	1	CL	2/13/23	15947	2/16/23	17:50	SW3550C8270E
phenanthrene	**3.5**	0.51	ug/g	1	CL	2/13/23	15947	2/16/23	17:50	SW3550C8270E
anthracene	**0.82**	0.51	ug/g	1	CL	2/13/23	15947	2/16/23	17:50	SW3550C8270E
fluoranthene	**6.8**	0.51	ug/g	1	CL	2/13/23	15947	2/16/23	17:50	SW3550C8270E
pyrene	**5.0**	0.51	ug/g	1	CL	2/13/23	15947	2/16/23	17:50	SW3550C8270E
benzo(a)anthracene	**2.4**	0.51	ug/g	1	CL	2/13/23	15947	2/16/23	17:50	SW3550C8270E
chrysene	**2.3**	0.41	ug/g	1	CL	2/13/23	15947	2/16/23	17:50	SW3550C8270E
benzo(b)fluoranthene	**1.6**	0.51	ug/g	1	CL	2/13/23	15947	2/16/23	17:50	SW3550C8270E
benzo(k)fluoranthene	**1.7**	0.51	ug/g	1	CL	2/13/23	15947	2/16/23	17:50	SW3550C8270E
benzo(a)pyrene	**2.0**	0.41	ug/g	1	CL	2/13/23	15947	2/16/23	17:50	SW3550C8270E
indeno(1,2,3-cd)pyrene	**1.0**	0.51	ug/g	1	CL	2/13/23	15947	2/16/23	17:50	SW3550C8270E
dibenzo(a,h)anthracene	< 0.41	0.41	ug/g	1	CL	2/13/23	15947	2/16/23	17:50	SW3550C8270E
benzo(g,h,i)perylene	**1.2**	0.51	ug/g	1	CL	2/13/23	15947	2/16/23	17:50	SW3550C8270E
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**93**	43-116	%	1	CL	2/13/23	15947	2/16/23	17:50	SW3550C8270E
o-terphenyl SUR	**97**	33-141	%	1	CL	2/13/23	15947	2/16/23	17:50	SW3550C8270E

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-019
Sample ID: CA-SB-05(0-2)
Matrix: Solid Percent Dry: 95.6% Results expressed on a dry weight basis.
Sampled: 2/7/23 10:50

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/16/23	3:51	SW3550C8270E
2-methylnaphthalene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/16/23	3:51	SW3550C8270E
acenaphthylene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/16/23	3:51	SW3550C8270E
acenaphthene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/16/23	3:51	SW3550C8270E
dibenzofuran	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/16/23	3:51	SW3550C8270E
fluorene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/16/23	3:51	SW3550C8270E
phenanthrene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/16/23	3:51	SW3550C8270E
anthracene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/16/23	3:51	SW3550C8270E
fluoranthene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/16/23	3:51	SW3550C8270E
pyrene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/16/23	3:51	SW3550C8270E
benzo(a)anthracene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/16/23	3:51	SW3550C8270E
chrysene	< 0.39	0.39	ug/g	1	CL	2/13/23	15947	2/16/23	3:51	SW3550C8270E
benzo(b)fluoranthene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/16/23	3:51	SW3550C8270E
benzo(k)fluoranthene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/16/23	3:51	SW3550C8270E
benzo(a)pyrene	< 0.39	0.39	ug/g	1	CL	2/13/23	15947	2/16/23	3:51	SW3550C8270E
indeno(1,2,3-cd)pyrene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/16/23	3:51	SW3550C8270E
dibenzo(a,h)anthracene	< 0.39	0.39	ug/g	1	CL	2/13/23	15947	2/16/23	3:51	SW3550C8270E
benzo(g,h,i)perylene	< 0.49	0.49	ug/g	1	CL	2/13/23	15947	2/16/23	3:51	SW3550C8270E
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**80**	43-116	%	1	CL	2/13/23	15947	2/16/23	3:51	SW3550C8270E
o-terphenyl SUR	**86**	33-141	%	1	CL	2/13/23	15947	2/16/23	3:51	SW3550C8270E

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-020
Sample ID: CA-SB-06(0-2)
Matrix: Solid Percent Dry: 96.2% Results expressed on a dry weight basis.
Sampled: 2/7/23 11:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:22	SW3550C8270E
2-methylnaphthalene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:22	SW3550C8270E
acenaphthylene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:22	SW3550C8270E
acenaphthene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:22	SW3550C8270E
dibenzofuran	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:22	SW3550C8270E
fluorene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:22	SW3550C8270E
phenanthrene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:22	SW3550C8270E
anthracene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:22	SW3550C8270E
fluoranthene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:22	SW3550C8270E
pyrene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:22	SW3550C8270E
benzo(a)anthracene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:22	SW3550C8270E
chrysene	< 0.39	0.39	ug/g	1	CL	2/13/23	15947	2/16/23	4:22	SW3550C8270E
benzo(b)fluoranthene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:22	SW3550C8270E
benzo(k)fluoranthene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:22	SW3550C8270E
benzo(a)pyrene	< 0.39	0.39	ug/g	1	CL	2/13/23	15947	2/16/23	4:22	SW3550C8270E
indeno(1,2,3-cd)pyrene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:22	SW3550C8270E
dibenzo(a,h)anthracene	< 0.39	0.39	ug/g	1	CL	2/13/23	15947	2/16/23	4:22	SW3550C8270E
benzo(g,h,i)perylene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:22	SW3550C8270E
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**93**	43-116	%	1	CL	2/13/23	15947	2/16/23	4:22	SW3550C8270E
o-terphenyl SUR	**101**	33-141	%	1	CL	2/13/23	15947	2/16/23	4:22	SW3550C8270E

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-021
Sample ID: CA-SB-07(0-2)
Matrix: Solid Percent Dry: 95.3% Results expressed on a dry weight basis.
Sampled: 2/7/23 11:15

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:53	SW3550C8270E
2-methylnaphthalene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:53	SW3550C8270E
acenaphthylene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:53	SW3550C8270E
acenaphthene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:53	SW3550C8270E
dibenzofuran	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:53	SW3550C8270E
fluorene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:53	SW3550C8270E
phenanthrene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:53	SW3550C8270E
anthracene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:53	SW3550C8270E
fluoranthene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:53	SW3550C8270E
pyrene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:53	SW3550C8270E
benzo(a)anthracene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:53	SW3550C8270E
chrysene	< 0.38	0.38	ug/g	1	CL	2/13/23	15947	2/16/23	4:53	SW3550C8270E
benzo(b)fluoranthene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:53	SW3550C8270E
benzo(k)fluoranthene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:53	SW3550C8270E
benzo(a)pyrene	< 0.38	0.38	ug/g	1	CL	2/13/23	15947	2/16/23	4:53	SW3550C8270E
indeno(1,2,3-cd)pyrene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:53	SW3550C8270E
dibenzo(a,h)anthracene	< 0.38	0.38	ug/g	1	CL	2/13/23	15947	2/16/23	4:53	SW3550C8270E
benzo(g,h,i)perylene	< 0.48	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	4:53	SW3550C8270E
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**86**	43-116	%	1	CL	2/13/23	15947	2/16/23	4:53	SW3550C8270E
o-terphenyl SUR	**93**	33-141	%	1	CL	2/13/23	15947	2/16/23	4:53	SW3550C8270E

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-022
Sample ID: CA-SB-04(0-2)
Matrix: Solid Percent Dry: 87.5% Results expressed on a dry weight basis.
Sampled: 2/7/23 11:40

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.53	0.53	ug/g	1	CL	2/13/23	15947	2/16/23	5:24	SW3550C8270E
2-methylnaphthalene	< 0.53	0.53	ug/g	1	CL	2/13/23	15947	2/16/23	5:24	SW3550C8270E
acenaphthylene	< 0.53	0.53	ug/g	1	CL	2/13/23	15947	2/16/23	5:24	SW3550C8270E
acenaphthene	< 0.53	0.53	ug/g	1	CL	2/13/23	15947	2/16/23	5:24	SW3550C8270E
dibenzofuran	< 0.53	0.53	ug/g	1	CL	2/13/23	15947	2/16/23	5:24	SW3550C8270E
fluorene	< 0.53	0.53	ug/g	1	CL	2/13/23	15947	2/16/23	5:24	SW3550C8270E
phenanthrene	< 0.53	0.53	ug/g	1	CL	2/13/23	15947	2/16/23	5:24	SW3550C8270E
anthracene	< 0.53	0.53	ug/g	1	CL	2/13/23	15947	2/16/23	5:24	SW3550C8270E
fluoranthene	< 0.53	0.53	ug/g	1	CL	2/13/23	15947	2/16/23	5:24	SW3550C8270E
pyrene	< 0.53	0.53	ug/g	1	CL	2/13/23	15947	2/16/23	5:24	SW3550C8270E
benzo(a)anthracene	< 0.53	0.53	ug/g	1	CL	2/13/23	15947	2/16/23	5:24	SW3550C8270E
chrysene	< 0.43	0.43	ug/g	1	CL	2/13/23	15947	2/16/23	5:24	SW3550C8270E
benzo(b)fluoranthene	< 0.53	0.53	ug/g	1	CL	2/13/23	15947	2/16/23	5:24	SW3550C8270E
benzo(k)fluoranthene	< 0.53	0.53	ug/g	1	CL	2/13/23	15947	2/16/23	5:24	SW3550C8270E
benzo(a)pyrene	< 0.43	0.43	ug/g	1	CL	2/13/23	15947	2/16/23	5:24	SW3550C8270E
indeno(1,2,3-cd)pyrene	< 0.53	0.53	ug/g	1	CL	2/13/23	15947	2/16/23	5:24	SW3550C8270E
dibenzo(a,h)anthracene	< 0.43	0.43	ug/g	1	CL	2/13/23	15947	2/16/23	5:24	SW3550C8270E
benzo(g,h,i)perylene	< 0.53	0.53	ug/g	1	CL	2/13/23	15947	2/16/23	5:24	SW3550C8270E
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**89**	43-116	%	1	CL	2/13/23	15947	2/16/23	5:24	SW3550C8270E
o-terphenyl SUR	**94**	33-141	%	1	CL	2/13/23	15947	2/16/23	5:24	SW3550C8270E

Project ID: WW Cross 21001639
Job ID: 64495
Sample#: 64495-023
Sample ID: CA-SB-03(0-2)
Matrix: Solid Percent Dry: 95.7% Results expressed on a dry weight basis.
Sampled: 2/7/23 11:50

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	**0.83**	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	19:54	SW3550C8270E
2-methylnaphthalene	**0.88**	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	19:54	SW3550C8270E
acenaphthylene	**0.98**	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	19:54	SW3550C8270E
acenaphthene	**0.48**	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	19:54	SW3550C8270E
dibenzofuran	**0.96**	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	19:54	SW3550C8270E
fluorene	**2.1**	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	19:54	SW3550C8270E
phenanthrene	**14**	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	19:54	SW3550C8270E
anthracene	**2.1**	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	19:54	SW3550C8270E
fluoranthene	**12**	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	19:54	SW3550C8270E
pyrene	**10**	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	19:54	SW3550C8270E
benzo(a)anthracene	**4.5**	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	19:54	SW3550C8270E
chrysene	**5.1**	0.38	ug/g	1	CL	2/13/23	15947	2/16/23	19:54	SW3550C8270E
benzo(b)fluoranthene	**4.0**	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	19:54	SW3550C8270E
benzo(k)fluoranthene	**3.8**	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	19:54	SW3550C8270E
benzo(a)pyrene	**4.0**	0.38	ug/g	1	CL	2/13/23	15947	2/16/23	19:54	SW3550C8270E
indeno(1,2,3-cd)pyrene	**2.6**	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	19:54	SW3550C8270E
dibenzo(a,h)anthracene	**0.91**	0.38	ug/g	1	CL	2/13/23	15947	2/16/23	19:54	SW3550C8270E
benzo(g,h,i)perylene	**3.1**	0.48	ug/g	1	CL	2/13/23	15947	2/16/23	19:54	SW3550C8270E
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**96**	43-116	%	1	CL	2/13/23	15947	2/16/23	19:54	SW3550C8270E
o-terphenyl SUR	**101**	33-141	%	1	CL	2/13/23	15947	2/16/23	19:54	SW3550C8270E

Project ID: WW Cross 21001639
Job ID: 64495

Sample#: 64495-014
Sample ID: B111R(6-8)
Matrix: Solid Percent Dry: 80% Results expressed on a dry weight basis.
Sampled: 2/7/23 9:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.11	0.11	ug/g	1	ACA	2/14/23	15954	2/15/23	17:50	SW3546/8082A
PCB-1221	< 0.11	0.11	ug/g	1	ACA	2/14/23	15954	2/15/23	17:50	SW3546/8082A
PCB-1232	< 0.11	0.11	ug/g	1	ACA	2/14/23	15954	2/15/23	17:50	SW3546/8082A
PCB-1242	< 0.11	0.11	ug/g	1	ACA	2/14/23	15954	2/15/23	17:50	SW3546/8082A
PCB-1248	< 0.11	0.11	ug/g	1	ACA	2/14/23	15954	2/15/23	17:50	SW3546/8082A
PCB-1254	< 0.11	0.11	ug/g	1	ACA	2/14/23	15954	2/15/23	17:50	SW3546/8082A
PCB-1260	< 0.11	0.11	ug/g	1	ACA	2/14/23	15954	2/15/23	17:50	SW3546/8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**53**	30-150	%	1	ACA	2/14/23	15954	2/15/23	17:50	SW3546/8082A
decachlorobiphenyl SUR	**58**	30-150	%	1	ACA	2/14/23	15954	2/15/23	17:50	SW3546/8082A

Sample#: 64495-015
Sample ID: CA-SB-01(0-2)
Matrix: Solid Percent Dry: 94.5% Results expressed on a dry weight basis.
Sampled: 2/7/23 9:10

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.090	0.090	ug/g	1	ACA	2/14/23	15954	2/15/23	18:03	SW3546/8082A
PCB-1221	< 0.090	0.090	ug/g	1	ACA	2/14/23	15954	2/15/23	18:03	SW3546/8082A
PCB-1232	< 0.090	0.090	ug/g	1	ACA	2/14/23	15954	2/15/23	18:03	SW3546/8082A
PCB-1242	< 0.090	0.090	ug/g	1	ACA	2/14/23	15954	2/15/23	18:03	SW3546/8082A
PCB-1248	< 0.090	0.090	ug/g	1	ACA	2/14/23	15954	2/15/23	18:03	SW3546/8082A
PCB-1254	< 0.090	0.090	ug/g	1	ACA	2/14/23	15954	2/15/23	18:03	SW3546/8082A
PCB-1260	< 0.090	0.090	ug/g	1	ACA	2/14/23	15954	2/15/23	18:03	SW3546/8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**84**	30-150	%	1	ACA	2/14/23	15954	2/15/23	18:03	SW3546/8082A
decachlorobiphenyl SUR	**90**	30-150	%	1	ACA	2/14/23	15954	2/15/23	18:03	SW3546/8082A

Project ID: WW Cross 21001639
Job ID: 64495

Sample#: 64495-016
Sample ID: SB-DUP-1(0-2)
Matrix: Solid Percent Dry: 93.8% Results expressed on a dry weight basis.
Sampled: 2/7/23 9:12

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.095	0.095	ug/g	1	ACA	2/14/23	15954	2/15/23	18:16	SW3546/8082A
PCB-1221	< 0.095	0.095	ug/g	1	ACA	2/14/23	15954	2/15/23	18:16	SW3546/8082A
PCB-1232	< 0.095	0.095	ug/g	1	ACA	2/14/23	15954	2/15/23	18:16	SW3546/8082A
PCB-1242	< 0.095	0.095	ug/g	1	ACA	2/14/23	15954	2/15/23	18:16	SW3546/8082A
PCB-1248	< 0.095	0.095	ug/g	1	ACA	2/14/23	15954	2/15/23	18:16	SW3546/8082A
PCB-1254	< 0.095	0.095	ug/g	1	ACA	2/14/23	15954	2/15/23	18:16	SW3546/8082A
PCB-1260	< 0.095	0.095	ug/g	1	ACA	2/14/23	15954	2/15/23	18:16	SW3546/8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**89**	30-150	%	1	ACA	2/14/23	15954	2/15/23	18:16	SW3546/8082A
decachlorobiphenyl SUR	**100**	30-150	%	1	ACA	2/14/23	15954	2/15/23	18:16	SW3546/8082A

Sample#: 64495-017
Sample ID: CA-SB-02(0-2)
Matrix: Solid Percent Dry: 96.1% Results expressed on a dry weight basis.
Sampled: 2/7/23 9:25

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.091	0.091	ug/g	1	ACA	2/14/23	15954	2/15/23	18:29	SW3546/8082A
PCB-1221	< 0.091	0.091	ug/g	1	ACA	2/14/23	15954	2/15/23	18:29	SW3546/8082A
PCB-1232	< 0.091	0.091	ug/g	1	ACA	2/14/23	15954	2/15/23	18:29	SW3546/8082A
PCB-1242	< 0.091	0.091	ug/g	1	ACA	2/14/23	15954	2/15/23	18:29	SW3546/8082A
PCB-1248	< 0.091	0.091	ug/g	1	ACA	2/14/23	15954	2/15/23	18:29	SW3546/8082A
PCB-1254	< 0.091	0.091	ug/g	1	ACA	2/14/23	15954	2/15/23	18:29	SW3546/8082A
PCB-1260	**0.097**	0.091	ug/g	1	ACA	2/14/23	15954	2/15/23	18:29	SW3546/8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**84**	30-150	%	1	ACA	2/14/23	15954	2/15/23	18:29	SW3546/8082A
decachlorobiphenyl SUR	**99**	30-150	%	1	ACA	2/14/23	15954	2/15/23	18:29	SW3546/8082A

Project ID: WW Cross 21001639
Job ID: 64495

Sample#: 64495-018
Sample ID: B117R(2-4)
Matrix: Solid Percent Dry: 90.1% Results expressed on a dry weight basis.
Sampled: 2/7/23 10:25

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.10	0.10	ug/g	1	ACA	2/14/23	15954	2/15/23	19:08	SW3546/8082A
PCB-1221	< 0.10	0.10	ug/g	1	ACA	2/14/23	15954	2/15/23	19:08	SW3546/8082A
PCB-1232	< 0.10	0.10	ug/g	1	ACA	2/14/23	15954	2/15/23	19:08	SW3546/8082A
PCB-1242	< 0.10	0.10	ug/g	1	ACA	2/14/23	15954	2/15/23	19:08	SW3546/8082A
PCB-1248	< 0.10	0.10	ug/g	1	ACA	2/14/23	15954	2/15/23	19:08	SW3546/8082A
PCB-1254	< 0.10	0.10	ug/g	1	ACA	2/14/23	15954	2/15/23	19:08	SW3546/8082A
PCB-1260	< 0.10	0.10	ug/g	1	ACA	2/14/23	15954	2/15/23	19:08	SW3546/8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**73**	30-150	%	1	ACA	2/14/23	15954	2/15/23	19:08	SW3546/8082A
decachlorobiphenyl SUR	**82**	30-150	%	1	ACA	2/14/23	15954	2/15/23	19:08	SW3546/8082A

Sample#: 64495-019
Sample ID: CA-SB-05(0-2)
Matrix: Solid Percent Dry: 95.6% Results expressed on a dry weight basis.
Sampled: 2/7/23 10:50

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.095	0.095	ug/g	1	ACA	2/14/23	15954	2/15/23	19:21	SW3546/8082A
PCB-1221	< 0.095	0.095	ug/g	1	ACA	2/14/23	15954	2/15/23	19:21	SW3546/8082A
PCB-1232	< 0.095	0.095	ug/g	1	ACA	2/14/23	15954	2/15/23	19:21	SW3546/8082A
PCB-1242	< 0.095	0.095	ug/g	1	ACA	2/14/23	15954	2/15/23	19:21	SW3546/8082A
PCB-1248	< 0.095	0.095	ug/g	1	ACA	2/14/23	15954	2/15/23	19:21	SW3546/8082A
PCB-1254	< 0.095	0.095	ug/g	1	ACA	2/14/23	15954	2/15/23	19:21	SW3546/8082A
PCB-1260	< 0.095	0.095	ug/g	1	ACA	2/14/23	15954	2/15/23	19:21	SW3546/8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**89**	30-150	%	1	ACA	2/14/23	15954	2/15/23	19:21	SW3546/8082A
decachlorobiphenyl SUR	**93**	30-150	%	1	ACA	2/14/23	15954	2/15/23	19:21	SW3546/8082A

Project ID: WW Cross 21001639
Job ID: 64495

Sample#: 64495-020
Sample ID: CA-SB-06(0-2)
Matrix: Solid Percent Dry: 96.2% Results expressed on a dry weight basis.
Sampled: 2/7/23 11:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.10	0.10	ug/g	1	ACA	2/14/23	15954	2/15/23	19:34	SW3546/8082A
PCB-1221	< 0.10	0.10	ug/g	1	ACA	2/14/23	15954	2/15/23	19:34	SW3546/8082A
PCB-1232	< 0.10	0.10	ug/g	1	ACA	2/14/23	15954	2/15/23	19:34	SW3546/8082A
PCB-1242	< 0.10	0.10	ug/g	1	ACA	2/14/23	15954	2/15/23	19:34	SW3546/8082A
PCB-1248	< 0.10	0.10	ug/g	1	ACA	2/14/23	15954	2/15/23	19:34	SW3546/8082A
PCB-1254	< 0.10	0.10	ug/g	1	ACA	2/14/23	15954	2/15/23	19:34	SW3546/8082A
PCB-1260	< 0.10	0.10	ug/g	1	ACA	2/14/23	15954	2/15/23	19:34	SW3546/8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**90**	30-150	%	1	ACA	2/14/23	15954	2/15/23	19:34	SW3546/8082A
decachlorobiphenyl SUR	**95**	30-150	%	1	ACA	2/14/23	15954	2/15/23	19:34	SW3546/8082A

Sample#: 64495-021
Sample ID: CA-SB-07(0-2)
Matrix: Solid Percent Dry: 95.3% Results expressed on a dry weight basis.
Sampled: 2/7/23 11:15

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.097	0.097	ug/g	1	ACA	2/14/23	15954	2/15/23	19:47	SW3546/8082A
PCB-1221	< 0.097	0.097	ug/g	1	ACA	2/14/23	15954	2/15/23	19:47	SW3546/8082A
PCB-1232	< 0.097	0.097	ug/g	1	ACA	2/14/23	15954	2/15/23	19:47	SW3546/8082A
PCB-1242	< 0.097	0.097	ug/g	1	ACA	2/14/23	15954	2/15/23	19:47	SW3546/8082A
PCB-1248	< 0.097	0.097	ug/g	1	ACA	2/14/23	15954	2/15/23	19:47	SW3546/8082A
PCB-1254	< 0.097	0.097	ug/g	1	ACA	2/14/23	15954	2/15/23	19:47	SW3546/8082A
PCB-1260	< 0.097	0.097	ug/g	1	ACA	2/14/23	15954	2/15/23	19:47	SW3546/8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**89**	30-150	%	1	ACA	2/14/23	15954	2/15/23	19:47	SW3546/8082A
decachlorobiphenyl SUR	**96**	30-150	%	1	ACA	2/14/23	15954	2/15/23	19:47	SW3546/8082A

Project ID: WW Cross 21001639
Job ID: 64495

Sample#: 64495-022
Sample ID: CA-SB-04(0-2)
Matrix: Solid Percent Dry: 87.5% Results expressed on a dry weight basis.
Sampled: 2/7/23 11:40

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.100	0.100	ug/g	1	ACA	2/14/23	15954	2/15/23	21:18	SW3546/8082A
PCB-1221	< 0.100	0.100	ug/g	1	ACA	2/14/23	15954	2/15/23	21:18	SW3546/8082A
PCB-1232	< 0.100	0.100	ug/g	1	ACA	2/14/23	15954	2/15/23	21:18	SW3546/8082A
PCB-1242	< 0.100	0.100	ug/g	1	ACA	2/14/23	15954	2/15/23	21:18	SW3546/8082A
PCB-1248	< 0.100	0.100	ug/g	1	ACA	2/14/23	15954	2/15/23	21:18	SW3546/8082A
PCB-1254	< 0.100	0.100	ug/g	1	ACA	2/14/23	15954	2/15/23	21:18	SW3546/8082A
PCB-1260	< 0.100	0.100	ug/g	1	ACA	2/14/23	15954	2/15/23	21:18	SW3546/8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**77**	30-150	%	1	ACA	2/14/23	15954	2/15/23	21:18	SW3546/8082A
decachlorobiphenyl SUR	**91**	30-150	%	1	ACA	2/14/23	15954	2/15/23	21:18	SW3546/8082A

Sample#: 64495-023
Sample ID: CA-SB-03(0-2)
Matrix: Solid Percent Dry: 95.7% Results expressed on a dry weight basis.
Sampled: 2/7/23 11:50

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.10	0.10	ug/g	1	ACA	2/14/23	15954	2/15/23	21:31	SW3546/8082A
PCB-1221	< 0.10	0.10	ug/g	1	ACA	2/14/23	15954	2/15/23	21:31	SW3546/8082A
PCB-1232	< 0.10	0.10	ug/g	1	ACA	2/14/23	15954	2/15/23	21:31	SW3546/8082A
PCB-1242	< 0.10	0.10	ug/g	1	ACA	2/14/23	15954	2/15/23	21:31	SW3546/8082A
PCB-1248	< 0.10	0.10	ug/g	1	ACA	2/14/23	15954	2/15/23	21:31	SW3546/8082A
PCB-1254	< 0.10	0.10	ug/g	1	ACA	2/14/23	15954	2/15/23	21:31	SW3546/8082A
PCB-1260	< 0.10	0.10	ug/g	1	ACA	2/14/23	15954	2/15/23	21:31	SW3546/8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**81**	30-150	%	1	ACA	2/14/23	15954	2/15/23	21:31	SW3546/8082A
decachlorobiphenyl SUR	**85**	30-150	%	1	ACA	2/14/23	15954	2/15/23	21:31	SW3546/8082A

Project ID: WW Cross 21001639
Job ID: 64495

Sample#: 64495-014
Sample ID: B111R(6-8)
Matrix: Solid Percent Dry: 80% Results expressed on a dry weight basis.
Sampled: 2/7/23 9:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
TPH C10-C36	< 230	230	ug/g	1	ACA	2/13/23	15948	2/15/23	17:59	SW3550C8015D
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**75**	40-140	%	1	ACA	2/13/23	15948	2/15/23	17:59	SW3550C8015D
o-terphenyl SUR	**77**	40-140	%	1	ACA	2/13/23	15948	2/15/23	17:59	SW3550C8015D

Sample#: 64495-015
Sample ID: CA-SB-01(0-2)
Matrix: Solid Percent Dry: 94.5% Results expressed on a dry weight basis.
Sampled: 2/7/23 9:10

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
TPH C10-C36	< 190	190	ug/g	1	ACA	2/13/23	15948	2/15/23	20:56	SW3550C8015D
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**104**	40-140	%	1	ACA	2/13/23	15948	2/15/23	20:56	SW3550C8015D
o-terphenyl SUR	**106**	40-140	%	1	ACA	2/13/23	15948	2/15/23	20:56	SW3550C8015D

Sample#: 64495-016
Sample ID: SB-DUP-1(0-2)
Matrix: Solid Percent Dry: 93.8% Results expressed on a dry weight basis.
Sampled: 2/7/23 9:12

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
TPH C10-C36	< 200	200	ug/g	1	ACA	2/13/23	15948	2/15/23	22:54	SW3550C8015D
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**99**	40-140	%	1	ACA	2/13/23	15948	2/15/23	22:54	SW3550C8015D
o-terphenyl SUR	**103**	40-140	%	1	ACA	2/13/23	15948	2/15/23	22:54	SW3550C8015D

Sample#: 64495-017
Sample ID: CA-SB-02(0-2)
Matrix: Solid Percent Dry: 96.1% Results expressed on a dry weight basis.
Sampled: 2/7/23 9:25

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
TPH C10-C36	**310**	190	ug/g	1	ACA	2/13/23	15948	2/16/23	0:23	SW3550C8015D
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**121**	40-140	%	1	ACA	2/13/23	15948	2/16/23	0:23	SW3550C8015D
o-terphenyl SUR	**125**	40-140	%	1	ACA	2/13/23	15948	2/16/23	0:23	SW3550C8015D

Project ID: WW Cross 21001639
Job ID: 64495

Sample#: 64495-018
Sample ID: B117R(2-4)
Matrix: Solid Percent Dry: 90.1% Results expressed on a dry weight basis.
Sampled: 2/7/23 10:25

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
TPH C10-C36	< 200	200	ug/g	1	ACA	2/13/23	15948	2/15/23	23:24	SW3550C8015D
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**103**	40-140	%	1	ACA	2/13/23	15948	2/15/23	23:24	SW3550C8015D
o-terphenyl SUR	**107**	40-140	%	1	ACA	2/13/23	15948	2/15/23	23:24	SW3550C8015D

Sample#: 64495-019
Sample ID: CA-SB-05(0-2)
Matrix: Solid Percent Dry: 95.6% Results expressed on a dry weight basis.
Sampled: 2/7/23 10:50

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
TPH C10-C36	< 190	190	ug/g	1	ACA	2/13/23	15948	2/15/23	19:27	SW3550C8015D
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**100**	40-140	%	1	ACA	2/13/23	15948	2/15/23	19:27	SW3550C8015D
o-terphenyl SUR	**103**	40-140	%	1	ACA	2/13/23	15948	2/15/23	19:27	SW3550C8015D

Sample#: 64495-020
Sample ID: CA-SB-06(0-2)
Matrix: Solid Percent Dry: 96.2% Results expressed on a dry weight basis.
Sampled: 2/7/23 11:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
TPH C10-C36	< 190	190	ug/g	1	ACA	2/13/23	15948	2/15/23	19:57	SW3550C8015D
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**102**	40-140	%	1	ACA	2/13/23	15948	2/15/23	19:57	SW3550C8015D
o-terphenyl SUR	**105**	40-140	%	1	ACA	2/13/23	15948	2/15/23	19:57	SW3550C8015D

Sample#: 64495-021
Sample ID: CA-SB-07(0-2)
Matrix: Solid Percent Dry: 95.3% Results expressed on a dry weight basis.
Sampled: 2/7/23 11:15

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
TPH C10-C36	< 190	190	ug/g	1	ACA	2/13/23	15948	2/15/23	18:28	SW3550C8015D
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**102**	40-140	%	1	ACA	2/13/23	15948	2/15/23	18:28	SW3550C8015D
o-terphenyl SUR	**104**	40-140	%	1	ACA	2/13/23	15948	2/15/23	18:28	SW3550C8015D

Project ID: WW Cross 21001639
Job ID: 64495

Sample#: 64495-022
Sample ID: CA-SB-04(0-2)
Matrix: Solid Percent Dry: 87.5% Results expressed on a dry weight basis.
Sampled: 2/7/23 11:40

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
TPH C10-C36	< 210	210	ug/g	1	ACA	2/13/23	15948	2/15/23	18:58	SW3550C8015D
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**104**	40-140	%	1	ACA	2/13/23	15948	2/15/23	18:58	SW3550C8015D
o-terphenyl SUR	**104**	40-140	%	1	ACA	2/13/23	15948	2/15/23	18:58	SW3550C8015D

Sample#: 64495-023
Sample ID: CA-SB-03(0-2)
Matrix: Solid Percent Dry: 95.7% Results expressed on a dry weight basis.
Sampled: 2/7/23 11:50

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
TPH C10-C36	**470**	190	ug/g	1	ACA	2/13/23	15948	2/16/23	1:51	SW3550C8015D
Surrogate Recovery		**Limits**								
2-fluorobiphenyl SUR	**109**	40-140	%	1	ACA	2/13/23	15948	2/16/23	1:51	SW3550C8015D
o-terphenyl SUR	**117**	40-140	%	1	ACA	2/13/23	15948	2/16/23	1:51	SW3550C8015D

Project ID: WW Cross 21001639
Job ID: 64495

Sample#: 64495-003
Sample ID: CA-SB-14(7.5-8)
Matrix: Solid Percent Dry: 91.2% Results expressed on a dry weight basis.
Sampled: 2/6/23 11:55

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Analysis Time	Reference
Cadmium	**170**	0.47	ug/g	5	AGN	2/15/23	15957	2/18/23	0:02	SW3051A6020A

Sample#: 64495-004
Sample ID: CA-SB-27(0-2)
Matrix: Solid Percent Dry: 86.6% Results expressed on a dry weight basis.
Sampled: 2/6/23 12:55

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Analysis Time	Reference
Arsenic	**5.0**	2.8	ug/g	5	AGN	2/15/23	15957	2/17/23	1:09	SW3051A6020A
Barium	**18**	5.7	ug/g	5	AGN	2/15/23	15957	2/20/23	22:37	SW3051A6020A
Cadmium	< 0.57	0.57	ug/g	5	AGN	2/15/23	15957	2/17/23	1:09	SW3051A6020A
Chromium	**8.3**	5.7	ug/g	5	AGN	2/15/23	15957	2/18/23	0:11	SW3051A6020A
Lead	**6.3**	2.8	ug/g	5	AGN	2/15/23	15957	2/17/23	1:09	SW3051A6020A
Mercury	< 0.15	0.15	ug/g	1	EEB	2/20/23	15968	2/21/23	12:25	SW7471B
Selenium	< 5.7	5.7	ug/g	5	AGN	2/15/23	15957	2/17/23	1:09	SW3051A6020A
Silver	< 2.8	2.8	ug/g	5	AGN	2/15/23	15957	2/17/23	1:09	SW3051A6020A

Sample#: 64495-005
Sample ID: CA-SB-25(0-2)
Matrix: Solid Percent Dry: 88.4% Results expressed on a dry weight basis.
Sampled: 2/6/23 13:05

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Analysis Time	Reference
Arsenic	**7.8**	2.7	ug/g	5	AGN	2/15/23	15957	2/17/23	1:19	SW3051A6020A
Barium	**66**	5.4	ug/g	5	AGN	2/15/23	15957	2/18/23	0:46	SW3051A6020A
Cadmium	< 0.54	0.54	ug/g	5	AGN	2/15/23	15957	2/17/23	1:19	SW3051A6020A
Chromium	**21**	5.4	ug/g	5	AGN	2/15/23	15957	2/18/23	0:46	SW3051A6020A
Lead	**6.2**	2.7	ug/g	5	AGN	2/15/23	15957	2/17/23	1:19	SW3051A6020A
Mercury	< 0.15	0.15	ug/g	1	EEB	2/20/23	15968	2/21/23	12:31	SW7471B
Selenium	< 5.4	5.4	ug/g	5	AGN	2/15/23	15957	2/17/23	1:19	SW3051A6020A
Silver	< 2.7	2.7	ug/g	5	AGN	2/15/23	15957	2/17/23	1:19	SW3051A6020A

Project ID: WW Cross 21001639
Job ID: 64495

Sample#: 64495-006
Sample ID: CA-SB-26(0-2)
Matrix: Solid Percent Dry: 92% Results expressed on a dry weight basis.
Sampled: 2/6/23 13:15

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Arsenic	**5.3**	2.7	ug/g	5	AGN	2/15/23	15957	2/17/23	1:28	SW3051A6020A
Barium	**35**	5.3	ug/g	5	AGN	2/15/23	15957	2/18/23	0:55	SW3051A6020A
Cadmium	< 0.53	0.53	ug/g	5	AGN	2/15/23	15957	2/17/23	1:28	SW3051A6020A
Chromium	**11**	5.3	ug/g	5	AGN	2/15/23	15957	2/18/23	0:55	SW3051A6020A
Lead	**3.4**	2.7	ug/g	5	AGN	2/15/23	15957	2/17/23	1:28	SW3051A6020A
Mercury	< 0.16	0.16	ug/g	1	EEB	2/20/23	15968	2/21/23	12:33	SW7471B
Selenium	< 5.3	5.3	ug/g	5	AGN	2/15/23	15957	2/17/23	1:28	SW3051A6020A
Silver	< 2.7	2.7	ug/g	5	AGN	2/15/23	15957	2/17/23	1:28	SW3051A6020A

Sample#: 64495-007
Sample ID: CA-SB-24(0-2)
Matrix: Solid Percent Dry: 93.2% Results expressed on a dry weight basis.
Sampled: 2/6/23 13:25

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Arsenic	**4.3**	2.5	ug/g	5	AGN	2/15/23	15957	2/17/23	1:38	SW3051A6020A
Barium	**62**	5.1	ug/g	5	AGN	2/15/23	15957	2/18/23	1:03	SW3051A6020A
Cadmium	**0.82**	0.51	ug/g	5	AGN	2/15/23	15957	2/18/23	1:03	SW3051A6020A
Chromium	**11**	5.1	ug/g	5	AGN	2/15/23	15957	2/18/23	1:03	SW3051A6020A
Lead	**15**	2.5	ug/g	5	AGN	2/15/23	15957	2/17/23	1:38	SW3051A6020A
Mercury	< 0.16	0.16	ug/g	1	EEB	2/20/23	15968	2/21/23	12:35	SW7471B
Selenium	< 5.1	5.1	ug/g	5	AGN	2/15/23	15957	2/17/23	1:38	SW3051A6020A
Silver	< 2.5	2.5	ug/g	5	AGN	2/15/23	15957	2/17/23	1:38	SW3051A6020A

Sample#: 64495-008
Sample ID: CA-SB-18(0-2)
Matrix: Solid Percent Dry: 88.5% Results expressed on a dry weight basis.
Sampled: 2/6/23 14:05

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Arsenic	**5.2**	2.7	ug/g	5	AGN	2/15/23	15957	2/17/23	1:48	SW3051A6020A
Barium	**29**	5.3	ug/g	5	AGN	2/15/23	15957	2/18/23	1:12	SW3051A6020A
Cadmium	< 0.53	0.53	ug/g	5	AGN	2/15/23	15957	2/17/23	1:48	SW3051A6020A
Chromium	**12**	5.3	ug/g	5	AGN	2/15/23	15957	2/18/23	1:12	SW3051A6020A
Lead	**6.7**	2.7	ug/g	5	AGN	2/15/23	15957	2/17/23	1:48	SW3051A6020A
Mercury	< 0.15	0.15	ug/g	1	EEB	2/20/23	15968	2/21/23	12:36	SW7471B
Selenium	< 5.3	5.3	ug/g	5	AGN	2/15/23	15957	2/17/23	1:48	SW3051A6020A
Silver	< 2.7	2.7	ug/g	5	AGN	2/15/23	15957	2/17/23	1:48	SW3051A6020A

Project ID: WW Cross 21001639
Job ID: 64495

Sample#: 64495-009
Sample ID: CA-SB-19(0-2)
Matrix: Solid Percent Dry: 91.5% Results expressed on a dry weight basis.
Sampled: 2/6/23 14:15

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Arsenic	< 2.7	2.7	ug/g	5	AGN	2/15/23	15957	2/17/23	1:58	SW3051A6020A
Barium	**20**	5.4	ug/g	5	AGN	2/15/23	15957	2/18/23	1:21	SW3051A6020A
Cadmium	< 0.54	0.54	ug/g	5	AGN	2/15/23	15957	2/17/23	1:58	SW3051A6020A
Chromium	**5.7**	5.4	ug/g	5	AGN	2/15/23	15957	2/18/23	1:21	SW3051A6020A
Lead	**3.9**	2.7	ug/g	5	AGN	2/15/23	15957	2/17/23	1:58	SW3051A6020A
Mercury	< 0.16	0.16	ug/g	1	EEB	2/20/23	15968	2/21/23	12:38	SW7471B
Selenium	< 5.4	5.4	ug/g	5	AGN	2/15/23	15957	2/17/23	1:58	SW3051A6020A
Silver	< 2.7	2.7	ug/g	5	AGN	2/15/23	15957	2/17/23	1:58	SW3051A6020A

Sample#: 64495-010
Sample ID: CA-SB-20(0-2)
Matrix: Solid Percent Dry: 92.3% Results expressed on a dry weight basis.
Sampled: 2/6/23 14:25

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Arsenic	**3.8**	2.5	ug/g	5	AGN	2/15/23	15957	2/17/23	2:37	SW3051A6020A
Barium	**19**	5.0	ug/g	5	AGN	2/15/23	15957	2/18/23	1:30	SW3051A6020A
Cadmium	< 0.50	0.50	ug/g	5	AGN	2/15/23	15957	2/17/23	2:37	SW3051A6020A
Chromium	**7.6**	5.0	ug/g	5	AGN	2/15/23	15957	2/18/23	1:30	SW3051A6020A
Lead	**10**	2.5	ug/g	5	AGN	2/15/23	15957	2/17/23	2:37	SW3051A6020A
Mercury	< 0.14	0.14	ug/g	1	EEB	2/20/23	15968	2/21/23	12:43	SW7471B
Selenium	< 5.0	5.0	ug/g	5	AGN	2/15/23	15957	2/17/23	2:37	SW3051A6020A
Silver	< 2.5	2.5	ug/g	5	AGN	2/15/23	15957	2/17/23	2:37	SW3051A6020A

Sample#: 64495-011
Sample ID: CA-SB-23(0-2)
Matrix: Solid Percent Dry: 89.5% Results expressed on a dry weight basis.
Sampled: 2/6/23 14:40

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Arsenic	**6.9**	2.7	ug/g	5	AGN	2/15/23	15957	2/17/23	2:47	SW3051A6020A
Barium	**31**	5.5	ug/g	5	AGN	2/15/23	15957	2/18/23	1:38	SW3051A6020A
Cadmium	< 0.55	0.55	ug/g	5	AGN	2/15/23	15957	2/17/23	2:47	SW3051A6020A
Chromium	**8.4**	5.5	ug/g	5	AGN	2/15/23	15957	2/18/23	1:38	SW3051A6020A
Lead	**8.7**	2.7	ug/g	5	AGN	2/15/23	15957	2/17/23	2:47	SW3051A6020A
Mercury	< 0.15	0.15	ug/g	1	EEB	2/20/23	15968	2/21/23	12:45	SW7471B
Selenium	< 5.5	5.5	ug/g	5	AGN	2/15/23	15957	2/17/23	2:47	SW3051A6020A
Silver	< 2.7	2.7	ug/g	5	AGN	2/15/23	15957	2/17/23	2:47	SW3051A6020A

Project ID: WW Cross 21001639
Job ID: 64495

Sample#: 64495-012
Sample ID: CA-SB-22(0-2)
Matrix: Solid Percent Dry: 95.7% Results expressed on a dry weight basis.
Sampled: 2/6/23 14:50

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Arsenic	**3.9**	2.6	ug/g	5	AGN	2/15/23	15957	2/17/23	2:56	SW3051A6020A
Barium	**19**	5.2	ug/g	5	AGN	2/15/23	15957	2/18/23	1:47	SW3051A6020A
Cadmium	< 0.52	0.52	ug/g	5	AGN	2/15/23	15957	2/17/23	2:56	SW3051A6020A
Chromium	**9.6**	5.2	ug/g	5	AGN	2/15/23	15957	2/18/23	1:47	SW3051A6020A
Lead	**4.8**	2.6	ug/g	5	AGN	2/15/23	15957	2/17/23	2:56	SW3051A6020A
Mercury	< 0.14	0.14	ug/g	1	EEB	2/20/23	15968	2/21/23	12:47	SW7471B
Selenium	< 5.2	5.2	ug/g	5	AGN	2/15/23	15957	2/17/23	2:56	SW3051A6020A
Silver	< 2.6	2.6	ug/g	5	AGN	2/15/23	15957	2/17/23	2:56	SW3051A6020A

Sample#: 64495-013
Sample ID: CA-SB-21(0-2)
Matrix: Solid Percent Dry: 91% Results expressed on a dry weight basis.
Sampled: 2/6/23 14:55

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Arsenic	**4.2**	2.7	ug/g	5	AGN	2/15/23	15957	2/17/23	3:06	SW3051A6020A
Barium	**20**	5.4	ug/g	5	AGN	2/15/23	15957	2/18/23	1:56	SW3051A6020A
Cadmium	< 0.54	0.54	ug/g	5	AGN	2/15/23	15957	2/17/23	3:06	SW3051A6020A
Chromium	**8.3**	5.4	ug/g	5	AGN	2/15/23	15957	2/18/23	1:56	SW3051A6020A
Lead	**3.0**	2.7	ug/g	5	AGN	2/15/23	15957	2/17/23	3:06	SW3051A6020A
Mercury	< 0.14	0.14	ug/g	1	EEB	2/20/23	15968	2/21/23	12:49	SW7471B
Selenium	< 5.4	5.4	ug/g	5	AGN	2/15/23	15957	2/17/23	3:06	SW3051A6020A
Silver	< 2.7	2.7	ug/g	5	AGN	2/15/23	15957	2/17/23	3:06	SW3051A6020A

Sample#: 64495-003
Sample ID: CA-SB-14(7.5-8)
Matrix: Solid Percent Dry: 91.2% Results expressed on a dry weight basis.
Sampled: 2/6/23 11:55

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Cyanide, total	< 0.53	0.53	ug/g	1	SFM		2300469	2/20/23	15:15	SW9014

Quality Control Report

Absolute Resource associates

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Case Narrative
Lab # 64495

Sample Receiving and Chain of Custody Discrepancies

Samples were received in acceptable condition, between 0 and 6 degrees C, on ice, and in accordance with sample handling, preservation and integrity guidelines.

Calibration

No exceptions noted.

Method Blank

No exceptions noted.

Surrogate Recoveries

SVOC: Recovery of the surrogate 2-fluorobiphenyl exceeded acceptance criteria in sample 64495-005. There is no impact to the data as no target analytes were not found above the RL in this sample.
DRO: Recovery of the surrogate o-terphenyl exceeded the acceptance limits in MS/D15948 (64495-017), likely as a result of co-eluting hydrocarbons. Recovery of this surrogate was acceptable in the associated parent sample.

Laboratory Control Sample Results

VOC: MLCS15951 did not meet the acceptance criteria for dichlorodifluoromethane. MLCSD15951 did not meet the acceptance criteria for dichlorodifluoromethane, 2-butanone (MEK), 4-methyl-2-pentanone (MIBK), and 2-hexanone. These compounds showed low recovery. Since recoveries were >40% and <10% of all compounds were outside of the acceptance criteria, reanalysis is not required.

Matrix Spike/Matrix Spike Duplicate/Duplicate Results

SVOC: MS15947 (64495-017) did not meet the acceptance criteria for fluoranthene and benzo(b)fluoranthene. The associated MLCS/D met the method acceptance criteria. Compounds that exhibited recoveries outside the acceptance criteria have been qualified with an "M." Matrix interference suspected.

Other

Reporting Limits: Dilutions performed during the analysis are noted on the result pages.

No other exceptions noted.

GLOSSARY

%R	Percent Recovery
BLK	Blank (Method Blank, Preparation Blank)
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CRM	Certified Reference Material (associated with solid Metals samples)
CRMD	Certified Reference Material Duplicate (associated with solid Metals samples)
Dil'n	Dilution
DL	Detection Limit
DUP	Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection
LOQ	Limit of Quantitation
MB	Methanol Blank (associated with solid VOC samples)
MLCS	Methanol Laboratory Control Sample (associated with solid VOC samples)
MLCSD	Methanol Laboratory Control Sample Duplicate (associated with solid VOC samples)
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PB	Preparation Blank
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference
SUR	Surrogate

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
SW5035A8260D	MB15951	dichlorodifluoromethane		< 0.10	ug/g					
		chloromethane		< 0.10	ug/g					
		vinyl chloride		< 0.10	ug/g					
		bromomethane		< 0.25	ug/g					
		chloroethane		< 0.10	ug/g					
		trichlorofluoromethane		< 0.10	ug/g					
		diethyl ether		< 0.50	ug/g					
		acetone		< 2.5	ug/g					
		1,1-dichloroethene		< 0.10	ug/g					
		methylene chloride		< 0.25	ug/g					
		carbon disulfide		< 0.10	ug/g					
		methyl t-butyl ether (MTBE)		< 0.10	ug/g					
		trans-1,2-dichloroethene		< 0.10	ug/g					
		isopropyl ether (DIPE)		< 0.10	ug/g					
		ethyl t-butyl ether (ETBE)		< 0.10	ug/g					
		1,1-dichloroethane		< 0.10	ug/g					
		t-butanol (TBA)		< 2.5	ug/g					
		2-butanone (MEK)		< 0.30	ug/g					
		2,2-dichloropropane		< 0.10	ug/g					
		cis-1,2-dichloroethene		< 0.10	ug/g					
		chloroform		< 0.10	ug/g					
		bromochloromethane		< 0.10	ug/g					
		tetrahydrofuran (THF)		< 0.50	ug/g					
		1,1,1-trichloroethane		< 0.10	ug/g					
		1,1-dichloropropene		< 0.10	ug/g					
		t-amyl-methyl ether (TAME)		< 0.10	ug/g					
		carbon tetrachloride		< 0.10	ug/g					
		1,2-dichloroethane		< 0.10	ug/g					
		benzene		< 0.10	ug/g					
		trichloroethene		< 0.10	ug/g					
		1,2-dichloropropane		< 0.10	ug/g					
		bromodichloromethane		< 0.10	ug/g					
		1,4-dioxane		< 2.5	ug/g					
		dibromomethane		< 0.10	ug/g					
		4-methyl-2-pentanone (MIBK)		< 0.45	ug/g					
		cis-1,3-dichloropropene		< 0.10	ug/g					
		toluene		< 0.10	ug/g					
		trans-1,3-dichloropropene		< 0.10	ug/g					
		2-hexanone		< 0.50	ug/g					
		1,1,2-trichloroethane		< 0.10	ug/g					
		1,3-dichloropropane		< 0.10	ug/g					
		tetrachloroethene		< 0.10	ug/g					
		dibromochloromethane		< 0.10	ug/g					
		1,2-dibromoethane (EDB)		< 0.10	ug/g					
		chlorobenzene		< 0.10	ug/g					
		1,1,1,2-tetrachloroethane		< 0.10	ug/g					
		ethylbenzene		< 0.10	ug/g					

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW5035A8260D	MB15951	m&p-xylenes		<	0.10	ug/g						
		o-xylene		<	0.10	ug/g						
		styrene		<	0.10	ug/g						
		bromoform		<	0.10	ug/g						
		isopropylbenzene		<	0.10	ug/g						
		1,1,2,2-tetrachloroethane		<	0.10	ug/g						
		1,2,3-trichloropropane		<	0.10	ug/g						
		n-propylbenzene		<	0.10	ug/g						
		bromobenzene		<	0.10	ug/g						
		1,3,5-trimethylbenzene		<	0.10	ug/g						
		2-chlorotoluene		<	0.10	ug/g						
		4-chlorotoluene		<	0.10	ug/g						
		tert-butylbenzene		<	0.10	ug/g						
		1,2,4-trimethylbenzene		<	0.10	ug/g						
		sec-butylbenzene		<	0.10	ug/g						
		1,3-dichlorobenzene		<	0.10	ug/g						
		4-isopropyltoluene		<	0.10	ug/g						
		1,4-dichlorobenzene		<	0.10	ug/g						
		1,2-dichlorobenzene		<	0.10	ug/g						
		n-butylbenzene		<	0.10	ug/g						
		1,2-dibromo-3-chloropropane (DBCP)		<	0.10	ug/g						
		1,2,4-trichlorobenzene		<	0.10	ug/g						
		1,3,5-trichlorobenzene		<	0.10	ug/g						
		hexachlorobutadiene		<	0.10	ug/g						
		naphthalene		<	0.25	ug/g						
		1,2,3-trichlorobenzene		<	0.10	ug/g						
		dibromofluoromethane SUR			98	%			78	114		
		toluene-D8 SUR			98	%			88	110		
		4-bromofluorobenzene SUR			98	%			86	115		
		a,a,a-trifluorotoluene SUR			93	%			70	130		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R		Limits		RPD	RPD Limit
SW5035A8260D	MLCS15951	dichlorodifluoromethane			0.66	ug/g	1	66	*	70	130		
		chloromethane			0.83	ug/g	1	83		70	130		
		vinyl chloride			1.1	ug/g	1	106		70	130		
		bromomethane			0.86	ug/g	1	86		70	130		
		chloroethane			1.0	ug/g	1	101		70	130		
		trichlorofluoromethane			1.00	ug/g	1	100		70	130		
		diethyl ether			0.90	ug/g	1	90		70	130		
		acetone		<	2.5	ug/g	1	77		70	130		
		1,1-dichloroethene			0.97	ug/g	1	97		70	130		
		methylene chloride			0.94	ug/g	1	94		70	130		
		carbon disulfide			0.85	ug/g	1	85		70	130		
		methyl t-butyl ether (MTBE)			0.91	ug/g	1	91		70	130		
		trans-1,2-dichloroethene			0.99	ug/g	1	99		70	130		
		isopropyl ether (DIPE)			0.97	ug/g	1	97		70	130		
		ethyl t-butyl ether (ETBE)			0.87	ug/g	1	87		70	130		
		1,1-dichloroethane			0.93	ug/g	1	93		70	130		
		t-butanol (TBA)			4.3	ug/g	5	87		70	130		
		2-butanone (MEK)			0.70	ug/g	1	70		70	130		
		2,2-dichloropropane			0.88	ug/g	1	88		70	130		
		cis-1,2-dichloroethene			0.94	ug/g	1	94		70	130		
		chloroform			0.98	ug/g	1	98		70	130		
		bromochloromethane			0.91	ug/g	1	91		70	130		
		tetrahydrofuran (THF)			0.78	ug/g	1	78		70	130		
		1,1,1-trichloroethane			0.91	ug/g	1	91		70	130		
		1,1-dichloropropene			0.92	ug/g	1	92		70	130		
		t-amyl-methyl ether (TAME)			0.83	ug/g	1	83		70	130		
		carbon tetrachloride			0.95	ug/g	1	95		70	130		
		1,2-dichloroethane			0.91	ug/g	1	91		70	130		
		benzene			0.96	ug/g	1	96		70	130		
		trichloroethene			1.0	ug/g	1	101		70	130		
		1,2-dichloropropane			0.90	ug/g	1	90		70	130		
		bromodichloromethane			0.89	ug/g	1	89		70	130		
		1,4-dioxane		<	2.5	ug/g	2	113		70	130		
		dibromomethane			0.93	ug/g	1	93		70	130		
		4-methyl-2-pentanone (MIBK)			0.72	ug/g	1	72		70	130		
		cis-1,3-dichloropropene			0.85	ug/g	1	85		70	130		
		toluene			0.94	ug/g	1	94		70	130		
		trans-1,3-dichloropropene			0.78	ug/g	1	78		70	130		
		2-hexanone			0.70	ug/g	1	70		70	130		
		1,1,2-trichloroethane			0.87	ug/g	1	87		70	130		
		1,3-dichloropropane			0.91	ug/g	1	91		70	130		
		tetrachloroethene			1.0	ug/g	1	105		70	130		
		dibromochloromethane			0.91	ug/g	1	91		70	130		
		1,2-dibromoethane (EDB)			0.88	ug/g	1	88		70	130		
		chlorobenzene			0.95	ug/g	1	95		70	130		
		1,1,1,2-tetrachloroethane			0.90	ug/g	1	90		70	130		
		ethylbenzene			0.97	ug/g	1	97		70	130		
		m&p-xylenes			2.0	ug/g	2	100		70	130		
		o-xylene			0.96	ug/g	1	96		70	130		

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW5035A8260D	MLCS15951	styrene		0.98	ug/g	1	98	70	130		
		bromoform		0.96	ug/g	1	96	70	130		
		isopropylbenzene		0.99	ug/g	1	99	70	130		
		1,1,2,2-tetrachloroethane		1.0	ug/g	1	100	70	130		
		1,2,3-trichloropropane		1.00	ug/g	1	100	70	130		
		n-propylbenzene		1.1	ug/g	1	106	70	130		
		bromobenzene		1.1	ug/g	1	106	70	130		
		1,3,5-trimethylbenzene		1.1	ug/g	1	110	70	130		
		2-chlorotoluene		0.96	ug/g	1	96	70	130		
		4-chlorotoluene		1.2	ug/g	1	117	70	130		
		tert-butylbenzene		1.0	ug/g	1	102	70	130		
		1,2,4-trimethylbenzene		1.1	ug/g	1	108	70	130		
		sec-butylbenzene		1.1	ug/g	1	111	70	130		
		1,3-dichlorobenzene		1.1	ug/g	1	113	70	130		
		4-isopropyltoluene		1.1	ug/g	1	111	70	130		
		1,4-dichlorobenzene		1.1	ug/g	1	113	70	130		
		1,2-dichlorobenzene		1.1	ug/g	1	113	70	130		
		n-butylbenzene		1.1	ug/g	1	112	70	130		
		1,2-dibromo-3-chloropropane (DBCP)		0.82	ug/g	1	82	70	130		
		1,2,4-trichlorobenzene		1.2	ug/g	1	116	70	130		
		1,3,5-trichlorobenzene		1.1	ug/g	1	115	70	130		
		hexachlorobutadiene		1.3	ug/g	1	129	70	130		
		naphthalene		1.0	ug/g	1	102	70	130		
		1,2,3-trichlorobenzene		1.2	ug/g	1	118	70	130		
		dibromofluoromethane SUR		98	%			78	114		
		toluene-D8 SUR		96	%			88	110		
		4-bromofluorobenzene SUR		98	%			86	115		
		a,a,a-trifluorotoluene SUR		101	%			70	130		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R		Limits		RPD	RPD Limit
SW5035A8260D	MLCSD15951	dichlorodifluoromethane			0.61	ug/g	1	61	*	70	130	8	30
		chloromethane			0.80	ug/g	1	80		70	130	3	30
		vinyl chloride			1.1	ug/g	1	106		70	130	0	30
		bromomethane			0.79	ug/g	1	79		70	130	9	30
		chloroethane			0.97	ug/g	1	97		70	130	4	30
		trichlorofluoromethane			0.95	ug/g	1	95		70	130	5	30
		diethyl ether			0.86	ug/g	1	86		70	130	5	30
		acetone		<	2.5	ug/g	1	76		70	130	2	30
		1,1-dichloroethene			0.92	ug/g	1	92		70	130	5	30
		methylene chloride			0.93	ug/g	1	93		70	130	1	30
		carbon disulfide			0.82	ug/g	1	82		70	130	3	30
		methyl t-butyl ether (MTBE)			0.86	ug/g	1	86		70	130	6	30
		trans-1,2-dichloroethene			0.95	ug/g	1	95		70	130	5	30
		isopropyl ether (DIPE)			0.93	ug/g	1	93		70	130	4	30
		ethyl t-butyl ether (ETBE)			0.84	ug/g	1	84		70	130	4	30
		1,1-dichloroethane			0.92	ug/g	1	92		70	130	1	30
		t-butanol (TBA)			4.0	ug/g	5	80		70	130	8	30
		2-butanone (MEK)			0.68	ug/g	1	68	*	70	130	3	30
		2,2-dichloropropane			0.85	ug/g	1	85		70	130	4	30
		cis-1,2-dichloroethene			0.94	ug/g	1	94		70	130	0	30
		chloroform			0.97	ug/g	1	97		70	130	1	30
		bromochloromethane			0.87	ug/g	1	87		70	130	4	30
		tetrahydrofuran (THF)			0.71	ug/g	1	71		70	130	10	30
		1,1,1-trichloroethane			0.87	ug/g	1	87		70	130	4	30
		1,1-dichloropropene			0.90	ug/g	1	90		70	130	2	30
		t-amyl-methyl ether (TAME)			0.79	ug/g	1	79		70	130	4	30
		carbon tetrachloride			0.89	ug/g	1	89		70	130	7	30
		1,2-dichloroethane			0.88	ug/g	1	88		70	130	3	30
		benzene			0.93	ug/g	1	93		70	130	3	30
		trichloroethene			0.99	ug/g	1	99		70	130	2	30
		1,2-dichloropropane			0.89	ug/g	1	89		70	130	1	30
		bromodichloromethane			0.88	ug/g	1	88		70	130	2	30
		1,4-dioxane		<	2.5	ug/g	2	105		70	130	7	30
		dibromomethane			0.92	ug/g	1	92		70	130	1	30
		4-methyl-2-pentanone (MIBK)			0.69	ug/g	1	69	*	70	130	5	30
		cis-1,3-dichloropropene			0.84	ug/g	1	84		70	130	2	30
		toluene			0.92	ug/g	1	92		70	130	2	30
		trans-1,3-dichloropropene			0.77	ug/g	1	77		70	130	1	30
		2-hexanone			0.68	ug/g	1	68	*	70	130	2	30
		1,1,2-trichloroethane			0.87	ug/g	1	87		70	130	1	30
		1,3-dichloropropane			0.88	ug/g	1	88		70	130	3	30
		tetrachloroethene			1.0	ug/g	1	102		70	130	2	30
		dibromochloromethane			0.92	ug/g	1	92		70	130	0	30
		1,2-dibromoethane (EDB)			0.87	ug/g	1	87		70	130	1	30
		chlorobenzene			0.93	ug/g	1	93		70	130	2	30
		1,1,1,2-tetrachloroethane			0.91	ug/g	1	91		70	130	2	30
		ethylbenzene			0.97	ug/g	1	97		70	130	1	30
		m&p-xylenes			2.0	ug/g	2	100		70	130	0	30
		o-xylene			0.96	ug/g	1	96		70	130	1	30

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW5035A8260D	MLCSD15951	styrene		1.0	ug/g	1	101	70	130	3	30
		bromoform		0.98	ug/g	1	98	70	130	2	30
		isopropylbenzene		1.0	ug/g	1	101	70	130	2	30
		1,1,2,2-tetrachloroethane		0.96	ug/g	1	96	70	130	4	30
		1,2,3-trichloropropane		0.91	ug/g	1	91	70	130	9	30
		n-propylbenzene		1.1	ug/g	1	105	70	130	1	30
		bromobenzene		1.1	ug/g	1	105	70	130	1	30
		1,3,5-trimethylbenzene		1.1	ug/g	1	110	70	130	0	30
		2-chlorotoluene		1.0	ug/g	1	103	70	130	7	30
		4-chlorotoluene		1.1	ug/g	1	106	70	130	10	30
		tert-butylbenzene		1.0	ug/g	1	102	70	130	0	30
		1,2,4-trimethylbenzene		1.1	ug/g	1	107	70	130	1	30
		sec-butylbenzene		1.1	ug/g	1	110	70	130	0	30
		1,3-dichlorobenzene		1.1	ug/g	1	111	70	130	2	30
		4-isopropyltoluene		1.1	ug/g	1	111	70	130	0	30
		1,4-dichlorobenzene		1.1	ug/g	1	110	70	130	3	30
		1,2-dichlorobenzene		1.1	ug/g	1	109	70	130	3	30
		n-butylbenzene		1.1	ug/g	1	110	70	130	2	30
		1,2-dibromo-3-chloropropane (DBCP)		0.75	ug/g	1	75	70	130	9	30
		1,2,4-trichlorobenzene		1.0	ug/g	1	105	70	130	10	30
		1,3,5-trichlorobenzene		1.0	ug/g	1	104	70	130	10	30
		hexachlorobutadiene		1.2	ug/g	1	120	70	130	7	30
		naphthalene		0.93	ug/g	1	93	70	130	9	30
		1,2,3-trichlorobenzene		1.1	ug/g	1	109	70	130	9	30
		dibromofluoromethane SUR		98	%			78	114		
		toluene-D8 SUR		97	%			88	110		
		4-bromofluorobenzene SUR		105	%			86	115		
		a,a,a-trifluorotoluene SUR		102	%			70	130		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW3546/8082A	BLK15954	PCB-1016		<	0.10	ug/g						
		PCB-1221		<	0.10	ug/g						
		PCB-1232		<	0.10	ug/g						
		PCB-1242		<	0.10	ug/g						
		PCB-1248		<	0.10	ug/g						
		PCB-1254		<	0.10	ug/g						
		PCB-1260		<	0.10	ug/g						
		tetrachloro-m-xylene SUR			91	%			30	150		
		decachlorobiphenyl SUR			107	%			30	150		
SW3546/8082A	LCS15954	PCB-1016			1.8	ug/g	2	92	40	140		
		PCB-1221		<	0.1	ug/g						
		PCB-1232		<	0.1	ug/g						
		PCB-1242		<	0.1	ug/g						
		PCB-1248		<	0.1	ug/g						
		PCB-1254		<	0.1	ug/g						
		PCB-1260			2.5	ug/g	2	124	40	140		
		tetrachloro-m-xylene SUR			74	%			30	150		
		decachlorobiphenyl SUR			134	%			30	150		
SW3546/8082A	LCSD15954	PCB-1016			1.9	ug/g	2	93	40	140	1	30
		PCB-1221		<	0.10	ug/g						
		PCB-1232		<	0.10	ug/g						
		PCB-1242		<	0.10	ug/g						
		PCB-1248		<	0.10	ug/g						
		PCB-1254		<	0.10	ug/g						
		PCB-1260			2.1	ug/g	2	103	40	140	18	30
		tetrachloro-m-xylene SUR			86	%			30	150		
		decachlorobiphenyl SUR			99	%			30	150		
SW3546/8082A	MS15954	PCB-1016	64430-003		1.2	ug/g	2.92	42	40	140		
		PCB-1221	64430-003	<	0.15	ug/g						
		PCB-1232	64430-003	<	0.15	ug/g						
		PCB-1242	64430-003	<	0.15	ug/g						
		PCB-1248	64430-003	<	0.15	ug/g						
		PCB-1254	64430-003	<	0.15	ug/g						
		PCB-1260	64430-003		2.3	ug/g	2.92	63	40	140		
		tetrachloro-m-xylene SUR	64430-003		46	%			30	150		
		decachlorobiphenyl SUR	64430-003		55	%			30	150		
SW3546/8082A	MS15954	PCB-1016	64495-017		1.6	ug/g	1.78	92	40	140		
		PCB-1221	64495-017	<	0.089	ug/g						
		PCB-1232	64495-017	<	0.089	ug/g						
		PCB-1242	64495-017	<	0.089	ug/g						
		PCB-1248	64495-017	<	0.089	ug/g						
		PCB-1254	64495-017	<	0.089	ug/g						
		PCB-1260	64495-017		1.8	ug/g	1.78	97	40	140		
		tetrachloro-m-xylene SUR	64495-017		85	%			30	150		
		decachlorobiphenyl SUR	64495-017		94	%			30	150		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R		Limits		RPD	RPD Limit
SW3546/8082A	MSD15954	PCB-1016	64430-003		1.6	ug/g	2.87	56		40	140	26	30
		PCB-1221	64430-003	<	0.14	ug/g							
		PCB-1232	64430-003	<	0.14	ug/g							
		PCB-1242	64430-003	<	0.14	ug/g							
		PCB-1248	64430-003	<	0.14	ug/g							
		PCB-1254	64430-003	<	0.14	ug/g							
		PCB-1260	64430-003		3.0	ug/g	2.87	89		40	140	27	30
		tetrachloro-m-xylene SUR	64430-003		62	%				30	150		
		decachlorobiphenyl SUR	64430-003		61	%				30	150		
SW3546/8082A	MSD15954	PCB-1016	64495-017		1.6	ug/g	1.82	88		40	140	2	30
		PCB-1221	64495-017	<	0.091	ug/g							
		PCB-1232	64495-017	<	0.091	ug/g							
		PCB-1242	64495-017	<	0.091	ug/g							
		PCB-1248	64495-017	<	0.091	ug/g							
		PCB-1254	64495-017	<	0.091	ug/g							
		PCB-1260	64495-017		1.9	ug/g	1.82	97		40	140	2	30
		tetrachloro-m-xylene SUR	64495-017		82	%				30	150		
		decachlorobiphenyl SUR	64495-017		94	%				30	150		
SW3550C8015D	BLK15948	TPH C10-C36		<	200	ug/g							
		2-fluorobiphenyl SUR			94	%				40	140		
		o-terphenyl SUR			96	%				40	140		
SW3550C8015D	LCS15948	TPH C10-C36			2300	ug/g	2500	92		40	140		
		2-fluorobiphenyl SUR			97	%				40	140		
		o-terphenyl SUR			128	%				40	140		
SW3550C8015D	MS15948	TPH C10-C36	64495-017		2800	ug/g	2388	106		40	140		
		2-fluorobiphenyl SUR	64495-017		107	%				40	140		
		o-terphenyl SUR	64495-017		142	%			*	40	140		
SW3550C8015D	MSD15948	TPH C10-C36	64495-017		2900	ug/g	2403	107		40	140	1	20
		2-fluorobiphenyl SUR	64495-017		114	%				40	140		
		o-terphenyl SUR	64495-017		150	%			*	40	140		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW3550C8270E	BLK15947	naphthalene		<	0.50	ug/g						
		2-methylnaphthalene		<	0.50	ug/g						
		acenaphthylene		<	0.50	ug/g						
		acenaphthene		<	0.50	ug/g						
		dibenzofuran		<	0.50	ug/g						
		fluorene		<	0.50	ug/g						
		phenanthrene		<	0.50	ug/g						
		anthracene		<	0.50	ug/g						
		fluoranthene		<	0.50	ug/g						
		pyrene		<	0.50	ug/g						
		benzo(a)anthracene		<	0.50	ug/g						
		chrysene		<	0.40	ug/g						
		benzo(b)fluoranthene		<	0.50	ug/g						
		benzo(k)fluoranthene		<	0.50	ug/g						
		benzo(a)pyrene		<	0.40	ug/g						
		indeno(1,2,3-cd)pyrene		<	0.50	ug/g						
		dibenzo(a,h)anthracene		<	0.40	ug/g						
		benzo(g,h,i)perylene		<	0.50	ug/g						
		2-fluorobiphenyl SUR			76	%			43	116		
		o-terphenyl SUR			81	%			33	141		
SW3550C8270E	LCS15947	naphthalene			3.6	ug/g	4	91	40	140		
		2-methylnaphthalene			6.8	ug/g	8	85	40	140		
		acenaphthylene			3.4	ug/g	4	84	40	140		
		acenaphthene			3.3	ug/g	4	83	40	140		
		dibenzofuran			3.4	ug/g	4	85	40	140		
		fluorene			3.5	ug/g	4	88	40	140		
		phenanthrene			3.5	ug/g	4	87	40	140		
		anthracene			3.2	ug/g	4	79	40	140		
		fluoranthene			3.3	ug/g	4	82	40	140		
		pyrene			3.0	ug/g	4	75	40	140		
		benzo(a)anthracene			3.0	ug/g	4	75	40	140		
		chrysene			3.3	ug/g	4	82	40	140		
		benzo(b)fluoranthene			3.1	ug/g	4	78	40	140		
		benzo(k)fluoranthene			3.3	ug/g	4	82	40	140		
		benzo(a)pyrene			2.8	ug/g	4	69	40	140		
		indeno(1,2,3-cd)pyrene			2.9	ug/g	4	74	40	140		
		dibenzo(a,h)anthracene			3.1	ug/g	4	79	40	140		
		benzo(g,h,i)perylene			2.8	ug/g	4	69	40	140		
		2-fluorobiphenyl SUR			84	%			43	116		
		o-terphenyl SUR			91	%			33	141		

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R		Limits		RPD	RPD Limit
SW3550C8270E	MS15947	naphthalene	64495-017	3.7	ug/g	3.79	97		40	140		
		2-methylnaphthalene	64495-017	6.5	ug/g	7.59	86		40	140		
		acenaphthylene	64495-017	3.4	ug/g	3.79	91		40	140		
		acenaphthene	64495-017	3.3	ug/g	3.79	88		40	140		
		dibenzofuran	64495-017	3.4	ug/g	3.79	89		40	140		
		fluorene	64495-017	3.6	ug/g	3.79	94		40	140		
		phenanthrene	64495-017	7.4	ug/g	3.79	92		40	140		
		anthracene	64495-017	4.0	ug/g	3.79	84		40	140		
		fluoranthene	64495-017	10	ug/g	3.7	38	*	40	140		
		pyrene	64495-017	8.8	ug/g	3.79	53		40	140		
		benzo(a)anthracene	64495-017	6.1	ug/g	3.79	59		40	140		
		chrysene	64495-017	6.5	ug/g	3.79	59		40	140		
		benzo(b)fluoranthene	64495-017	5.9	ug/g	3.79	37	*	40	140		
		benzo(k)fluoranthene	64495-017	5.3	ug/g	3.79	48		40	140		
		benzo(a)pyrene	64495-017	5.7	ug/g	3.79	53		40	140		
		indeno(1,2,3-cd)pyrene	64495-017	5.6	ug/g	3.79	89		40	140		
		dibenzo(a,h)anthracene	64495-017	4.3	ug/g	3.79	96		40	140		
		benzo(g,h,i)perylene	64495-017	5.6	ug/g	3.79	86		40	140		
		2-fluorobiphenyl SUR	64495-017	86	%				43	116		
		o-terphenyl SUR	64495-017	88	%				33	141		
SW3550C8270E	MSD15947	naphthalene	64495-017	3.9	ug/g	3.87	102		40	140	6	30
		2-methylnaphthalene	64495-017	6.9	ug/g	7.74	89		40	140	6	30
		acenaphthylene	64495-017	3.7	ug/g	3.87	96		40	140	8	30
		acenaphthene	64495-017	3.7	ug/g	3.87	96		40	140	10	30
		dibenzofuran	64495-017	3.7	ug/g	3.87	95		40	140	9	30
		fluorene	64495-017	3.9	ug/g	3.87	100		40	140	8	30
		phenanthrene	64495-017	7.7	ug/g	3.87	96		40	140	3	30
		anthracene	64495-017	4.1	ug/g	3.87	86		40	140	4	30
		fluoranthene	64495-017	11	ug/g	3.8	50		40	140	5	30
		pyrene	64495-017	9.4	ug/g	3.87	69		40	140	7	30
		benzo(a)anthracene	64495-017	6.8	ug/g	3.87	74		40	140	10	30
		chrysene	64495-017	7.0	ug/g	3.87	71		40	140	7	30
		benzo(b)fluoranthene	64495-017	6.7	ug/g	3.87	55		40	140	11	30
		benzo(k)fluoranthene	64495-017	5.9	ug/g	3.87	61		40	140	9	30
		benzo(a)pyrene	64495-017	6.2	ug/g	3.87	66		40	140	9	30
		indeno(1,2,3-cd)pyrene	64495-017	6.0	ug/g	3.87	97		40	140	7	30
		dibenzo(a,h)anthracene	64495-017	4.7	ug/g	3.87	106		40	140	10	30
		benzo(g,h,i)perylene	64495-017	6.1	ug/g	3.87	97		40	140	8	30
		2-fluorobiphenyl SUR	64495-017	112	%				43	116		
		o-terphenyl SUR	64495-017	116	%				33	141		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW3550C8270E	BLK15953	naphthalene		<	0.50	ug/g						
		2-methylnaphthalene		<	0.50	ug/g						
		acenaphthylene		<	0.50	ug/g						
		acenaphthene		<	0.50	ug/g						
		dibenzofuran		<	0.50	ug/g						
		fluorene		<	0.50	ug/g						
		phenanthrene		<	0.50	ug/g						
		anthracene		<	0.50	ug/g						
		fluoranthene		<	0.50	ug/g						
		pyrene		<	0.50	ug/g						
		benzo(a)anthracene		<	0.50	ug/g						
		chrysene		<	0.40	ug/g						
		benzo(b)fluoranthene		<	0.50	ug/g						
		benzo(k)fluoranthene		<	0.50	ug/g						
		benzo(a)pyrene		<	0.40	ug/g						
		indeno(1,2,3-cd)pyrene		<	0.50	ug/g						
		dibenzo(a,h)anthracene		<	0.40	ug/g						
		benzo(g,h,i)perylene		<	0.50	ug/g						
		2-fluorobiphenyl SUR			75	%			43	116		
		o-terphenyl SUR			82	%			33	141		
SW3550C8270E	LCS15953	naphthalene			3.8	ug/g	4	95	40	140		
		2-methylnaphthalene			7.2	ug/g	8	89	40	140		
		acenaphthylene			3.3	ug/g	4	84	40	140		
		acenaphthene			3.4	ug/g	4	84	40	140		
		dibenzofuran			3.5	ug/g	4	87	40	140		
		fluorene			3.6	ug/g	4	90	40	140		
		phenanthrene			3.6	ug/g	4	89	40	140		
		anthracene			3.2	ug/g	4	80	40	140		
		fluoranthene			3.4	ug/g	4	85	40	140		
		pyrene			3.0	ug/g	4	75	40	140		
		benzo(a)anthracene			3.1	ug/g	4	77	40	140		
		chrysene			3.4	ug/g	4	85	40	140		
		benzo(b)fluoranthene			3.2	ug/g	4	79	40	140		
		benzo(k)fluoranthene			3.3	ug/g	4	82	40	140		
		benzo(a)pyrene			3.0	ug/g	4	74	40	140		
		indeno(1,2,3-cd)pyrene			3.3	ug/g	4	83	40	140		
		dibenzo(a,h)anthracene			3.4	ug/g	4	86	40	140		
		benzo(g,h,i)perylene			3.0	ug/g	4	74	40	140		
		2-fluorobiphenyl SUR			85	%			43	116		
		o-terphenyl SUR			95	%			33	141		

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW3550C8270E	MS15953	naphthalene	64495-013	3.7	ug/g	4.01	92	40	140		
		2-methylnaphthalene	64495-013	7.0	ug/g	8.02	87	40	140		
		acenaphthylene	64495-013	3.3	ug/g	4.01	81	40	140		
		acenaphthene	64495-013	3.2	ug/g	4.01	81	40	140		
		dibenzofuran	64495-013	3.4	ug/g	4.01	84	40	140		
		fluorene	64495-013	3.5	ug/g	4.01	88	40	140		
		phenanthrene	64495-013	3.6	ug/g	4.01	90	40	140		
		anthracene	64495-013	3.1	ug/g	4.01	77	40	140		
		fluoranthene	64495-013	3.7	ug/g	4.01	78	40	140		
		pyrene	64495-013	3.3	ug/g	4.01	68	40	140		
		benzo(a)anthracene	64495-013	3.3	ug/g	4.01	81	40	140		
		chrysene	64495-013	3.6	ug/g	4.01	78	40	140		
		benzo(b)fluoranthene	64495-013	4.0	ug/g	4.01	100	40	140		
		benzo(k)fluoranthene	64495-013	3.2	ug/g	4.01	81	40	140		
		benzo(a)pyrene	64495-013	3.1	ug/g	4.01	68	40	140		
		indeno(1,2,3-cd)pyrene	64495-013	3.3	ug/g	4.01	82	40	140		
		dibenzo(a,h)anthracene	64495-013	3.4	ug/g	4.01	84	40	140		
		benzo(g,h,i)perylene	64495-013	3.1	ug/g	4.01	78	40	140		
		2-fluorobiphenyl SUR	64495-013	86	%			43	116		
		o-terphenyl SUR	64495-013	94	%			33	141		
SW3550C8270E	MSD15953	naphthalene	64495-013	3.8	ug/g	4.07	93	40	140	2	30
		2-methylnaphthalene	64495-013	7.1	ug/g	8.14	87	40	140	2	30
		acenaphthylene	64495-013	3.4	ug/g	4.07	83	40	140	4	30
		acenaphthene	64495-013	3.3	ug/g	4.07	82	40	140	3	30
		dibenzofuran	64495-013	3.4	ug/g	4.07	84	40	140	1	30
		fluorene	64495-013	3.6	ug/g	4.07	89	40	140	3	30
		phenanthrene	64495-013	3.6	ug/g	4.07	89	40	140	1	30
		anthracene	64495-013	3.2	ug/g	4.07	77	40	140	2	30
		fluoranthene	64495-013	3.8	ug/g	4.07	78	40	140	1	30
		pyrene	64495-013	3.5	ug/g	4.07	72	40	140	6	30
		benzo(a)anthracene	64495-013	3.3	ug/g	4.07	81	40	140	1	30
		chrysene	64495-013	3.6	ug/g	4.07	78	40	140	0	30
		benzo(b)fluoranthene	64495-013	3.6	ug/g	4.07	88	40	140	11	30
		benzo(k)fluoranthene	64495-013	3.4	ug/g	4.07	84	40	140	5	30
		benzo(a)pyrene	64495-013	3.2	ug/g	4.07	69	40	140	2	30
		indeno(1,2,3-cd)pyrene	64495-013	3.4	ug/g	4.07	83	40	140	2	30
		dibenzo(a,h)anthracene	64495-013	3.3	ug/g	4.07	81	40	140	3	30
		benzo(g,h,i)perylene	64495-013	3.0	ug/g	4.07	73	40	140	5	30
		2-fluorobiphenyl SUR	64495-013	88	%			43	116		
		o-terphenyl SUR	64495-013	98	%			33	141		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW3051A6020A	BLK15957	Silver		<	2.5	ug/g						
		Arsenic		<	2.5	ug/g						
		Barium		<	5.0	ug/g						
		Cadmium		<	0.50	ug/g						
		Chromium		<	5.0	ug/g						
		Lead		<	2.5	ug/g						
		Selenium		<	5.0	ug/g						
SW3051A6020A	CRM15957	Silver			27.6	ug/g	28.8		18.2	35.6		
		Arsenic			93.4	ug/g	99.4		63.5	118		
		Barium			246	ug/g	249		180	300		
		Cadmium			73.6	ug/g	75.9		52.9	88.2		
		Chromium			52.0	ug/g	53.8		37	68.7		
		Lead			73.3	ug/g	80.9		51.2	98.2		
		Selenium			126	ug/g	143		84.5	170		
SW3051A6020A	CRMD15957	Silver			27.3	ug/g	28.8		18.2	35.6	1	20
		Arsenic			89.1	ug/g	99.4		63.5	118	5	20
		Barium			243	ug/g	249		180	300	1	20
		Cadmium			71.6	ug/g	75.9		52.9	88.2	3	20
		Chromium			45.2	ug/g	53.8		37	68.7	14	20
		Lead			72.4	ug/g	80.9		51.2	98.2	1	20
		Selenium			114	ug/g	143		84.5	170	10	20
SW7471B	BLK15968	Mercury		<	0.14	ug/g						
SW7471B	CRM15968	Mercury			0.157	ug/g	0.221		0.0908	0.351		
SW7471B	CRMD15968	Mercury			0.152	ug/g	0.221		0.0908	0.351	3	35
SW7471B	DUP15968	Mercury	64495-004	<	0.17	ug/g						35
SW7471B	MS15968	Mercury	64495-004		0.41	ug/g	0.37	112	80	120		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW9014	LCS2300469	Cyanide, total			7.5	ug/g	7.5	100	80	120		
SW9014	LCSD2300469	Cyanide, total			7.1	ug/g	7.5	95	80	120	6	20
SW9014	MS2300469	Cyanide, total	64495-003		6.9	ug/g	8.06	85	75	125		
SW9014	PB2300469	Cyanide, total		<	0.50	ug/g						

Absolute Resource associates

124 Heritage Avenue #16
Portsmouth, NH 03801
603-436-2001
absoluteresourceassociates.com

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

64495

Company Name: Credere Associates

Company Address: 776 Main Street, Westbrook ME

Report To: Moira Wentworth

Phone #: 207-828-1272

Project Name: NW Cross

Project #: 21001639

Project Location: (NH) MA ME VT

Accreditation Required? N/Y:

See absoluteresourceassociates.com for sample acceptance policy and current accreditation lists.

Protocol: RCRA MCP SDWA NHDES NPDES DOD

Notify ARA if your samples require specific methods, certifications or compliance protocol.

Reporting Limits: (QAPP) ~~EPA DW~~ GW-1 S-1 Other

ANALYSIS REQUEST

☐ VOC 8260 ☒ VOC 8260 NHDES ☐ VOC 8260 MADEP; ☐ VOC 624.1 ☐ VOC BTEX MtBE, only ☐ VOC 8021VT; ☐ VPH MADEP ☐ GRO 8015 ☐ 1,4-Dioxane; ☐ VOC 524.2 ☐ VOC 524.2 NH List ☐ Gases-List:; ☐ TPH 8100 ☐ DRO 8015 ☐ EPH MADEP ☐ TPH Fingerprint; ☒ 8270PAH ☐ 8270ABN ☐ 625.1 ☐ EDB; ☐ 8082 PCB ☐ 8081 Pesticides ☐ 608.3 Pest/PCB; ☐ PFAS 537.1 ☐ PFAS 533 ☐ PFAS isotope dilution; ☐ O&G 1664 ☐ Mineral O&G 1664; ☐ pH ☐ BOD ☐ Conductivity ☐ Turbidity ☐ Apparent Color; ☐ TSS ☐ TDS ☐ TS ☐ TVS ☐ Alkalinity ☐ Acidity; ☒ RCRA Metals ☐ Priority Pollutant Metals ☐ TAL Metals ☐ Hardness; ☐ Total Metals-list:; ☐ Dissolved Metals-list:; ☐ Ammonia ☐ COD ☐ TKN ☐ TN ☐ TON ☐ TOC ☐ Ferrous Iron; ☐ T-Phosphorus ☐ Bacteria P/A ☐ Bacteria MPN ☐ Enterococci; ☒ Cyanide ☐ Sulfide ☐ Nitrate + Nitrite ☐ Ortho P ☐ Phenols; ☐ Nitrate ☐ Nitrite ☐ Chloride ☐ Sulfate ☐ Bromide ☐ Fluoride; ☐ Corrosivity ☐ Ignitibility/FP; ☐ TCLP Metals ☐ TCLP VOC ☐ TCLP SVOC ☐ TCLP Pesticide; Subcontract: ☐ Grain Size ☐ Herbicides ☐ Asbestos; CADMIUM 6020; Grab (G) or Composite (C)

Lab Sample ID (Lab Use Only)	Field ID	# Containers	Water	Solid	Other	HCl	HNO_3	H_2SO_4	NaOH	MeOH	Date	Time	Sampler	VOC 8260 NHDES	8270PAH	RCRA Metals	Cyanide	Cadmium 6020	Grab (G) or Composite (C)
64495-01	CA-SB-16(16-18)	2		X						X	2/6/23	1000	MAW	✓					G
-02	SB-DUP-3(16-18)	2		X						X	2/6/23	1002	MAW	X					
-03	CA-SB-14(7.5-8)	1		X							2/6/23	1155	MAW				X	X	
-04	CA-SB-~~27~~(0-2)	1		X							2/6/23	1255	MAW		X	X			
-05	CA-SB-25(0-2)	1		X							2/6/23	1305	MAW		X	X			
-06	CA-SB-26(0-2)	1		X							2/6/23	1315	MAW		X	X			
-07	CA-SB-24(0-2)	1		X							2/6/23	1325	MAW		X	X			
-08	CA-SB-18(0-2)	1		X							2/6/23	1405	MAW		X	X			
-09	CA-SB-19(0-2)	1		X							2/6/23	1415	MAW		X	X			
-10	CA-SB-20(0-2)	1		X							2/6/23	1425	MAW		X	X			
-11	CA-SB-23(0-2)	1		X							2/6/23	1440	MAW		X	X			

TAT REQUESTED

Priority (24 hr)* ☐
Expedited (48 hr)* ☐
Standard (10 Business Days) ☒
*Date Needed

Invoice To:
Email: jlm@crederellc.com
PO #:
Quote #:
☐ NH Reimbursement Pricing

SPECIAL INSTRUCTIONS

Reporting Instructions:
☐ EDD: Report To (email): mwentworth@crederellc.com

RECEIVED ON ICE ☒ YES ☐ NO
TEMPERATURE 3 °C

CUSTODY RECORD

Relinquished by	Date	Time	Received by	Date	Time
Relinquished by Sampler: [signature]	2/10/23	1053	Received by: [signature]	2/10/23	10:53
Relinquished by:			Received by:		
Relinquished by: [signature]	2/10/23	12:00	Received by Laboratory: [signature]	2/10/23	12:00

QSD-01 Revision 07/27/2022

Absolute Resource associates
124 Heritage Avenue #16
Portsmouth, NH 03801
603-436-2001
absoluteresourceassociates.com

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Lab ID Here

Company Name: Credue Associates

Company Address: 77 Main Street, Westbrook

Report To: Moira Wentworth

Phone #: 207-828-1272

Project Name: WWCross

Project #: 21001639

Project Location: (NH) MA ME VT _____

Accreditation Required? N/Y: _____

See absoluteresourceassociates.com for sample acceptance policy and current accreditation lists.

Protocol: RCRA SDWA NPDES MCP NHDES DOD

Notify ARA if your samples require specific methods, certifications or compliance protocol.

Reporting Limits: (QAPP) EPA DW GW-1 S-1 Other _____

ANALYSIS REQUEST

☐ VOC 8260 ☐ VOC 8260 NHDES ☐ VOC 8260 MADEP
☐ VOC 624.1 ☐ VOC BTEX MtBE, only ☐ VOC 8021VT
☐ VPH MADEP ☐ GRO 8015 ☐ 1,4-Dioxane
☐ VOC 524.2 ☐ VOC 524.2 NH List ☐ Gases-List:
☒ TPH 8100 ☐ DRO 8015 ☐ EPH MADEP ☐ TPH Fingerprint
☒ 8270PAH ☐ 8270ABN ☐ 625.1 ☐ EDB
☒ 8082 PCB ☐ 8081 Pesticides ☐ 608.3 Pest/PCB
☐ PFAS 537.1 ☐ PFAS 533 ☐ PFAS isotope dilution
☐ O&G 1664 ☐ Mineral O&G 1664
☐ pH ☐ BOD ☐ Conductivity ☐ Turbidity ☐ Apparent Color
☐ TSS ☐ TDS ☐ TVS ☐ Alkalinity ☐ Acidity
☒ RCRA Metals ☐ Priority Pollutant Metals ☐ TAL Metals ☐ Hardness
☐ Total Metals-list:
☐ Dissolved Metals-list:
☐ Ammonia ☐ COD ☐ TKN ☐ TN ☐ TON ☐ TOC ☐ Ferrous Iron
☐ T-Phosphorus ☐ Bacteria P/A ☐ Bacteria MPN ☐ Enterococci
☐ Cyanide ☐ Sulfide ☐ Nitrate + Nitrite ☐ Ortho P ☐ Phenols
☐ Nitrate ☐ Nitrite ☐ Chloride ☐ Sulfate ☐ Bromide ☐ Fluoride
☐ Corrosivity ☐ Ignitibility/FP
☐ TCLP Metals ☐ TCLP VOC ☐ TCLP SVOC ☐ TCLP Pesticide
Subcontract: ☐ Grain Size ☐ Herbicides ☐ Asbestos
Grab (G) or Composite (C)

Lab Sample ID (Lab Use Only)	Field ID	# CONTAINERS	Matrix: WATER	SOLID	OTHER	Preservation Method: HCl	HNO_3	H_2SO_4	NaOH	MeOH	Sampling: DATE	TIME	SAMPLER	Grab (G) or Composite (C)
044 -12	CA-SB-22(0-2)	1		X							2/6/23	MS/MSD	MPW	G
-13	CA-SB-21(0-2)	1		X							2/6/23	1455	MPW	G
-14	B111R(6-8)	1		X							2/7/23	0900	MPW	C
-15	CA-SB-01(0-2)	1		X							2/7/23	0910	MPW	
-16	SB-DUP-1(0-2)	1		X							2/7/23	0912	MPW	
-17	CA-SB-02(0-2)	1		X							2/7/23	0925	MPW	
-18	B117R(2-4)	1		X							2/7/23	1025	MPW	
-19	CA-SB-05(0-2)	1		X							2/7/23	1050	MPW	
-20	CA-SB-06(0-2)	1		X							2/7/23	1100	MPW	
-21	CA-SB-07(0-2)	1		X							2/7/23	1195	MPW	
-22	CA-SB-04(0-2)	1		X							2/7/23	1140	MPW	C

TAT REQUESTED

Priority (24 hr)* ☐
Expedited (48 hr)* ☐
Standard ☒
(10 Business Days)
*Date Needed_____

Invoice To: _____
Email: jenn@creduellc.com
PO #: _____
Quote #: _____
☐ NH Reimbursement Pricing

SPECIAL INSTRUCTIONS

CA-SB-02(0-2) MS/MSD

Reporting Instructions:
☐ EDD:_____ Report To (email): MWentworth@creduellc.com

RECEIVED ON ICE ☒YES ☐NO
TEMPERATURE 3 °C

CUSTODY RECORD

QSD-01 Revision 07/27/2022

	Date	Time		Date	Time
Relinquished by Sampler:	2/10/23	1053	Received by:	2/10/23	10:52
Relinquished by:			Received by:		
Relinquished by:	2/10/23	12:00	Received by Laboratory:	2/10/23	12:00

Absolute Resource associates

124 Heritage Avenue #16
Portsmouth, NH 03801
603-436-2001
absoluteresourceassociates.com

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Lab ID Here

ANALYSIS REQUEST

Company Name: Credue Associates

Company Address: 77le Main Street Westbrook, ME

Report To: Moira Wentworth

Phone #: 207-828-1272

Project Name: WW Cross

Project #: 21001639

Project Location: (NH) MA ME VT ______

Accreditation Required? N/Y: ________

See absoluteresourceassociates.com for sample acceptance policy and current accreditation lists.

Protocol: RCRA MCP SDWA NHDES NPDES DOD

Notify ARA if your samples require specific methods, certifications or compliance protocol.

Reporting Limits: (QAPP) EPA DW GW-1 Other______ S-1

Lab Sample ID (Lab Use Only)	Field ID	# CONTAINERS	Matrix: WATER	Matrix: SOLID	Matrix: OTHER	Preservation: HCl	Preservation: HNO_3	Preservation: H_2SO_4	Preservation: NaOH	Preservation: MeOH	Sampling: DATE	Sampling: TIME	Sampling: SAMPLER	☐ VOC 8260 ☒ VOC 8260 NHDES ☐ VOC 8260 MADEP	☐ VOC 624.1 ☐ VOC BTEX MBE, only ☐ VOC 8021VT	☐ VPH MADEP ☐ GRO 8015 ☐ 1,4-Dioxane	☐ VOC 524.2 ☐ VOC 524.2 NH List ☐ Gases-List:	☒ TPH 8100 ☐ DRO 8015 ☐ EPH MADEP ☐ TPH Fingerprint	☒ 8270PAH ☐ 8270ABN ☐ 625.1 ☐ EDB	☒ 8082 PCB ☐ 8081 Pesticides ☐ 608.3 Pest/PCB	☐ PFAS 537.1 ☐ PFAS 533 ☐ PFAS isotope dilution	☐ O&G 1664 ☐ Mineral O&G 1664	☐ pH ☐ BOD ☐ Conductivity ☐ Turbidity ☐ Apparent Color	☐ TSS ☐ TDS ☐ TS ☐ TVS ☐ Alkalinity ☐ Acidity	☐ RCRA Metals ☐ Priority Pollutant Metals ☐ TAL Metals ☐ Hardness	☐ Total Metals-list:	☐ Dissolved Metals-list:	☐ Ammonia ☐ COD ☐ TKN ☐ TN ☐ TON ☐ TOC ☐ Ferrous Iron	☐ T-Phosphorus ☐ Bacteria P/A ☐ Bacteria MPN ☐ Enterococci	☐ Cyanide ☐ Sulfide ☐ Nitrate + Nitrite ☐ Ortho P ☐ Phenols	☐ Nitrate ☐ Nitrite ☐ Chloride ☐ Sulfate ☐ Bromide ☐ Fluoride	☐ Corrosivity ☐ Ignitibility/FP	☐ TCLP Metals ☐ TCLP VOC ☐ TCLP SVOC ☐ TCLP Pesticide	Subcontract: ☐ Grain Size ☐ Herbicides ☐ Asbestos			Grab (G) or Composite (C)
04495-23	CA-SB-03(0-2)	1		X							2/7/23	1150	MW					X	X	X																	
-24	TB-SOIL-1	1								X				X																							

TAT REQUESTED

Priority (24 hr)* ☐
Expedited (48 hr)* ☐
Standard ☒
(10 Business Days)
*Date Needed________

Invoice To: ________
Email: jenn@credere llc.com
PO #: ________
Quote #: ________
☐ NH Reimbursement Pricing

SPECIAL INSTRUCTIONS

Reporting Instructions:
☐ EDD:________ Report To (email): mwentworth@credere llc.com

RECEIVED ON ICE ☒YES ☐NO
TEMPERATURE 3 °C

CUSTODY RECORD

Relinquished by	Date	Time	Received by	Date	Time
Relinquished by Sampler: [signature]	2/10/23	1053	Received by: [signature]	2/10/23	10:53
Relinquished by:			Received by:		
Relinquished by: [signature]	2/10/23	12:00	Received by Laboratory: [signature]	2/10/23	12:00

QSD-01 Revision 07/27/2022

Sample Receipt Condition Report

64495

Absolute Resource Associates **Job Number:**

Samples Received from: ☐-UPS ☐-FedEx ☐-USPS ☒-Lab Courier ☐-Client Drop-off ☐-_____

Custody Seals - present & intact: ☐-Yes ☐-No ☒-N/A CoC signed: ☒-Yes ☐-No

Receipt Temp: 3 °C Samples on ice? ☒-Yes ☐-No ☐-N/A Sampled < 24 hrs ago? ☐-Yes ☒-No

PFAS-only real ice? ☐-Yes ☐-No ☒-N/A Any signs of freezing? ☐-Yes ☒-No

Comments:_____

Preservation / Analysis	Bottle Size/Type & Quantity									Check pH for ALL applicable* samples and document:
HCl	40mL(G)		250mL(P)		500mL(P)		1L(G)			
HNO_3	125mL(P)		250mL(P)		500mL(P)					
H_2SO_4	40mL(G)		60mL(P)		125mL(P)		250mL(P)		500mL(P)	
NaOH	125mL(P)		250mL(P)							
$(NH_4)_2SO_4$	60mL(P)		125mL(P)		250mL(P)					
ZnAc-NaOH	125mL(P)		250mL(P)							
Trizma	125mL(P)		250mL (P)							*pH ✓by analyst:VOC, PFAS, TOC,O&G
NH_4Ac	125mL(P)		250mL (P)							Residual Cl not present:
NaS_2O_3	40mL(G)		120mL(P)							ABN625____Pest608____
MeOH	20mL(G)		40mL(G)	3						Bacteria ResCl ✓by analyst
None (solid)	2oz(G)		4oz(G)	25	8oz(G)		Syringe			PC Dry applicable? (Y) N
None (water)	40ml (G)		60mL(P)		125mL(P)		250mL(P)		500mL(P)	1L(G) 1L (P)
Mold	Cassette		Bulk		Plate		Tape Lift			
Asbestos	Cassette		Bulk							
Lead	Cassette		Bulk		Wipe					

Login Review	Yes	No	NA	Comments
Proper lab sample containers/enough volume/correct preservative?	X			
Analyses marked on COC match bottles received?	X			
VOC &TOC Water-no headspace? VOC Solid-MeOH covers solid, no leaks, Prep Expiration OK?	X			
PFAS: ARA bottles & samples/FRB same Lot#? QC rec'd, if req'd?			X	Lot ID#:_____
Bacteria bottles provided by ARA?			X	
Samples within holding time?	X			
Immediate tests communicated in writing: NO_3, NO_2,o-PO_4, pH, BOD, Coliform/*E. coli* (P/A or MPN), Enterococci, Color Surfactants, Turbidity, Odor, CrVI, Ferrous Iron, Dissolved Oxygen, Unpres 624			X	
Date, time & ID on samples match CoC?	X			
Rushes communicated to analyst in writing?			X	
Subcontracted samples sent to sub lab?			X	Date Prep'd:_____ Date sent:_____
Pesticides EPA 608 pH5-9?			X	
Compliance samples have no discrepancies/require no flags?			X	(Or must be rejected)
Log-in Supervisor notified immediately of following items:			X	Discrepancies, compliance samples (NHDES, MADEP, DoD etc.) or uncommon requests.

Inspected and Received By: K.W. Date/Time: 2/16/23 14:45

Peer Review Checklist

- ☑ Client ID/Project Manager
- ☑ Project Name
- ☑ TAT/rushes communicated
- ☑ Received Date/Time
- ☑ On Ice, Temperature OK?
- ☑ PO# (if provided)
- ☑ Sub samples sent? Shipping Charge?
- ☑ Issues noted above communicated?
- ☑ Sample IDs
- ☑ Matrix
- ☑ Date/Time collected
- ☑ Short HTs communicated
- ☑ Analyses in Correctly -references -wastewater methods
- ☑ Notes from CoC in LIMS

Reviewed By: SW Date: 2/20/23

Notes: (continue on back as needed)

	Initials	Date	What was sent?
Uploaded / PDF	_____	_____	Report / Data / EDD / Invoice
Uploaded / PDF	_____	_____	Report / Data / EDD / Invoice
Uploaded / PDF	_____	_____	Report / Data / EDD / Invoice

Laboratory Report

Absolute Resource associates
124 Heritage Avenue Portsmouth NH 03801

Moira Wentworth
CREDERE Associates
776 Main Street
Westbrook, ME 04092

PO Number: 21001639
Job ID: 64661
Date Received: 3/2/23

Project: WW Cross 21001639

Attached please find results for the analysis of the samples received on the date referenced above.

Unless otherwise noted in the attached report, the analyses performed met the requirements of Absolute Resource Associates' Quality Assurance Plan. The Standard Operating Procedures are based upon USEPA SW-846, USEPA Methods for Chemical Analysis of Water and Wastewater, Standard Methods for the Examination of Water and Wastewater and other recognized methodologies. The results contained in this report pertain only to the samples as indicated on the chain of custody.

Absolute Resource Associates maintains certification with the agencies listed below. The reported results apply to the sample(s) in the condition as received at the time the laboratory took custody. This report shall not be reproduced except in full, without written approval of the laboratory. The liability of ARA is limited to the cost of the requested analyses, unless otherwise agreed upon in writing.

We appreciate the opportunity to provide laboratory services. If you have any questions regarding the enclosed report, please contact the laboratory and we will be glad to assist you.

Sincerely,
Absolute Resource Associates



Willie Stone
Authorized Signature

Date of Approval: 3/8/2023
Total number of pages: 21

Absolute Resource Associates Certifications

New Hampshire	1732	Massachusetts	M-NH902
Maine	NH902		

Project ID: WW Cross 21001639

Sample Association Table

Field ID	Matrix	Date-Time Sampled	Lab#	Analysis
CA-SB-17(17.5-18.5/18)	Solid	3/1/2023 12:40	64661-001	
				VOCs in solids by 8260 Petro & Haz Waste
CA-SB-15(17-18/17.5)	Solid	3/1/2023 14:30	64661-002	
				VOCs in solids by 8260 Petro & Haz Waste

Absolute Resource associates

Project ID: WW Cross 21001639
Job ID: 64661
Sample#: 64661-001
Sample ID: CA-SB-17(17.5-18.5/18)
Matrix: Solid Percent Dry: 88.7% Results expressed on a dry weight basis.
Sampled: 3/1/23 12:40

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
dichlorodifluoromethane	< 0.092M	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
chloromethane	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
vinyl chloride	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
bromomethane	< 0.23M	0.23	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
chloroethane	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
trichlorofluoromethane	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
diethyl ether	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
acetone	< 2.3	2.3	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
1,1-dichloroethene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
methylene chloride	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
carbon disulfide	< 0.092M	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
methyl t-butyl ether (MTBE)	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
trans-1,2-dichloroethene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
isopropyl ether (DIPE)	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
ethyl t-butyl ether (ETBE)	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
1,1-dichloroethane	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
t-butanol (TBA)	< 2.3	2.3	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
2-butanone (MEK)	< 0.27	0.27	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
2,2-dichloropropane	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
cis-1,2-dichloroethene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
chloroform	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
bromochloromethane	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
tetrahydrofuran (THF)	< 0.46	0.46	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
1,1,1-trichloroethane	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
1,1-dichloropropene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
t-amyl-methyl ether (TAME)	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
carbon tetrachloride	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
1,2-dichloroethane	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
benzene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
trichloroethene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
1,2-dichloropropane	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
bromodichloromethane	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
1,4-dioxane	< 2.3	2.3	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
dibromomethane	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
4-methyl-2-pentanone (MIBK)	< 0.41	0.41	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
cis-1,3-dichloropropene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
toluene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
trans-1,3-dichloropropene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
2-hexanone	< 0.46	0.46	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
1,1,2-trichloroethane	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
1,3-dichloropropane	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
tetrachloroethene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
dibromochloromethane	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D

Absolute Resource associates

Project ID: WW Cross 21001639
Job ID: 64661
Sample#: 64661-001
Sample ID: CA-SB-17(17.5-18.5/18)
Matrix: Solid Percent Dry: 88.7% Results expressed on a dry weight basis.
Sampled: 3/1/23 12:40

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
1,2-dibromoethane (EDB)	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
chlorobenzene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
1,1,1,2-tetrachloroethane	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
ethylbenzene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
m&p-xylenes	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
o-xylene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
styrene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
bromoform	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
isopropylbenzene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
1,1,2,2-tetrachloroethane	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
1,2,3-trichloropropane	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
n-propylbenzene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
bromobenzene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
1,3,5-trimethylbenzene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
2-chlorotoluene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
4-chlorotoluene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
tert-butylbenzene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
1,2,4-trimethylbenzene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
sec-butylbenzene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
1,3-dichlorobenzene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
4-isopropyltoluene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
1,4-dichlorobenzene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
1,2-dichlorobenzene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
n-butylbenzene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
1,2-dibromo-3-chloropropane (DBCP)	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
1,2,4-trichlorobenzene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
1,3,5-trichlorobenzene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
hexachlorobutadiene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
naphthalene	< 0.092	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
1,2,3-trichlorobenzene	< 0.092M	0.092	ug/g	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
Surrogate Recovery		**Limits**								
dibromofluoromethane SUR	**100**	78-114	%	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
toluene-D8 SUR	**102**	88-110	%	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
4-bromofluorobenzene SUR	**102**	86-115	%	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D
a,a,a-trifluorotoluene SUR	**112**	70-130	%	1	LMM	3/3/23	16014	3/3/23	18:29	SW5035A8260D

M = The percent recovery and/or RPD for the MS/D was outside acceptance criteria.

Absolute Resource associates

Project ID: WW Cross 21001639
Job ID: 64661
Sample#: 64661-002
Sample ID: CA-SB-15(17-18/17.5)
Matrix: Solid Percent Dry: 90.1% Results expressed on a dry weight basis.
Sampled: 3/1/23 14:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
dichlorodifluoromethane	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
chloromethane	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
vinyl chloride	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
bromomethane	< 0.20	0.20	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
chloroethane	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
trichlorofluoromethane	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
diethyl ether	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
acetone	< 2.0	2.0	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
1,1-dichloroethene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
methylene chloride	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
carbon disulfide	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
methyl t-butyl ether (MTBE)	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
trans-1,2-dichloroethene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
isopropyl ether (DIPE)	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
ethyl t-butyl ether (ETBE)	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
1,1-dichloroethane	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
t-butanol (TBA)	< 2.0	2.0	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
2-butanone (MEK)	< 0.24	0.24	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
2,2-dichloropropane	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
cis-1,2-dichloroethene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
chloroform	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
bromochloromethane	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
tetrahydrofuran (THF)	< 0.40	0.40	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
1,1,1-trichloroethane	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
1,1-dichloropropene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
t-amyl-methyl ether (TAME)	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
carbon tetrachloride	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
1,2-dichloroethane	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
benzene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
trichloroethene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
1,2-dichloropropane	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
bromodichloromethane	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
1,4-dioxane	< 2.0	2.0	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
dibromomethane	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
4-methyl-2-pentanone (MIBK)	< 0.36	0.36	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
cis-1,3-dichloropropene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
toluene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
trans-1,3-dichloropropene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
2-hexanone	< 0.40	0.40	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
1,1,2-trichloroethane	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
1,3-dichloropropane	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
tetrachloroethene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
dibromochloromethane	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D

Project ID: WW Cross 21001639
Job ID: 64661
Sample#: 64661-002
Sample ID: CA-SB-15(17-18/17.5)
Matrix: Solid Percent Dry: 90.1% Results expressed on a dry weight basis.
Sampled: 3/1/23 14:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
1,2-dibromoethane (EDB)	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
chlorobenzene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
1,1,1,2-tetrachloroethane	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
ethylbenzene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
m&p-xylenes	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
o-xylene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
styrene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
bromoform	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
isopropylbenzene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
1,1,2,2-tetrachloroethane	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
1,2,3-trichloropropane	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
n-propylbenzene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
bromobenzene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
1,3,5-trimethylbenzene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
2-chlorotoluene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
4-chlorotoluene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
tert-butylbenzene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
1,2,4-trimethylbenzene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
sec-butylbenzene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
1,3-dichlorobenzene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
4-isopropyltoluene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
1,4-dichlorobenzene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
1,2-dichlorobenzene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
n-butylbenzene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
1,2-dibromo-3-chloropropane (DBCP)	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
1,2,4-trichlorobenzene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
1,3,5-trichlorobenzene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
hexachlorobutadiene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
naphthalene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
1,2,3-trichlorobenzene	< 0.080	0.080	ug/g	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
Surrogate Recovery		**Limits**								
dibromofluoromethane SUR	**100**	78-114	%	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
toluene-D8 SUR	**102**	88-110	%	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
4-bromofluorobenzene SUR	**102**	86-115	%	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D
a,a,a-trifluorotoluene SUR	**111**	70-130	%	1	LMM	3/3/23	16014	3/3/23	19:24	SW5035A8260D

Absolute Resource associates

Quality Control Report



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Portsmouth, NH 03801
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Case Narrative
Lab # 64661

Sample Receiving and Chain of Custody Discrepancies

Samples were received in acceptable condition, between 0 and 6 degrees C, on ice, and in accordance with sample handling, preservation and integrity guidelines.

Calibration

No exceptions noted.

Method Blank

No exceptions noted.

Surrogate Recoveries

No exceptions noted.

Laboratory Control Sample Results

No exceptions noted.

Matrix Spike/Matrix Spike Duplicate/Duplicate Results

VOC: The matrix spike/duplicate for 64661-001 did not meet the acceptance criteria for several compounds. The associated LCS/D met the method acceptance criteria. Compounds that exhibited recoveries outside the acceptance criteria have been qualified with an "M."

Other

Reporting Limits: Dilutions performed during the analysis are noted on the result pages.

No other exceptions noted.

GLOSSARY

%R	Percent Recovery
BLK	Blank (Method Blank, Preparation Blank)
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CRM	Certified Reference Material (associated with solid Metals samples)
CRMD	Certified Reference Material Duplicate (associated with solid Metals samples)
Dil'n	Dilution
DL	Detection Limit
DUP	Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection
LOQ	Limit of Quantitation
MB	Methanol Blank (associated with solid VOC samples)
MLCS	Methanol Laboratory Control Sample (associated with solid VOC samples)
MLCSD	Methanol Laboratory Control Sample Duplicate (associated with solid VOC samples)
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PB	Preparation Blank
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference
SUR	Surrogate

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
SW5035A8260D	MB16014	dichlorodifluoromethane		<	0.10	ug/g					
		chloromethane		<	0.10	ug/g					
		vinyl chloride		<	0.10	ug/g					
		bromomethane		<	0.25	ug/g					
		chloroethane		<	0.10	ug/g					
		trichlorofluoromethane		<	0.10	ug/g					
		diethyl ether		<	0.50	ug/g					
		acetone		<	2.5	ug/g					
		1,1-dichloroethene		<	0.10	ug/g					
		methylene chloride		<	0.25	ug/g					
		carbon disulfide		<	0.10	ug/g					
		methyl t-butyl ether (MTBE)		<	0.10	ug/g					
		trans-1,2-dichloroethene		<	0.10	ug/g					
		isopropyl ether (DIPE)		<	0.10	ug/g					
		ethyl t-butyl ether (ETBE)		<	0.10	ug/g					
		1,1-dichloroethane		<	0.10	ug/g					
		t-butanol (TBA)		<	2.5	ug/g					
		2-butanone (MEK)		<	0.30	ug/g					
		2,2-dichloropropane		<	0.10	ug/g					
		cis-1,2-dichloroethene		<	0.10	ug/g					
		chloroform		<	0.10	ug/g					
		bromochloromethane		<	0.10	ug/g					
		tetrahydrofuran (THF)		<	0.50	ug/g					
		1,1,1-trichloroethane		<	0.10	ug/g					
		1,1-dichloropropene		<	0.10	ug/g					
		t-amyl-methyl ether (TAME)		<	0.10	ug/g					
		carbon tetrachloride		<	0.10	ug/g					
		1,2-dichloroethane		<	0.10	ug/g					
		benzene		<	0.10	ug/g					
		trichloroethene		<	0.10	ug/g					
		1,2-dichloropropane		<	0.10	ug/g					
		bromodichloromethane		<	0.10	ug/g					
		1,4-dioxane		<	2.5	ug/g					
		dibromomethane		<	0.10	ug/g					
		4-methyl-2-pentanone (MIBK)		<	0.45	ug/g					
		cis-1,3-dichloropropene		<	0.10	ug/g					
		toluene		<	0.10	ug/g					
		trans-1,3-dichloropropene		<	0.10	ug/g					
		2-hexanone		<	0.50	ug/g					
		1,1,2-trichloroethane		<	0.10	ug/g					
		1,3-dichloropropane		<	0.10	ug/g					
		tetrachloroethene		<	0.10	ug/g					
		dibromochloromethane		<	0.10	ug/g					
		1,2-dibromoethane (EDB)		<	0.10	ug/g					
		chlorobenzene		<	0.10	ug/g					
		1,1,1,2-tetrachloroethane		<	0.10	ug/g					
		ethylbenzene		<	0.10	ug/g					

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW5035A8260D	MB16014	m&p-xylenes		<	0.10	ug/g						
		o-xylene		<	0.10	ug/g						
		styrene		<	0.10	ug/g						
		bromoform		<	0.10	ug/g						
		isopropylbenzene		<	0.10	ug/g						
		1,1,2,2-tetrachloroethane		<	0.10	ug/g						
		1,2,3-trichloropropane		<	0.10	ug/g						
		n-propylbenzene		<	0.10	ug/g						
		bromobenzene		<	0.10	ug/g						
		1,3,5-trimethylbenzene		<	0.10	ug/g						
		2-chlorotoluene		<	0.10	ug/g						
		4-chlorotoluene		<	0.10	ug/g						
		tert-butylbenzene		<	0.10	ug/g						
		1,2,4-trimethylbenzene		<	0.10	ug/g						
		sec-butylbenzene		<	0.10	ug/g						
		1,3-dichlorobenzene		<	0.10	ug/g						
		4-isopropyltoluene		<	0.10	ug/g						
		1,4-dichlorobenzene		<	0.10	ug/g						
		1,2-dichlorobenzene		<	0.10	ug/g						
		n-butylbenzene		<	0.10	ug/g						
		1,2-dibromo-3-chloropropane (DBCP)		<	0.10	ug/g						
		1,2,4-trichlorobenzene		<	0.10	ug/g						
		1,3,5-trichlorobenzene		<	0.10	ug/g						
		hexachlorobutadiene		<	0.10	ug/g						
		naphthalene		<	0.25	ug/g						
		1,2,3-trichlorobenzene		<	0.10	ug/g						
		dibromofluoromethane SUR			99	%			78	114		
		toluene-D8 SUR			101	%			88	110		
		4-bromofluorobenzene SUR			100	%			86	115		
		a,a,a-trifluorotoluene SUR			93	%			70	130		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW5035A8260D	MLCS16014	dichlorodifluoromethane			0.82	ug/g	1	82	70	130		
		chloromethane			1.0	ug/g	1	100	70	130		
		vinyl chloride			0.99	ug/g	1	99	70	130		
		bromomethane			0.86	ug/g	1	86	70	130		
		chloroethane			1.0	ug/g	1	105	70	130		
		trichlorofluoromethane			1.1	ug/g	1	105	70	130		
		diethyl ether			1.0	ug/g	1	102	70	130		
		acetone		<	2.5	ug/g	1	107	70	130		
		1,1-dichloroethene			0.89	ug/g	1	89	70	130		
		methylene chloride			0.98	ug/g	1	98	70	130		
		carbon disulfide			0.76	ug/g	1	76	70	130		
		methyl t-butyl ether (MTBE)			1.1	ug/g	1	113	70	130		
		trans-1,2-dichloroethene			0.94	ug/g	1	94	70	130		
		isopropyl ether (DIPE)			1.1	ug/g	1	113	70	130		
		ethyl t-butyl ether (ETBE)			1.1	ug/g	1	106	70	130		
		1,1-dichloroethane			1.0	ug/g	1	102	70	130		
		t-butanol (TBA)			4.9	ug/g	5	98	70	130		
		2-butanone (MEK)			0.88	ug/g	1	88	70	130		
		2,2-dichloropropane			0.93	ug/g	1	93	70	130		
		cis-1,2-dichloroethene			1.0	ug/g	1	101	70	130		
		chloroform			1.0	ug/g	1	104	70	130		
		bromochloromethane			1.0	ug/g	1	105	70	130		
		tetrahydrofuran (THF)			1.1	ug/g	1	105	70	130		
		1,1,1-trichloroethane			1.0	ug/g	1	101	70	130		
		1,1-dichloropropene			0.99	ug/g	1	99	70	130		
		t-amyl-methyl ether (TAME)			1.1	ug/g	1	106	70	130		
		carbon tetrachloride			0.97	ug/g	1	97	70	130		
		1,2-dichloroethane			1.1	ug/g	1	107	70	130		
		benzene			1.0	ug/g	1	102	70	130		
		trichloroethene			1.0	ug/g	1	101	70	130		
		1,2-dichloropropane			1.0	ug/g	1	101	70	130		
		bromodichloromethane			0.98	ug/g	1	98	70	130		
		1,4-dioxane		<	2.5	ug/g	2	112	70	130		
		dibromomethane			1.1	ug/g	1	106	70	130		
		4-methyl-2-pentanone (MIBK)			0.97	ug/g	1	97	70	130		
		cis-1,3-dichloropropene			0.99	ug/g	1	99	70	130		
		toluene			1.0	ug/g	1	104	70	130		
		trans-1,3-dichloropropene			1.0	ug/g	1	100	70	130		
		2-hexanone			0.93	ug/g	1	93	70	130		
		1,1,2-trichloroethane			1.1	ug/g	1	105	70	130		
		1,3-dichloropropane			1.00	ug/g	1	100	70	130		
		tetrachloroethene			1.0	ug/g	1	100	70	130		
		dibromochloromethane			0.89	ug/g	1	89	70	130		
		1,2-dibromoethane (EDB)			0.96	ug/g	1	96	70	130		
		chlorobenzene			0.96	ug/g	1	96	70	130		
		1,1,1,2-tetrachloroethane			0.97	ug/g	1	97	70	130		
		ethylbenzene			1.0	ug/g	1	103	70	130		
		m&p-xylenes			2.1	ug/g	2	105	70	130		
		o-xylene			1.0	ug/g	1	101	70	130		

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW5035A8260D	MLCS16014	styrene		1.0	ug/g	1	102	70	130		
		bromoform		0.91	ug/g	1	91	70	130		
		isopropylbenzene		1.0	ug/g	1	102	70	130		
		1,1,2,2-tetrachloroethane		0.96	ug/g	1	96	70	130		
		1,2,3-trichloropropane		0.98	ug/g	1	98	70	130		
		n-propylbenzene		1.0	ug/g	1	104	70	130		
		bromobenzene		1.0	ug/g	1	105	70	130		
		1,3,5-trimethylbenzene		1.1	ug/g	1	107	70	130		
		2-chlorotoluene		1.1	ug/g	1	107	70	130		
		4-chlorotoluene		1.0	ug/g	1	103	70	130		
		tert-butylbenzene		1.0	ug/g	1	104	70	130		
		1,2,4-trimethylbenzene		1.1	ug/g	1	106	70	130		
		sec-butylbenzene		1.0	ug/g	1	105	70	130		
		1,3-dichlorobenzene		1.0	ug/g	1	105	70	130		
		4-isopropyltoluene		1.1	ug/g	1	106	70	130		
		1,4-dichlorobenzene		1.1	ug/g	1	107	70	130		
		1,2-dichlorobenzene		1.0	ug/g	1	105	70	130		
		n-butylbenzene		1.1	ug/g	1	105	70	130		
		1,2-dibromo-3-chloropropane (DBCP)		0.89	ug/g	1	89	70	130		
		1,2,4-trichlorobenzene		1.1	ug/g	1	105	70	130		
		1,3,5-trichlorobenzene		1.1	ug/g	1	107	70	130		
		hexachlorobutadiene		1.1	ug/g	1	107	70	130		
		naphthalene		1.1	ug/g	1	106	70	130		
		1,2,3-trichlorobenzene		1.1	ug/g	1	108	70	130		
		dibromofluoromethane SUR		100	%			78	114		
		toluene-D8 SUR		101	%			88	110		
		4-bromofluorobenzene SUR		99	%			86	115		
		a,a,a-trifluorotoluene SUR		100	%			70	130		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW5035A8260D	MLCSD16014	dichlorodifluoromethane			0.79	ug/g	1	79	70	130	4	30
		chloromethane			0.99	ug/g	1	99	70	130	1	30
		vinyl chloride			0.97	ug/g	1	97	70	130	2	30
		bromomethane			0.92	ug/g	1	92	70	130	7	30
		chloroethane			1.0	ug/g	1	105	70	130	0	30
		trichlorofluoromethane			1.0	ug/g	1	102	70	130	3	30
		diethyl ether			1.0	ug/g	1	100	70	130	2	30
		acetone		<	2.5	ug/g	1	105	70	130	1	30
		1,1-dichloroethene			0.86	ug/g	1	86	70	130	4	30
		methylene chloride			0.97	ug/g	1	97	70	130	0	30
		carbon disulfide			0.74	ug/g	1	74	70	130	3	30
		methyl t-butyl ether (MTBE)			1.1	ug/g	1	110	70	130	2	30
		trans-1,2-dichloroethene			0.95	ug/g	1	95	70	130	1	30
		isopropyl ether (DIPE)			1.1	ug/g	1	109	70	130	4	30
		ethyl t-butyl ether (ETBE)			1.0	ug/g	1	104	70	130	3	30
		1,1-dichloroethane			1.0	ug/g	1	102	70	130	0	30
		t-butanol (TBA)			4.9	ug/g	5	99	70	130	1	30
		2-butanone (MEK)			0.89	ug/g	1	89	70	130	2	30
		2,2-dichloropropane			0.92	ug/g	1	92	70	130	1	30
		cis-1,2-dichloroethene			1.0	ug/g	1	103	70	130	2	30
		chloroform			1.1	ug/g	1	106	70	130	1	30
		bromochloromethane			1.0	ug/g	1	103	70	130	2	30
		tetrahydrofuran (THF)			1.0	ug/g	1	105	70	130	0	30
		1,1,1-trichloroethane			1.00	ug/g	1	100	70	130	1	30
		1,1-dichloropropene			0.98	ug/g	1	98	70	130	2	30
		t-amyl-methyl ether (TAME)			1.0	ug/g	1	104	70	130	2	30
		carbon tetrachloride			0.97	ug/g	1	97	70	130	1	30
		1,2-dichloroethane			1.1	ug/g	1	109	70	130	1	30
		benzene			1.0	ug/g	1	102	70	130	1	30
		trichloroethene			0.99	ug/g	1	99	70	130	1	30
		1,2-dichloropropane			1.0	ug/g	1	101	70	130	0	30
		bromodichloromethane			0.98	ug/g	1	98	70	130	0	30
		1,4-dioxane		<	2.5	ug/g	2	115	70	130	2	30
		dibromomethane			1.1	ug/g	1	107	70	130	1	30
		4-methyl-2-pentanone (MIBK)			0.98	ug/g	1	98	70	130	1	30
		cis-1,3-dichloropropene			0.99	ug/g	1	99	70	130	0	30
		toluene			1.0	ug/g	1	104	70	130	0	30
		trans-1,3-dichloropropene			1.0	ug/g	1	100	70	130	0	30
		2-hexanone			0.98	ug/g	1	98	70	130	6	30
		1,1,2-trichloroethane			1.1	ug/g	1	105	70	130	0	30
		1,3-dichloropropane			1.0	ug/g	1	102	70	130	2	30
		tetrachloroethene			1.0	ug/g	1	104	70	130	3	30
		dibromochloromethane			0.93	ug/g	1	93	70	130	4	30
		1,2-dibromoethane (EDB)			0.99	ug/g	1	99	70	130	3	30
		chlorobenzene			1.00	ug/g	1	100	70	130	4	30
		1,1,1,2-tetrachloroethane			0.99	ug/g	1	99	70	130	2	30
		ethylbenzene			1.1	ug/g	1	106	70	130	3	30
		m&p-xylenes			2.2	ug/g	2	108	70	130	3	30
		o-xylene			1.0	ug/g	1	104	70	130	3	30

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW5035A8260D	MLCSD16014	styrene		1.1	ug/g	1	105	70	130	3	30
		bromoform		0.95	ug/g	1	95	70	130	4	30
		isopropylbenzene		1.1	ug/g	1	106	70	130	3	30
		1,1,2,2-tetrachloroethane		0.98	ug/g	1	98	70	130	2	30
		1,2,3-trichloropropane		1.0	ug/g	1	103	70	130	4	30
		n-propylbenzene		1.1	ug/g	1	107	70	130	3	30
		bromobenzene		1.1	ug/g	1	107	70	130	2	30
		1,3,5-trimethylbenzene		1.1	ug/g	1	110	70	130	3	30
		2-chlorotoluene		1.1	ug/g	1	111	70	130	3	30
		4-chlorotoluene		1.1	ug/g	1	105	70	130	2	30
		tert-butylbenzene		1.1	ug/g	1	107	70	130	3	30
		1,2,4-trimethylbenzene		1.1	ug/g	1	107	70	130	2	30
		sec-butylbenzene		1.1	ug/g	1	106	70	130	2	30
		1,3-dichlorobenzene		1.1	ug/g	1	107	70	130	3	30
		4-isopropyltoluene		1.1	ug/g	1	108	70	130	2	30
		1,4-dichlorobenzene		1.1	ug/g	1	109	70	130	2	30
		1,2-dichlorobenzene		1.1	ug/g	1	107	70	130	2	30
		n-butylbenzene		1.1	ug/g	1	107	70	130	1	30
		1,2-dibromo-3-chloropropane (DBCP)		0.89	ug/g	1	89	70	130	0	30
		1,2,4-trichlorobenzene		1.1	ug/g	1	109	70	130	3	30
		1,3,5-trichlorobenzene		1.1	ug/g	1	108	70	130	1	30
		hexachlorobutadiene		1.1	ug/g	1	110	70	130	3	30
		naphthalene		1.1	ug/g	1	108	70	130	3	30
		1,2,3-trichlorobenzene		1.1	ug/g	1	113	70	130	5	30
		dibromofluoromethane SUR		98	%			78	114		
		toluene-D8 SUR		102	%			88	110		
		4-bromofluorobenzene SUR		103	%			86	115		
		a,a,a-trifluorotoluene SUR		105	%			70	130		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R		Limits		RPD	RPD Limit
SW5035A8260D	MS16014	dichlorodifluoromethane	64661-001		0.54	ug/g	0.882	61	*	70	130		
		chloromethane	64661-001		0.76	ug/g	0.882	86		70	130		
		vinyl chloride	64661-001		0.77	ug/g	0.882	87		70	130		
		bromomethane	64661-001		0.47	ug/g	0.882	53	*	70	130		
		chloroethane	64661-001		0.85	ug/g	0.882	96		70	130		
		trichlorofluoromethane	64661-001		0.83	ug/g	0.882	95		70	130		
		diethyl ether	64661-001		0.81	ug/g	0.882	92		70	130		
		acetone	64661-001	<	2.2	ug/g	0.88	90		70	130		
		1,1-dichloroethene	64661-001		0.66	ug/g	0.882	75		70	130		
		methylene chloride	64661-001		0.76	ug/g	0.882	86		70	130		
		carbon disulfide	64661-001		0.57	ug/g	0.882	65	*	70	130		
		methyl t-butyl ether (MTBE)	64661-001		0.90	ug/g	0.882	102		70	130		
		trans-1,2-dichloroethene	64661-001		0.74	ug/g	0.882	84		70	130		
		isopropyl ether (DIPE)	64661-001		0.90	ug/g	0.882	102		70	130		
		ethyl t-butyl ether (ETBE)	64661-001		0.86	ug/g	0.882	98		70	130		
		1,1-dichloroethane	64661-001		0.80	ug/g	0.882	91		70	130		
		t-butanol (TBA)	64661-001		4.0	ug/g	4.40	91		70	130		
		2-butanone (MEK)	64661-001		0.73	ug/g	0.882	82		70	130		
		2,2-dichloropropane	64661-001		0.76	ug/g	0.882	86		70	130		
		cis-1,2-dichloroethene	64661-001		0.83	ug/g	0.882	94		70	130		
		chloroform	64661-001		0.84	ug/g	0.882	96		70	130		
		bromochloromethane	64661-001		0.83	ug/g	0.882	94		70	130		
		tetrahydrofuran (THF)	64661-001		0.84	ug/g	0.882	96		70	130		
		1,1,1-trichloroethane	64661-001		0.81	ug/g	0.882	92		70	130		
		1,1-dichloropropene	64661-001		0.79	ug/g	0.882	90		70	130		
		t-amyl-methyl ether (TAME)	64661-001		0.84	ug/g	0.882	95		70	130		
		carbon tetrachloride	64661-001		0.78	ug/g	0.882	89		70	130		
		1,2-dichloroethane	64661-001		0.87	ug/g	0.882	98		70	130		
		benzene	64661-001		0.81	ug/g	0.882	92		70	130		
		trichloroethene	64661-001		0.82	ug/g	0.882	93		70	130		
		1,2-dichloropropane	64661-001		0.81	ug/g	0.882	92		70	130		
		bromodichloromethane	64661-001		0.80	ug/g	0.882	91		70	130		
		1,4-dioxane	64661-001	<	2.2	ug/g	1.76	105		70	130		
		dibromomethane	64661-001		0.87	ug/g	0.882	98		70	130		
		4-methyl-2-pentanone (MIBK)	64661-001		0.82	ug/g	0.882	93		70	130		
		cis-1,3-dichloropropene	64661-001		0.80	ug/g	0.882	91		70	130		
		toluene	64661-001		0.83	ug/g	0.882	94		70	130		
		trans-1,3-dichloropropene	64661-001		0.83	ug/g	0.882	94		70	130		
		2-hexanone	64661-001		0.78	ug/g	0.882	88		70	130		
		1,1,2-trichloroethane	64661-001		0.84	ug/g	0.882	95		70	130		
		1,3-dichloropropane	64661-001		0.84	ug/g	0.882	95		70	130		
		tetrachloroethene	64661-001		0.85	ug/g	0.882	96		70	130		
		dibromochloromethane	64661-001		0.76	ug/g	0.882	86		70	130		
		1,2-dibromoethane (EDB)	64661-001		0.81	ug/g	0.882	91		70	130		
		chlorobenzene	64661-001		0.80	ug/g	0.882	91		70	130		
		1,1,1,2-tetrachloroethane	64661-001		0.80	ug/g	0.882	91		70	130		
		ethylbenzene	64661-001		0.85	ug/g	0.882	96		70	130		
		m&p-xylenes	64661-001		1.8	ug/g	1.76	100		70	130		
		o-xylene	64661-001		0.85	ug/g	0.882	97		70	130		

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW5035A8260D	MS16014	styrene	64661-001	0.86	ug/g	0.882	97	70	130		
		bromoform	64661-001	0.79	ug/g	0.882	90	70	130		
		isopropylbenzene	64661-001	0.86	ug/g	0.882	97	70	130		
		1,1,2,2-tetrachloroethane	64661-001	0.77	ug/g	0.882	88	70	130		
		1,2,3-trichloropropane	64661-001	0.84	ug/g	0.882	95	70	130		
		n-propylbenzene	64661-001	0.83	ug/g	0.882	94	70	130		
		bromobenzene	64661-001	0.83	ug/g	0.882	95	70	130		
		1,3,5-trimethylbenzene	64661-001	0.85	ug/g	0.882	97	70	130		
		2-chlorotoluene	64661-001	0.85	ug/g	0.882	97	70	130		
		4-chlorotoluene	64661-001	0.82	ug/g	0.882	93	70	130		
		tert-butylbenzene	64661-001	0.83	ug/g	0.882	94	70	130		
		1,2,4-trimethylbenzene	64661-001	0.85	ug/g	0.882	97	70	130		
		sec-butylbenzene	64661-001	0.83	ug/g	0.882	95	70	130		
		1,3-dichlorobenzene	64661-001	0.84	ug/g	0.882	95	70	130		
		4-isopropyltoluene	64661-001	0.85	ug/g	0.882	97	70	130		
		1,4-dichlorobenzene	64661-001	0.85	ug/g	0.882	96	70	130		
		1,2-dichlorobenzene	64661-001	0.83	ug/g	0.882	95	70	130		
		n-butylbenzene	64661-001	0.85	ug/g	0.882	96	70	130		
		1,2-dibromo-3-chloropropane (DBCP)	64661-001	0.70	ug/g	0.882	80	70	130		
		1,2,4-trichlorobenzene	64661-001	0.84	ug/g	0.882	96	70	130		
		1,3,5-trichlorobenzene	64661-001	0.83	ug/g	0.882	94	70	130		
		hexachlorobutadiene	64661-001	0.87	ug/g	0.882	99	70	130		
		naphthalene	64661-001	0.85	ug/g	0.882	97	70	130		
		1,2,3-trichlorobenzene	64661-001	0.89	ug/g	0.882	101	70	130		
		dibromofluoromethane SUR	64661-001	99	%			78	114		
		toluene-D8 SUR	64661-001	99	%			88	110		
		4-bromofluorobenzene SUR	64661-001	105	%			86	115		
		a,a,a-trifluorotoluene SUR	64661-001	110	%			70	130		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R		Limits		RPD	RPD Limit
SW5035A8260D	MSD16014	dichlorodifluoromethane	64661-001		0.58	ug/g	0.959	60	*	70	130	7	30
		chloromethane	64661-001		0.83	ug/g	0.959	87		70	130	9	30
		vinyl chloride	64661-001		0.83	ug/g	0.959	87		70	130	8	30
		bromomethane	64661-001		0.61	ug/g	0.959	64	*	70	130	26	30
		chloroethane	64661-001		0.92	ug/g	0.959	96		70	130	8	30
		trichlorofluoromethane	64661-001		0.90	ug/g	0.959	94		70	130	8	30
		diethyl ether	64661-001		0.86	ug/g	0.959	90		70	130	7	30
		acetone	64661-001	<	2.4	ug/g	0.95	96		70	130	14	30
		1,1-dichloroethene	64661-001		0.70	ug/g	0.959	73		70	130	6	30
		methylene chloride	64661-001		0.82	ug/g	0.959	85		70	130	7	30
		carbon disulfide	64661-001		0.61	ug/g	0.959	64	*	70	130	6	30
		methyl t-butyl ether (MTBE)	64661-001		0.97	ug/g	0.959	102		70	130	8	30
		trans-1,2-dichloroethene	64661-001		0.80	ug/g	0.959	84		70	130	8	30
		isopropyl ether (DIPE)	64661-001		0.99	ug/g	0.959	103		70	130	10	30
		ethyl t-butyl ether (ETBE)	64661-001		0.93	ug/g	0.959	97		70	130	8	30
		1,1-dichloroethane	64661-001		0.89	ug/g	0.959	92		70	130	10	30
		t-butanol (TBA)	64661-001		4.2	ug/g	4.79	88		70	130	4	30
		2-butanone (MEK)	64661-001		0.80	ug/g	0.959	83		70	130	9	30
		2,2-dichloropropane	64661-001		0.83	ug/g	0.959	87		70	130	9	30
		cis-1,2-dichloroethene	64661-001		0.89	ug/g	0.959	93		70	130	7	30
		chloroform	64661-001		0.93	ug/g	0.959	97		70	130	10	30
		bromochloromethane	64661-001		0.90	ug/g	0.959	94		70	130	7	30
		tetrahydrofuran (THF)	64661-001		0.92	ug/g	0.959	96		70	130	9	30
		1,1,1-trichloroethane	64661-001		0.87	ug/g	0.959	91		70	130	8	30
		1,1-dichloropropene	64661-001		0.85	ug/g	0.959	89		70	130	7	30
		t-amyl-methyl ether (TAME)	64661-001		0.92	ug/g	0.959	96		70	130	9	30
		carbon tetrachloride	64661-001		0.83	ug/g	0.959	87		70	130	7	30
		1,2-dichloroethane	64661-001		0.93	ug/g	0.959	97		70	130	7	30
		benzene	64661-001		0.89	ug/g	0.959	93		70	130	9	30
		trichloroethene	64661-001		0.88	ug/g	0.959	91		70	130	7	30
		1,2-dichloropropane	64661-001		0.89	ug/g	0.959	93		70	130	10	30
		bromodichloromethane	64661-001		0.86	ug/g	0.959	90		70	130	8	30
		1,4-dioxane	64661-001	<	2.4	ug/g	1.91	107		70	130	11	30
		dibromomethane	64661-001		0.92	ug/g	0.959	96		70	130	6	30
		4-methyl-2-pentanone (MIBK)	64661-001		0.88	ug/g	0.959	92		70	130	7	30
		cis-1,3-dichloropropene	64661-001		0.87	ug/g	0.959	91		70	130	8	30
		toluene	64661-001		0.90	ug/g	0.959	94		70	130	8	30
		trans-1,3-dichloropropene	64661-001		0.89	ug/g	0.959	93		70	130	7	30
		2-hexanone	64661-001		0.85	ug/g	0.959	88		70	130	9	30
		1,1,2-trichloroethane	64661-001		0.93	ug/g	0.959	97		70	130	10	30
		1,3-dichloropropane	64661-001		0.87	ug/g	0.959	91		70	130	3	30
		tetrachloroethene	64661-001		0.89	ug/g	0.959	93		70	130	5	30
		dibromochloromethane	64661-001		0.78	ug/g	0.959	82		70	130	3	30
		1,2-dibromoethane (EDB)	64661-001		0.84	ug/g	0.959	87		70	130	4	30
		chlorobenzene	64661-001		0.84	ug/g	0.959	88		70	130	5	30
		1,1,1,2-tetrachloroethane	64661-001		0.85	ug/g	0.959	88		70	130	6	30
		ethylbenzene	64661-001		0.90	ug/g	0.959	94		70	130	6	30
		m&p-xylenes	64661-001		1.9	ug/g	1.91	97		70	130	6	30
		o-xylene	64661-001		0.90	ug/g	0.959	94		70	130	5	30

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW5035A8260D	MSD16014	styrene	64661-001	0.91	ug/g	0.959	94	70	130	6	30
		bromoform	64661-001	0.81	ug/g	0.959	84	70	130	2	30
		isopropylbenzene	64661-001	0.90	ug/g	0.959	94	70	130	6	30
		1,1,2,2-tetrachloroethane	64661-001	0.84	ug/g	0.959	87	70	130	8	30
		1,2,3-trichloropropane	64661-001	0.87	ug/g	0.959	91	70	130	4	30
		n-propylbenzene	64661-001	0.91	ug/g	0.959	95	70	130	10	30
		bromobenzene	64661-001	0.91	ug/g	0.959	95	70	130	9	30
		1,3,5-trimethylbenzene	64661-001	0.96	ug/g	0.959	100	70	130	12	30
		2-chlorotoluene	64661-001	0.93	ug/g	0.959	98	70	130	9	30
		4-chlorotoluene	64661-001	0.89	ug/g	0.959	93	70	130	9	30
		tert-butylbenzene	64661-001	0.88	ug/g	0.959	92	70	130	6	30
		1,2,4-trimethylbenzene	64661-001	0.94	ug/g	0.959	98	70	130	10	30
		sec-butylbenzene	64661-001	0.92	ug/g	0.959	96	70	130	10	30
		1,3-dichlorobenzene	64661-001	0.93	ug/g	0.959	97	70	130	10	30
		4-isopropyltoluene	64661-001	0.95	ug/g	0.959	99	70	130	10	30
		1,4-dichlorobenzene	64661-001	0.94	ug/g	0.959	98	70	130	10	30
		1,2-dichlorobenzene	64661-001	0.92	ug/g	0.959	96	70	130	10	30
		n-butylbenzene	64661-001	0.94	ug/g	0.959	98	70	130	10	30
		1,2-dibromo-3-chloropropane (DBCP)	64661-001	0.76	ug/g	0.959	79	70	130	7	30
		1,2,4-trichlorobenzene	64661-001	0.96	ug/g	0.959	100	70	130	13	30
		1,3,5-trichlorobenzene	64661-001	0.94	ug/g	0.959	98	70	130	12	30
		hexachlorobutadiene	64661-001	0.96	ug/g	0.959	100	70	130	10	30
		naphthalene	64661-001	0.95	ug/g	0.959	99	70	130	11	30
		1,2,3-trichlorobenzene	64661-001	0.99	ug/g	0.959	103	70	130	11	30
		dibromofluoromethane SUR	64661-001	98	%			78	114		
		toluene-D8 SUR	64661-001	102	%			88	110		
		4-bromofluorobenzene SUR	64661-001	97	%			86	115		
		a,a,a-trifluorotoluene SUR	64661-001	110	%			70	130		

Absolute Resource associates
124 Heritage Avenue #16
Portsmouth, NH 03801
603-436-2001
absoluteresourceassociates.com

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

64661

Company Name: Credere

Company Address: 776 Main St, Westbrook, ME

Report To: Maira Wentworth
mwentworth@crederellc.com

Phone #: (207) 828-1272

Project Name: WW Cross

Project #: 21001639

Project Location: (NH) MA ME VT _____

Accreditation Required? N/Y: _____
See absoluteresourceassociates.com for sample acceptance policy and current accreditation lists.

Protocol: RCRA SDWA NPDES MCP NHDES DOD
Notify ARA if your samples require specific methods, certifications or compliance protocol.

Reporting Limits: QAPP GW-1 S-1 EPA DW Other_____

ANALYSIS REQUEST

Lab Sample ID (Lab Use Only)	Field ID	# CONTAINERS	Matrix: WATER	Matrix: SOLID	Matrix: OTHER	Preservation Method: HCl	Preservation Method: HNO_3	Preservation Method: H_2SO_4	Preservation Method: NaOH	Preservation Method: MeOH	Sampling: DATE	Sampling: TIME	Sampling: SAMPLER	☒ VOC 8260	Grab (G) or Composite (C)
64661-01	CA-SB-17(17.5-18.5/18)	4		X						X	3.1.23	1240	LAK	X	G
-02	CA-SB-15(17-18/18.5)	2		X						X	3.1.23	1430	LAK	X	G

☒ VOC 8260 ☐ VOC 8260 NHDES ☐ VOC 8260 MADEP ☐ VOC 624.1 ☐ VOC BTEX MBE. only ☐ VOC 8021VT ☐ VPH MADEP ☐ GRO 8015 ☐ 1,4-Dioxane ☐ VOC 524.2 ☐ VOC 524.2 NH List ☐ Gases-List: ☐ TPH 8100 ☐ DRO 8015 ☐ EPH MADEP ☐ TPH Fingerprint ☐ 8270PAH ☐ 8270ABN ☐ 625.1 ☐ EDB ☐ 8082 PCB ☐ 8081 Pesticides ☐ 608.3 Pest/PCB ☐ PFAS 537.1 ☐ PFAS 533 ☐ PFAS isotope dilution ☐ O&G 1664 ☐ Mineral O&G 1664 ☐ pH ☐ BOD ☐ Conductivity ☐ Turbidity ☐ Apparent Color ☐ TSS ☐ TDS ☐ TS ☐ TVS ☐ Alkalinity ☐ Acidity ☐ RCRA Metals ☐ Priority Pollutant Metals ☐ TAL Metals ☐ Hardness ☐ Total Metals-list: ☐ Dissolved Metals-list: ☐ Ammonia ☐ COD ☐ TKN ☐ TN ☐ TON ☐ TOC ☐ Ferrous Iron ☐ T-Phosphorus ☐ Bacteria P/A ☐ Bacteria MPN ☐ Enterococci ☐ Cyanide ☐ Sulfide ☐ Nitrate + Nitrite ☐ Ortho P ☐ Phenols ☐ Nitrate ☐ Nitrite ☐ Chloride ☐ Sulfate ☐ Bromide ☐ Fluoride ☐ Corrosivity ☐ Ignitibility/FP ☐ TCLP Metals ☐ TCLP VOC ☐ TCLP SVOC ☐ TCLP Pesticide Subcontract: ☐ Grain Size ☐ Herbicides ☐ Asbestos

TAT REQUESTED
Priority (24 hr)* ☐
Expedited (48 hr)* ☐
Standard ☒
(10 Business Days)
*Date Needed_____

Invoice To: invoices@crederellc.com
Email: jenn@crederellc.com
PO #: 21001639
Quote #: _____
☐ NH Reimbursement Pricing

SPECIAL INSTRUCTIONS MS/MSD on CA-SB-17(17.5-18.5/18), Jar included for dry weight

Reporting Instructions:
☐ EDD:_____ Report To (email): _____

RECEIVED ON ICE ☒ YES ☐ NO
TEMPERATURE 10 °C

CUSTODY RECORD
QSD-01 Revision 07/27/2022

	Date	Time		Date	Time
Relinquished by Sampler:	3-2	1010	Received by:	3/2	10:10
Relinquished by:			Received by:		
Relinquished by:	3/2	12:30	Received by Laboratory:	3/2/23	12:30

Sample Receipt Condition Report

64661

Absolute Resource Associates **Job Number:**

Samples Received from: ☐-UPS ☐-FedEx ☐-USPS ☒-Lab Courier ☐-Client Drop-off ☐-_____

Custody Seals - present & intact: ☐-Yes ☐-No ☒-N/A CoC signed: ☒-Yes ☐-No

Receipt Temp: 6 °C Samples on ice? ☒-Yes ☐-No ☐-N/A Sampled < 24 hrs ago? ☐-Yes ☒-No

PFAS-only real ice? ☐-Yes ☐-No ☒-N/A Any signs of freezing? ☐-Yes ☒-No

Comments:_____

Preservation / Analysis	Bottle Size/Type & Quantity										Check pH for ALL applicable* samples and document:
HCl	40mL(G)		250mL(P)		500mL(P)		1L(G)				
HNO_3	125mL(P)		250mL(P)		500mL(P)						
H_2SO_4	40mL(G)		60mL(P)		125mL(P)		250mL(P)		500mL(P)		
NaOH	125mL(P)		250mL(P)								
$(NH_4)_2SO_4$	60mL(P)		125mL(P)		250mL(P)						
ZnAc-NaOH	125mL(P)		250mL(P)								
Trizma	125mL(P)		250mL (P)								
NH_4Ac	125mL(P)		250mL (P)								
NaS_2O_3	40mL(G)		120mL(P)								
MeOH	20mL(G)		40mL(G)	4							
None (solid)	2oz(G)		4oz(G)	2	8oz(G)		Syringe				
None (water)	40ml (G)		60mL(P)		125mL(P)		250mL(P)		500mL(P)		
Mold	Cassette		Bulk		Plate		Tape Lift				
~~Asbestos~~	~~Cassette~~		~~Bulk~~								
Lead	Cassette		Bulk		Wipe						

*pH ✓by analyst:VOC, PFAS, TOC,O&G
Residual Cl not present:
ABN625____Pest608____
Bacteria ResCl ✓by analyst

PC Dry applicable? Y N S.O

1L(G) 1L (P)

Login Review	Yes	No	NA	Comments
Proper lab sample containers/enough volume/correct preservative?	X			
Analyses marked on COC match bottles received?	X			
VOC &TOC Water-no headspace? VOC Solid-MeOH covers solid, no leaks, Prep Expiration OK?	X			
PFAS: ARA bottles & samples/FRB same Lot#? QC rec'd, if req'd?			X	Lot ID#:_____
Bacteria bottles provided by ARA?			X	
Samples within holding time?	X			
Immediate tests communicated in writing: NO_3, NO_2,o-PO_4, pH, BOD, Coliform/*E. coli* (P/A or MPN), Enterococci, Color Surfactants, Turbidity, Odor, CrVI, Ferrous Iron, Dissolved Oxygen, Unpres 624			X	
Date, time & ID on samples match CoC?	X			
Rushes communicated to analyst in writing?			X	
Subcontracted samples sent to sub lab?			X	Date Prep'd:_____ Date sent:_____
Pesticides EPA 608 pH5-9?			X	
Compliance samples have no discrepancies/require no flags?			X	(Or must be rejected)
Log-in Supervisor notified immediately of following items:			X	Discrepancies, compliance samples (NHDES, MADEP, DoD etc.) or uncommon requests.

Inspected and Received By: S.O Date/Time: 3/2/23 13:57

Peer Review Checklist

☐ Client ID/Project Manager	☐ On Ice, Temperature OK?	☐ Sample IDs	☐ Analyses in Correctly
☐ Project Name	☐ PO# (if provided)	☐ Matrix	-references
☐ TAT/rushes communicated	☐ Sub samples sent? Shipping Charge?	☐ Date/Time collected	-wastewater methods
☐ Received Date/Time	☐ Issues noted above communicated?	☐ Short HTs communicated	☐ Notes from CoC in LIMS

Reviewed By: _____ Date: _____

Notes: (continue on back as needed)

	Initials	Date	What was sent?
Uploaded / PDF	_____	_____	Report / Data / EDD / Invoice
Uploaded / PDF	_____	_____	Report / Data / EDD / Invoice
Uploaded / PDF	_____	_____	Report / Data / EDD / Invoice

ANALYTICAL REPORT

Lab Number:	L2315874
Client:	Credere Associates, LLC 776 Main Street Westbrook, ME 04092
ATTN:	Moira Wentworth
Phone:	(207) 828-1272
Project Name:	WW CROSS
Project Number:	21001639
Report Date:	06/22/23

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

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

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2315874-01	CA-MW-302	WATER	JAFFREY, NH	03/23/23 14:00	03/27/23
L2315874-02	CA-MW-303	WATER	JAFFREY, NH	03/24/23 11:15	03/27/23
L2315874-03	CA-MW-304	WATER	JAFFREY, NH	03/24/23 10:45	03/27/23
L2315874-04	MW-102	WATER	JAFFREY, NH	03/23/23 16:20	03/27/23
L2315874-05	MW-103	WATER	JAFFREY, NH	03/23/23 15:50	03/27/23
L2315874-06	MW-105	WATER	JAFFREY, NH	03/23/23 11:40	03/27/23
L2315874-07	MW-106	WATER	JAFFREY, NH	03/23/23 12:50	03/27/23
L2315874-08	MW-108	WATER	JAFFREY, NH	03/23/23 13:10	03/27/23
L2315874-09	MW-203	WATER	JAFFREY, NH	03/23/23 16:45	03/27/23
L2315874-10	MW-2	WATER	JAFFREY, NH	03/24/23 12:10	03/27/23
L2315874-11	MW-6D	WATER	JAFFREY, NH	03/24/23 13:20	03/27/23
L2315874-12	DUP-1	WATER	JAFFREY, NH	03/24/23 10:45	03/27/23
L2315874-13	TRIP BLANK	WATER	JAFFREY, NH	03/24/23 12:00	03/27/23
L2315874-14	FIELD BLANK	WATER	JAFFREY, NH	03/24/23 00:00	03/27/23

Project Name:	WW CROSS	**Lab Number:**	L2315874
Project Number:	21001639	**Report Date:**	06/22/23

Case Narrative

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

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

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

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

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

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

Project Name:	WW CROSS	**Lab Number:**	L2315874
Project Number:	21001639	**Report Date:**	06/22/23

Case Narrative (continued)

Report Revision

June 22, 2023: The Client IDs were amended on L2315874-04 through -11, and an updated Chain of Custody is included as an addendum.

Perfluorinated Alkyl Acids by Isotope Dilution

L2315874-01, -02, -03, -09, -12, and WG1767504-3: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

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

Authorized Signature: Cristin Walker

Title: Technical Director/Representative Date: 06/22/23

ORGANICS

VOLATILES

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-01
Client ID: CA-MW-302
Sample Location: JAFFREY, NH

Date Collected: 03/23/23 14:00
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 04/02/23 19:48
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	1.4		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1

Project Name: WW CROSS **Lab Number:** L2315874

Project Number: 21001639 **Report Date:** 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-01 Date Collected: 03/23/23 14:00

Client ID: CA-MW-302 Date Received: 03/27/23

Sample Location: JAFFREY, NH Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-01
Client ID: CA-MW-302
Sample Location: JAFFREY, NH
Date Collected: 03/23/23 14:00
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,3,5-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	105		70-130

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-02
Client ID: CA-MW-303
Sample Location: JAFFREY, NH

Date Collected: 03/24/23 11:15
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 04/02/23 20:12
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	3.0		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1

Project Name: WW CROSS **Lab Number:** L2315874

Project Number: 21001639 **Report Date:** 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-02 Date Collected: 03/24/23 11:15

Client ID: CA-MW-303 Date Received: 03/27/23

Sample Location: JAFFREY, NH Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-02
Client ID: CA-MW-303
Sample Location: JAFFREY, NH
Date Collected: 03/24/23 11:15
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,3,5-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	105		70-130

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-03
Client ID: CA-MW-304
Sample Location: JAFFREY, NH

Date Collected: 03/24/23 10:45
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 04/02/23 20:36
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	1.4		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1

Project Name: WW CROSS **Lab Number:** L2315874

Project Number: 21001639 **Report Date:** 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-03 Date Collected: 03/24/23 10:45

Client ID: CA-MW-304 Date Received: 03/27/23

Sample Location: JAFFREY, NH Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	5.4		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-03
Client ID: CA-MW-304
Sample Location: JAFFREY, NH
Date Collected: 03/24/23 10:45
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,3,5-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	105		70-130

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-04
Client ID: MW-102
Sample Location: JAFFREY, NH

Date Collected: 03/23/23 16:20
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 04/02/23 21:00
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	5.5		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1

Project Name: WW CROSS **Lab Number:** L2315874

Project Number: 21001639 **Report Date:** 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-04 Date Collected: 03/23/23 16:20

Client ID: MW-102 Date Received: 03/27/23

Sample Location: JAFFREY, NH Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-04
Client ID: MW-102
Sample Location: JAFFREY, NH
Date Collected: 03/23/23 16:20
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,3,5-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	106		70-130

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-05
Client ID: MW-103
Sample Location: JAFFREY, NH

Date Collected: 03/23/23 15:50
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 04/02/23 21:23
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	0.57		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1

Project Name: WW CROSS **Lab Number:** L2315874

Project Number: 21001639 **Report Date:** 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-05 Date Collected: 03/23/23 15:50

Client ID: MW-103 Date Received: 03/27/23

Sample Location: JAFFREY, NH Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1

Project Name: WW CROSS **Lab Number:** L2315874

Project Number: 21001639 **Report Date:** 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-05 Date Collected: 03/23/23 15:50

Client ID: MW-103 Date Received: 03/27/23

Sample Location: JAFFREY, NH Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,3,5-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	105		70-130

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-06
Client ID: MW-105
Sample Location: JAFFREY, NH

Date Collected: 03/23/23 11:40
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 04/02/23 21:47
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1

Project Name: WW CROSS **Lab Number:** L2315874

Project Number: 21001639 **Report Date:** 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-06 Date Collected: 03/23/23 11:40

Client ID: MW-105 Date Received: 03/27/23

Sample Location: JAFFREY, NH Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-06
Client ID: MW-105
Sample Location: JAFFREY, NH
Date Collected: 03/23/23 11:40
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,3,5-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	104		70-130

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-07
Client ID: MW-106
Sample Location: JAFFREY, NH

Date Collected: 03/23/23 12:50
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 04/02/23 22:10
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1

Project Name: WW CROSS **Lab Number:** L2315874

Project Number: 21001639 **Report Date:** 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-07 Date Collected: 03/23/23 12:50

Client ID: MW-106 Date Received: 03/27/23

Sample Location: JAFFREY, NH Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-07
Client ID: MW-106
Sample Location: JAFFREY, NH
Date Collected: 03/23/23 12:50
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,3,5-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	105		70-130

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-08
Client ID: MW-108
Sample Location: JAFFREY, NH

Date Collected: 03/23/23 13:10
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 04/02/23 22:34
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1

Project Name: WW CROSS **Lab Number:** L2315874

Project Number: 21001639 **Report Date:** 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-08 Date Collected: 03/23/23 13:10

Client ID: MW-108 Date Received: 03/27/23

Sample Location: JAFFREY, NH Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-08
Client ID: MW-108
Sample Location: JAFFREY, NH
Date Collected: 03/23/23 13:10
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,3,5-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	105		70-130

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-09
Client ID: MW-203
Sample Location: JAFFREY, NH

Date Collected: 03/23/23 16:45
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 04/02/23 22:58
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	2.7		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1

Project Name: WW CROSS **Lab Number:** L2315874

Project Number: 21001639 **Report Date:** 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-09 Date Collected: 03/23/23 16:45

Client ID: MW-203 Date Received: 03/27/23

Sample Location: JAFFREY, NH Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1

Project Name: WW CROSS **Lab Number:** L2315874

Project Number: 21001639 **Report Date:** 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-09 Date Collected: 03/23/23 16:45

Client ID: MW-203 Date Received: 03/27/23

Sample Location: JAFFREY, NH Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,3,5-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	106		70-130

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-10
Client ID: MW-2
Sample Location: JAFFREY, NH

Date Collected: 03/24/23 12:10
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 04/03/23 09:41
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	4.1		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1

Project Name: WW CROSS **Lab Number:** L2315874

Project Number: 21001639 **Report Date:** 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-10 Date Collected: 03/24/23 12:10

Client ID: MW-2 Date Received: 03/27/23

Sample Location: JAFFREY, NH Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-10
Client ID: MW-2
Sample Location: JAFFREY, NH
Date Collected: 03/24/23 12:10
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,3,5-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	103		70-130

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-11
Client ID: MW-6D
Sample Location: JAFFREY, NH

Date Collected: 03/24/23 13:20
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 04/03/23 10:05
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	7.3		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1

Project Name: WW CROSS **Lab Number:** L2315874

Project Number: 21001639 **Report Date:** 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-11 Date Collected: 03/24/23 13:20

Client ID: MW-6D Date Received: 03/27/23

Sample Location: JAFFREY, NH Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-11
Client ID: MW-6D
Sample Location: JAFFREY, NH
Date Collected: 03/24/23 13:20
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,3,5-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	102		70-130

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-12
Client ID: DUP-1
Sample Location: JAFFREY, NH

Date Collected: 03/24/23 10:45
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 04/02/23 23:22
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	1.4		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1

Project Name: WW CROSS **Lab Number:** L2315874

Project Number: 21001639 **Report Date:** 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-12 Date Collected: 03/24/23 10:45

Client ID: DUP-1 Date Received: 03/27/23

Sample Location: JAFFREY, NH Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	5.8		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-12
Client ID: DUP-1
Sample Location: JAFFREY, NH
Date Collected: 03/24/23 10:45
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,3,5-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	104		70-130

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-13
Client ID: TRIP BLANK
Sample Location: JAFFREY, NH
Date Collected: 03/24/23 12:00
Date Received: 03/27/23
Field Prep: None

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 04/03/23 10:28
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1

Project Name: WW CROSS **Lab Number:** L2315874

Project Number: 21001639 **Report Date:** 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-13 Date Collected: 03/24/23 12:00

Client ID: TRIP BLANK Date Received: 03/27/23

Sample Location: JAFFREY, NH Field Prep: None

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-13
Client ID: TRIP BLANK
Sample Location: JAFFREY, NH
Date Collected: 03/24/23 12:00
Date Received: 03/27/23
Field Prep: None

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,3,5-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	105		70-130

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 04/02/23 15:25
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-09,12 Batch: WG1762147-5					
Methylene chloride	ND		ug/l	3.0	--
1,1-Dichloroethane	ND		ug/l	0.75	--
Chloroform	ND		ug/l	0.75	--
Carbon tetrachloride	ND		ug/l	0.50	--
1,2-Dichloropropane	ND		ug/l	1.8	--
Dibromochloromethane	ND		ug/l	0.50	--
1,1,2-Trichloroethane	ND		ug/l	0.75	--
Tetrachloroethene	ND		ug/l	0.50	--
Chlorobenzene	ND		ug/l	0.50	--
Trichlorofluoromethane	ND		ug/l	2.5	--
1,2-Dichloroethane	ND		ug/l	0.50	--
1,1,1-Trichloroethane	ND		ug/l	0.50	--
Bromodichloromethane	ND		ug/l	0.50	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,3-Dichloropropene, Total	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.5	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	0.75	--
Ethylbenzene	ND		ug/l	0.50	--
Chloromethane	ND		ug/l	2.5	--
Bromomethane	ND		ug/l	1.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	0.50	--
trans-1,2-Dichloroethene	ND		ug/l	0.75	--
1,2-Dichloroethene, Total	ND		ug/l	0.50	--

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 04/02/23 15:25
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-09,12 Batch: WG1762147-5					
Trichloroethene	ND		ug/l	0.50	--
1,2-Dichlorobenzene	ND		ug/l	2.5	--
1,3-Dichlorobenzene	ND		ug/l	2.5	--
1,4-Dichlorobenzene	ND		ug/l	2.5	--
Methyl tert butyl ether	ND		ug/l	1.0	--
p/m-Xylene	ND		ug/l	1.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	0.50	--
Dibromomethane	ND		ug/l	5.0	--
1,2,3-Trichloropropane	ND		ug/l	5.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	5.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	5.0	--
2-Butanone	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.5	--
Tetrahydrofuran	ND		ug/l	5.0	--
2,2-Dichloropropane	ND		ug/l	2.5	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--
Bromobenzene	ND		ug/l	2.5	--
n-Butylbenzene	ND		ug/l	0.50	--
sec-Butylbenzene	ND		ug/l	0.50	--
tert-Butylbenzene	ND		ug/l	2.5	--
o-Chlorotoluene	ND		ug/l	2.5	--
p-Chlorotoluene	ND		ug/l	2.5	--

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 04/02/23 15:25
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-09,12 Batch: WG1762147-5					
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--
Hexachlorobutadiene	ND		ug/l	0.50	--
Isopropylbenzene	ND		ug/l	0.50	--
p-Isopropyltoluene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	2.5	--
n-Propylbenzene	ND		ug/l	0.50	--
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--
1,3,5-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--
Ethyl ether	ND		ug/l	2.5	--
Isopropyl Ether	ND		ug/l	2.0	--
Tert-Butyl Alcohol	ND		ug/l	10	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	103		70-130

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 04/03/23 09:17
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 10-11,13 Batch: WG1762384-5					
Methylene chloride	ND		ug/l	3.0	--
1,1-Dichloroethane	ND		ug/l	0.75	--
Chloroform	ND		ug/l	0.75	--
Carbon tetrachloride	ND		ug/l	0.50	--
1,2-Dichloropropane	ND		ug/l	1.8	--
Dibromochloromethane	ND		ug/l	0.50	--
1,1,2-Trichloroethane	ND		ug/l	0.75	--
Tetrachloroethene	ND		ug/l	0.50	--
Chlorobenzene	ND		ug/l	0.50	--
Trichlorofluoromethane	ND		ug/l	2.5	--
1,2-Dichloroethane	ND		ug/l	0.50	--
1,1,1-Trichloroethane	ND		ug/l	0.50	--
Bromodichloromethane	ND		ug/l	0.50	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,3-Dichloropropene, Total	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.5	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	0.75	--
Ethylbenzene	ND		ug/l	0.50	--
Chloromethane	ND		ug/l	2.5	--
Bromomethane	ND		ug/l	1.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	0.50	--
trans-1,2-Dichloroethene	ND		ug/l	0.75	--
1,2-Dichloroethene, Total	ND		ug/l	0.50	--

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 04/03/23 09:17
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 10-11,13 Batch: WG1762384-5					
Trichloroethene	ND		ug/l	0.50	--
1,2-Dichlorobenzene	ND		ug/l	2.5	--
1,3-Dichlorobenzene	ND		ug/l	2.5	--
1,4-Dichlorobenzene	ND		ug/l	2.5	--
Methyl tert butyl ether	ND		ug/l	1.0	--
p/m-Xylene	ND		ug/l	1.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	0.50	--
Dibromomethane	ND		ug/l	5.0	--
1,2,3-Trichloropropane	ND		ug/l	5.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	5.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	5.0	--
2-Butanone	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.5	--
Tetrahydrofuran	ND		ug/l	5.0	--
2,2-Dichloropropane	ND		ug/l	2.5	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--
Bromobenzene	ND		ug/l	2.5	--
n-Butylbenzene	ND		ug/l	0.50	--
sec-Butylbenzene	ND		ug/l	0.50	--
tert-Butylbenzene	ND		ug/l	2.5	--
o-Chlorotoluene	ND		ug/l	2.5	--
p-Chlorotoluene	ND		ug/l	2.5	--

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 04/03/23 09:17
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 10-11,13 Batch: WG1762384-5					
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--
Hexachlorobutadiene	ND		ug/l	0.50	--
Isopropylbenzene	ND		ug/l	0.50	--
p-Isopropyltoluene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	2.5	--
n-Propylbenzene	ND		ug/l	0.50	--
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--
1,3,5-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--
Ethyl ether	ND		ug/l	2.5	--
Isopropyl Ether	ND		ug/l	2.0	--
Tert-Butyl Alcohol	ND		ug/l	10	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	103		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-09,12 Batch: WG1762147-3 WG1762147-4								
Methylene chloride	94		89		70-130	5		20
1,1-Dichloroethane	92		90		70-130	2		20
Chloroform	94		94		70-130	0		20
Carbon tetrachloride	100		100		63-132	0		20
1,2-Dichloropropane	91		89		70-130	2		20
Dibromochloromethane	99		97		63-130	2		20
1,1,2-Trichloroethane	91		91		70-130	0		20
Tetrachloroethene	100		97		70-130	3		20
Chlorobenzene	100		98		75-130	2		25
Trichlorofluoromethane	120		110		62-150	9		20
1,2-Dichloroethane	98		94		70-130	4		20
1,1,1-Trichloroethane	100		100		67-130	0		20
Bromodichloromethane	96		96		67-130	0		20
trans-1,3-Dichloropropene	92		87		70-130	6		20
cis-1,3-Dichloropropene	89		89		70-130	0		20
1,1-Dichloropropene	96		99		70-130	3		20
Bromoform	90		85		54-136	6		20
1,1,2,2-Tetrachloroethane	99		91		67-130	8		20
Benzene	99		98		70-130	1		25
Toluene	97		95		70-130	2		25
Ethylbenzene	96		95		70-130	1		20
Chloromethane	84		88		64-130	5		20
Bromomethane	99		97		39-139	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-09,12 Batch: WG1762147-3 WG1762147-4								
Vinyl chloride	89		88		55-140	1		20
Chloroethane	**190**	Q	**180**	Q	55-138	5		20
1,1-Dichloroethene	89		99		61-145	11		25
trans-1,2-Dichloroethene	90		95		70-130	5		20
Trichloroethene	94		94		70-130	0		25
1,2-Dichlorobenzene	100		100		70-130	0		20
1,3-Dichlorobenzene	100		99		70-130	1		20
1,4-Dichlorobenzene	100		100		70-130	0		20
Methyl tert butyl ether	90		80		63-130	12		20
p/m-Xylene	95		95		70-130	0		20
o-Xylene	90		90		70-130	0		20
cis-1,2-Dichloroethene	94		94		70-130	0		20
Dibromomethane	100		95		70-130	5		20
1,2,3-Trichloropropane	100		93		64-130	7		20
Styrene	90		90		70-130	0		20
Dichlorodifluoromethane	100		100		36-147	0		20
Acetone	120		120		58-148	0		20
Carbon disulfide	91		90		51-130	1		20
2-Butanone	89		84		63-138	6		20
4-Methyl-2-pentanone	87		80		59-130	8		20
2-Hexanone	90		85		57-130	6		20
Bromochloromethane	94		92		70-130	2		20
Tetrahydrofuran	87		87		58-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-09,12 Batch: WG1762147-3 WG1762147-4								
2,2-Dichloropropane	96		85		63-133	12		20
1,2-Dibromoethane	98		95		70-130	3		20
1,1,1,2-Tetrachloroethane	98		100		64-130	2		20
Bromobenzene	100		100		70-130	0		20
n-Butylbenzene	91		93		53-136	2		20
sec-Butylbenzene	100		100		70-130	0		20
tert-Butylbenzene	110		100		70-130	10		20
o-Chlorotoluene	100		98		70-130	2		20
p-Chlorotoluene	100		98		70-130	2		20
1,2-Dibromo-3-chloropropane	95		86		41-144	10		20
Hexachlorobutadiene	84		80		63-130	5		20
Isopropylbenzene	100		100		70-130	0		20
p-Isopropyltoluene	100		100		70-130	0		20
Naphthalene	75		71		70-130	5		20
n-Propylbenzene	99		100		69-130	1		20
1,2,3-Trichlorobenzene	79		78		70-130	1		20
1,2,4-Trichlorobenzene	81		80		70-130	1		20
1,3,5-Trimethylbenzene	99		97		64-130	2		20
1,3,5-Trichlorobenzene	87		84		70-130	4		20
1,2,4-Trimethylbenzene	97		95		70-130	2		20
Ethyl ether	89		95		59-134	7		20
Isopropyl Ether	82		82		70-130	0		20
Tert-Butyl Alcohol	84		84		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: WW CROSS

Project Number: 21001639

Lab Number: L2315874

Report Date: 06/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-09,12 Batch: WG1762147-3 WG1762147-4								
Ethyl-Tert-Butyl-Ether	78		71		70-130	9		20
Tertiary-Amyl Methyl Ether	83		76		66-130	9		20
1,4-Dioxane	96		88		56-162	9		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		107		70-130
Toluene-d8	104		104		70-130
4-Bromofluorobenzene	106		103		70-130
Dibromofluoromethane	100		102		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 10-11,13 Batch: WG1762384-3 WG1762384-4								
Methylene chloride	95		91		70-130	4		20
1,1-Dichloroethane	92		91		70-130	1		20
Chloroform	97		95		70-130	2		20
Carbon tetrachloride	98		94		63-132	4		20
1,2-Dichloropropane	90		88		70-130	2		20
Dibromochloromethane	99		97		63-130	2		20
1,1,2-Trichloroethane	91		91		70-130	0		20
Tetrachloroethene	95		95		70-130	0		20
Chlorobenzene	100		98		75-130	2		25
Trichlorofluoromethane	110		110		62-150	0		20
1,2-Dichloroethane	100		94		70-130	6		20
1,1,1-Trichloroethane	99		97		67-130	2		20
Bromodichloromethane	96		94		67-130	2		20
trans-1,3-Dichloropropene	90		83		70-130	8		20
cis-1,3-Dichloropropene	89		84		70-130	6		20
1,1-Dichloropropene	94		94		70-130	0		20
Bromoform	96		90		54-136	6		20
1,1,2,2-Tetrachloroethane	100		95		67-130	5		20
Benzene	97		96		70-130	1		25
Toluene	96		95		70-130	1		25
Ethylbenzene	94		92		70-130	2		20
Chloromethane	86		85		64-130	1		20
Bromomethane	110		100		39-139	10		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 10-11,13 Batch: WG1762384-3 WG1762384-4								
Vinyl chloride	86		82		55-140	5		20
Chloroethane	**180**	Q	**170**	Q	55-138	6		20
1,1-Dichloroethene	95		89		61-145	7		25
trans-1,2-Dichloroethene	92		90		70-130	2		20
Trichloroethene	94		92		70-130	2		25
1,2-Dichlorobenzene	110		100		70-130	10		20
1,3-Dichlorobenzene	110		100		70-130	10		20
1,4-Dichlorobenzene	110		110		70-130	0		20
Methyl tert butyl ether	84		71		63-130	17		20
p/m-Xylene	95		95		70-130	0		20
o-Xylene	95		90		70-130	5		20
cis-1,2-Dichloroethene	94		90		70-130	4		20
Dibromomethane	99		97		70-130	2		20
1,2,3-Trichloropropane	100		95		64-130	5		20
Styrene	90		90		70-130	0		20
Dichlorodifluoromethane	95		94		36-147	1		20
Acetone	100		120		58-148	18		20
Carbon disulfide	89		84		51-130	6		20
2-Butanone	76		88		63-138	15		20
4-Methyl-2-pentanone	73		80		59-130	9		20
2-Hexanone	80		76		57-130	5		20
Bromochloromethane	93		88		70-130	6		20
Tetrahydrofuran	86		78		58-130	10		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 10-11,13 Batch: WG1762384-3 WG1762384-4								
2,2-Dichloropropane	86		72		63-133	18		20
1,2-Dibromoethane	98		92		70-130	6		20
1,1,1,2-Tetrachloroethane	99		100		64-130	1		20
Bromobenzene	100		100		70-130	0		20
n-Butylbenzene	95		91		53-136	4		20
sec-Butylbenzene	100		100		70-130	0		20
tert-Butylbenzene	100		100		70-130	0		20
o-Chlorotoluene	100		100		70-130	0		20
p-Chlorotoluene	100		100		70-130	0		20
1,2-Dibromo-3-chloropropane	100		89		41-144	12		20
Hexachlorobutadiene	82		81		63-130	1		20
Isopropylbenzene	100		100		70-130	0		20
p-Isopropyltoluene	100		98		70-130	2		20
Naphthalene	72		**68**	Q	70-130	6		20
n-Propylbenzene	100		99		69-130	1		20
1,2,3-Trichlorobenzene	78		74		70-130	5		20
1,2,4-Trichlorobenzene	81		78		70-130	4		20
1,3,5-Trimethylbenzene	100		97		64-130	3		20
1,3,5-Trichlorobenzene	87		84		70-130	4		20
1,2,4-Trimethylbenzene	99		96		70-130	3		20
Ethyl ether	85		90		59-134	6		20
Isopropyl Ether	81		77		70-130	5		20
Tert-Butyl Alcohol	78		76		70-130	3		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: WW CROSS

Project Number: 21001639

Lab Number: L2315874

Report Date: 06/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 10-11,13 Batch: WG1762384-3 WG1762384-4								
Ethyl-Tert-Butyl-Ether	75		**62**	Q	70-130	19		20
Tertiary-Amyl Methyl Ether	80		**65**	Q	66-130	**21**	Q	20
1,4-Dioxane	92		84		56-162	9		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		108		70-130
Toluene-d8	104		105		70-130
4-Bromofluorobenzene	103		105		70-130
Dibromofluoromethane	102		102		70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 10-11,13 QC Batch ID: WG1762384-6 WG1762384-7 QC Sample: L2315874-10 Client ID: MW-2												
Methylene chloride	ND	10	8.9	89		9.1	91		70-130	2		20
1,1-Dichloroethane	ND	10	8.8	88		8.9	89		70-130	1		20
Chloroform	ND	10	9.2	92		9.4	94		70-130	2		20
Carbon tetrachloride	ND	10	9.2	92		9.2	92		63-132	0		20
1,2-Dichloropropane	ND	10	8.6	86		8.9	89		70-130	3		20
Dibromochloromethane	ND	10	9.0	90		8.9	89		63-130	1		20
1,1,2-Trichloroethane	ND	10	8.4	84		8.4	84		70-130	0		20
Tetrachloroethene	4.1	10	13	89		13	89		70-130	0		20
Chlorobenzene	ND	10	9.2	92		9.2	92		75-130	0		25
Trichlorofluoromethane	ND	10	10	100		10	100		62-150	0		20
1,2-Dichloroethane	ND	10	9.4	94		9.1	91		70-130	3		20
1,1,1-Trichloroethane	ND	10	9.6	96		9.7	97		67-130	1		20
Bromodichloromethane	ND	10	9.0	90		9.3	93		67-130	3		20
trans-1,3-Dichloropropene	ND	10	7.4	74		7.5	75		70-130	1		20
cis-1,3-Dichloropropene	ND	10	7.6	76		7.3	73		70-130	4		20
1,1-Dichloropropene	ND	10	9.0	90		8.9	89		70-130	1		20
Bromoform	ND	10	8.0	80		8.0	80		54-136	0		20
1,1,2,2-Tetrachloroethane	ND	10	8.9	89		8.8	88		67-130	1		20
Benzene	ND	10	9.4	94		9.2	92		70-130	2		25
Toluene	ND	10	8.7	87		8.8	88		70-130	1		25
Ethylbenzene	ND	10	8.7	87		8.5	85		70-130	2		20
Chloromethane	ND	10	8.4	84		8.8	88		64-130	5		20
Bromomethane	ND	10	9.7	97		10	100		39-139	3		20

Matrix Spike Analysis
Batch Quality Control

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 10-11,13 QC Batch ID: WG1762384-6 WG1762384-7 QC Sample: L2315874-10 Client ID: MW-2												
Vinyl chloride	ND	10	8.6	86		8.8	88		55-140	2		20
Chloroethane	ND	10	22	**220**	Q	21	**210**	Q	55-138	5		20
1,1-Dichloroethene	ND	10	9.3	93		9.0	90		61-145	3		25
trans-1,2-Dichloroethene	ND	10	9.1	91		9.3	93		70-130	2		20
Trichloroethene	ND	10	9.0	90		8.7	87		70-130	3		25
1,2-Dichlorobenzene	ND	10	9.3	93		9.3	93		70-130	0		20
1,3-Dichlorobenzene	ND	10	9.0	90		9.4	94		70-130	4		20
1,4-Dichlorobenzene	ND	10	9.4	94		9.3	93		70-130	1		20
Methyl tert butyl ether	ND	10	7.7	77		7.7	77		63-130	0		20
p/m-Xylene	ND	20	17	85		17	85		70-130	0		20
o-Xylene	ND	20	17	85		16	80		70-130	6		20
cis-1,2-Dichloroethene	ND	10	8.6	86		9.1	91		70-130	6		20
Dibromomethane	ND	10	9.0	90		9.4	94		70-130	4		20
1,2,3-Trichloropropane	ND	10	8.7	87		8.9	89		64-130	2		20
Styrene	ND	20	16	80		16	80		70-130	0		20
Dichlorodifluoromethane	ND	10	8.7	87		8.5	85		36-147	2		20
Acetone	ND	10	9.4	94		9.0	90		58-148	4		20
Carbon disulfide	ND	10	8.6	86		8.5	85		51-130	1		20
2-Butanone	ND	10	7.9	79		7.5	75		63-138	5		20
4-Methyl-2-pentanone	ND	10	6.9	69		6.7	67		59-130	3		20
2-Hexanone	ND	10	7.0	70		6.9	69		57-130	1		20
Bromochloromethane	ND	10	9.2	92		8.6	86		70-130	7		20
Tetrahydrofuran	ND	10	10	100		9.7	97		58-130	3		20

Matrix Spike Analysis
Batch Quality Control

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 10-11,13 QC Batch ID: WG1762384-6 WG1762384-7 QC Sample: L2315874-10 Client ID: MW-2												
2,2-Dichloropropane	ND	10	6.6	66		6.2	**62**	Q	63-133	6		20
1,2-Dibromoethane	ND	10	9.2	92		9.0	90		70-130	2		20
1,1,1,2-Tetrachloroethane	ND	10	9.2	92		9.1	91		64-130	1		20
Bromobenzene	ND	10	8.7	87		9.0	90		70-130	3		20
n-Butylbenzene	ND	10	7.9	79		7.8	78		53-136	1		20
sec-Butylbenzene	ND	10	9.0	90		8.9	89		70-130	1		20
tert-Butylbenzene	ND	10	8.9	89		9.1	91		70-130	2		20
o-Chlorotoluene	ND	10	9.9	99		9.0	90		70-130	10		20
p-Chlorotoluene	ND	10	8.7	87		8.8	88		70-130	1		20
1,2-Dibromo-3-chloropropane	ND	10	9.0	90		8.8	88		41-144	2		20
Hexachlorobutadiene	ND	10	6.9	69		7.0	70		63-130	1		20
Isopropylbenzene	ND	10	8.8	88		8.9	89		70-130	1		20
p-Isopropyltoluene	ND	10	8.4	84		8.5	85		70-130	1		20
Naphthalene	ND	10	5.9	**59**	Q	6.2	**62**	Q	70-130	5		20
n-Propylbenzene	ND	10	8.6	86		8.6	86		69-130	0		20
1,2,3-Trichlorobenzene	ND	10	6.8	**68**	Q	6.8	**68**	Q	70-130	0		20
1,2,4-Trichlorobenzene	ND	10	6.7	**67**	Q	6.9	**69**	Q	70-130	3		20
1,3,5-Trimethylbenzene	ND	10	8.7	87		8.7	87		64-130	0		20
1,3,5-Trichlorobenzene	ND	10	7.4	74		7.6	76		70-130	3		20
1,2,4-Trimethylbenzene	ND	10	8.2	82		8.6	86		70-130	5		20
Ethyl ether	ND	10	8.5	85		8.2	82		59-134	4		20
Isopropyl Ether	ND	10	7.2	72		7.6	76		70-130	5		20
Tert-Butyl Alcohol	ND	50	39	78		38	76		70-130	3		20

Matrix Spike Analysis

Batch Quality Control

Project Name: WW CROSS

Project Number: 21001639

Lab Number: L2315874

Report Date: 06/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 10-11,13 QC Batch ID: WG1762384-6 WG1762384-7 QC Sample: L2315874-10 Client ID: MW-2												
Ethyl-Tert-Butyl-Ether	ND	10	6.7	**67**	Q	6.8	**68**	Q	70-130	1		20
Tertiary-Amyl Methyl Ether	ND	10	7.0	70		6.8	68		66-130	3		20
1,4-Dioxane	ND	500	420	84		420	84		56-162	0		20

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		108		70-130
4-Bromofluorobenzene	98		100		70-130
Dibromofluoromethane	100		102		70-130
Toluene-d8	103		102		70-130

SEMIVOLATILES

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-01
Client ID: CA-MW-302
Sample Location: JAFFREY, NH

Date Collected: 03/23/23 14:00
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 03/29/23 13:52
Analyst: TPR

Extraction Method: EPA 3510C
Extraction Date: 03/28/23 14:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270E-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	142	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	46		15-110

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-01
Client ID: CA-MW-302
Sample Location: JAFFREY, NH

Date Collected: 03/23/23 14:00
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/17/23 17:17
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 04/17/23 06:23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	6.47		ng/l	2.00	--	1
Perfluoropentanoic Acid (PFPeA)	20.2		ng/l	2.00	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	15.9		ng/l	2.00	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	6.53		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	5.43		ng/l	2.00	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	13.3		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	3.39	F	ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1

Project Name: WW CROSS **Lab Number:** L2315874

Project Number: 21001639 **Report Date:** 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-01 Date Collected: 03/23/23 14:00

Client ID: CA-MW-302 Date Received: 03/27/23

Sample Location: JAFFREY, NH Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	87		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	69		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	83		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	**168**	Q	12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	70		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	76		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	91		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	88		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**212**	Q	14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	88		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	87		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	78		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	160		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	98		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	82		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	13		5-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	91		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	73		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	74		22-136

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-02
Client ID: CA-MW-303
Sample Location: JAFFREY, NH

Date Collected: 03/24/23 11:15
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 03/29/23 14:20
Analyst: TPR

Extraction Method: EPA 3510C
Extraction Date: 03/28/23 14:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270E-SIM - Mansfield Lab						
1,4-Dioxane	228.		ng/l	150	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	48		15-110

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-02
Client ID: CA-MW-303
Sample Location: JAFFREY, NH

Date Collected: 03/24/23 11:15
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/17/23 17:50
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 04/17/23 06:23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	20.1		ng/l	2.00	--	1
Perfluoropentanoic Acid (PFPeA)	54.9		ng/l	2.00	--	1
Perfluorobutanesulfonic Acid (PFBS)	2.46	F	ng/l	2.00	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	23.9		ng/l	2.00	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	6.77		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	7.95		ng/l	2.00	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	15.5		ng/l	2.00	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	2.00	F	ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	4.31		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1

Project Name: WW CROSS **Lab Number:** L2315874

Project Number: 21001639 **Report Date:** 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-02 Date Collected: 03/24/23 11:15

Client ID: CA-MW-303 Date Received: 03/27/23

Sample Location: JAFFREY, NH Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	89		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	73		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	83		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	132		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	72		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	80		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	93		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	85		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**161**	Q	14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	83		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	83		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	75		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	101		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	86		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	78		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	13		5-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	88		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	63		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	53		22-136

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-03
Client ID: CA-MW-304
Sample Location: JAFFREY, NH

Date Collected: 03/24/23 10:45
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 03/29/23 14:46
Analyst: TPR

Extraction Method: EPA 3510C
Extraction Date: 03/28/23 14:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270E-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	142	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	51		15-110

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-03
Client ID: CA-MW-304
Sample Location: JAFFREY, NH

Date Collected: 03/24/23 10:45
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/17/23 18:06
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 04/17/23 06:23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	5.21		ng/l	2.00	--	1
Perfluoropentanoic Acid (PFPeA)	23.5		ng/l	2.00	--	1
Perfluorobutanesulfonic Acid (PFBS)	3.64		ng/l	2.00	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	8.53		ng/l	2.00	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	6.67		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	4.59		ng/l	2.00	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	2.07	F	ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1

Project Name: WW CROSS **Lab Number:** L2315874

Project Number: 21001639 **Report Date:** 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-03 Date Collected: 03/24/23 10:45

Client ID: CA-MW-304 Date Received: 03/27/23

Sample Location: JAFFREY, NH Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	84		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	74		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	85		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	124		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	67		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	82		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	89		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	85		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**200**	Q	14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	94		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	87		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	92		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	**202**	Q	10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	98		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	88		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	16		5-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	111		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	95		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	78		22-136

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-05
Client ID: MW-103
Sample Location: JAFFREY, NH

Date Collected: 03/23/23 15:50
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 03/29/23 15:12
Analyst: TPR

Extraction Method: EPA 3510C
Extraction Date: 03/28/23 14:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270E-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	142	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	45		15-110

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-06
Client ID: MW-105
Sample Location: JAFFREY, NH

Date Collected: 03/23/23 11:40
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 03/29/23 15:38
Analyst: TPR

Extraction Method: EPA 3510C
Extraction Date: 03/28/23 14:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270E-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	142	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	47		15-110

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-07
Client ID: MW-106
Sample Location: JAFFREY, NH

Date Collected: 03/23/23 12:50
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 03/29/23 16:06
Analyst: TPR

Extraction Method: EPA 3510C
Extraction Date: 03/28/23 14:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270E-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	142	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	49		15-110

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-07
Client ID: MW-106
Sample Location: JAFFREY, NH

Date Collected: 03/23/23 12:50
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/17/23 18:23
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 04/17/23 06:23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1

Project Name: WW CROSS **Lab Number:** L2315874

Project Number: 21001639 **Report Date:** 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-07 Date Collected: 03/23/23 12:50

Client ID: MW-106 Date Received: 03/27/23

Sample Location: JAFFREY, NH Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	92		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	97		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	88		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	115		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	90		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	87		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	91		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	85		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	109		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	88		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	84		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	85		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	94		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	91		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	75		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	33		5-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	93		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	75		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	73		22-136

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-08
Client ID: MW-108
Sample Location: JAFFREY, NH

Date Collected: 03/23/23 13:10
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 03/29/23 16:33
Analyst: TPR

Extraction Method: EPA 3510C
Extraction Date: 03/28/23 14:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270E-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	142	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	46		15-110

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-09
Client ID: MW-203
Sample Location: JAFFREY, NH

Date Collected: 03/23/23 16:45
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 03/29/23 17:00
Analyst: TPR

Extraction Method: EPA 3510C
Extraction Date: 03/28/23 14:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270E-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	142	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	49		15-110

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-09
Client ID: MW-203
Sample Location: JAFFREY, NH

Date Collected: 03/23/23 16:45
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/17/23 18:56
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 04/17/23 06:23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	19.0		ng/l	2.00	--	1
Perfluoropentanoic Acid (PFPeA)	20.2		ng/l	2.00	--	1
Perfluorobutanesulfonic Acid (PFBS)	2.29	F	ng/l	2.00	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	13.8		ng/l	2.00	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	8.58		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	7.29		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	12.7		ng/l	2.00	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	18.0		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1

Project Name: WW CROSS **Lab Number:** L2315874

Project Number: 21001639 **Report Date:** 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-09 Date Collected: 03/23/23 16:45

Client ID: MW-203 Date Received: 03/27/23

Sample Location: JAFFREY, NH Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	90		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	64		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	**68**	Q	70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	87		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	**52**	Q	57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	73		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	86		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	83		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**164**	Q	14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	90		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	84		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	85		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	113		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	93		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	80		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	5		5-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	91		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	78		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	68		22-136

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-10
Client ID: MW-2
Sample Location: JAFFREY, NH

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 03/31/23 02:04
Analyst: TPR

Date Collected: 03/24/23 12:10
Date Received: 03/27/23
Field Prep: Refer to COC

Extraction Method: EPA 3510C
Extraction Date: 03/28/23 14:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270E-SIM - Mansfield Lab						
1,4-Dioxane	1590		ng/l	142	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	57		15-110

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-11
Client ID: MW-6D
Sample Location: JAFFREY, NH

Date Collected: 03/24/23 13:20
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 03/31/23 03:21
Analyst: TPR

Extraction Method: EPA 3510C
Extraction Date: 03/28/23 14:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270E-SIM - Mansfield Lab						
1,4-Dioxane	382.		ng/l	142	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	57		15-110

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-12
Client ID: DUP-1
Sample Location: JAFFREY, NH

Date Collected: 03/24/23 10:45
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E-SIM
Analytical Date: 03/31/23 03:47
Analyst: TPR

Extraction Method: EPA 3510C
Extraction Date: 03/28/23 14:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270E-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	142	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	52		15-110

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-12
Client ID: DUP-1
Sample Location: JAFFREY, NH

Date Collected: 03/24/23 10:45
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/17/23 19:13
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 04/17/23 06:23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	4.42		ng/l	2.00	--	1
Perfluoropentanoic Acid (PFPeA)	23.8		ng/l	2.00	--	1
Perfluorobutanesulfonic Acid (PFBS)	3.53		ng/l	2.00	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	8.65		ng/l	2.00	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	6.95		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	4.12		ng/l	2.00	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	2.12		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1

Project Name: WW CROSS **Lab Number:** L2315874

Project Number: 21001639 **Report Date:** 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-12 Date Collected: 03/24/23 10:45

Client ID: DUP-1 Date Received: 03/27/23

Sample Location: JAFFREY, NH Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	86		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	76		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	88		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	126		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	71		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	82		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	96		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	90		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**205**	Q	14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	90		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	93		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	82		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	**207**	Q	10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	94		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	86		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	18		5-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	100		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	82		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	79		22-136

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-14
Client ID: FIELD BLANK
Sample Location: JAFFREY, NH

Date Collected: 03/24/23 00:00
Date Received: 03/27/23
Field Prep: None

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/17/23 19:29
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 04/17/23 06:23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.00	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.00	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	2.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	--	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--	1

Project Name: WW CROSS **Lab Number:** L2315874

Project Number: 21001639 **Report Date:** 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-14 Date Collected: 03/24/23 00:00

Client ID: FIELD BLANK Date Received: 03/27/23

Sample Location: JAFFREY, NH Field Prep: None

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	97		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	97		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	99		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	87		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	93		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	91		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	102		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	91		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	90		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	81		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	89		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	81		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	82		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	95		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	86		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	43		5-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	96		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	95		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	70		22-136

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270E-SIM
Analytical Date: 03/29/23 06:59
Analyst: TPR

Extraction Method: EPA 3510C
Extraction Date: 03/28/23 14:35

Parameter	Result	Qualifier	Units	RL	MDL
1,4 Dioxane by 8270E-SIM - Mansfield Lab for sample(s): 01-03,05-12 Batch: WG1759733-1					
1,4-Dioxane	ND		ng/l	150	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	54		15-110

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/17/23 16:44
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 04/17/23 06:23

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-03,07,09,12,14 Batch: WG1767504-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	--
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/17/23 16:44
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 04/17/23 06:23

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-03,07,09,12,14 Batch: WG1767504-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	95		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	95		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	94		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	91		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	99		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	94		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	93		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	90		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	93		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	92		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	89		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	100		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	91		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	112		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	94		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	52		5-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	113		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	84		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	79		22-136

Lab Control Sample Analysis

Batch Quality Control

Project Name: WW CROSS

Project Number: 21001639

Lab Number: L2315874

Report Date: 06/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
1,4 Dioxane by 8270E-SIM - Mansfield Lab	Associated sample(s): 01-03,05-12		Batch: WG1759733-2		WG1759733-3			
1,4-Dioxane	113		114		40-140	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	50		53		15-110

Lab Control Sample Analysis
Batch Quality Control

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-03,07,09,12,14 Batch: WG1767504-2								
Perfluorobutanoic Acid (PFBA)	110		-		67-148	-		30
Perfluoropentanoic Acid (PFPeA)	114		-		63-161	-		30
Perfluorobutanesulfonic Acid (PFBS)	111		-		65-157	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	114		-		37-219	-		30
Perfluorohexanoic Acid (PFHxA)	109		-		69-168	-		30
Perfluoropentanesulfonic Acid (PFPeS)	107		-		52-156	-		30
Perfluoroheptanoic Acid (PFHpA)	114		-		58-159	-		30
Perfluorohexanesulfonic Acid (PFHxS)	112		-		69-177	-		30
Perfluorooctanoic Acid (PFOA)	117		-		63-159	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	113		-		49-187	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	117		-		61-179	-		30
Perfluorononanoic Acid (PFNA)	103		-		68-171	-		30
Perfluorooctanesulfonic Acid (PFOS)	113		-		52-151	-		30
Perfluorodecanoic Acid (PFDA)	100		-		63-171	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	117		-		56-173	-		30
Perfluorononanesulfonic Acid (PFNS)	108		-		48-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	114		-		60-166	-		30
Perfluoroundecanoic Acid (PFUnA)	107		-		60-153	-		30
Perfluorodecanesulfonic Acid (PFDS)	108		-		38-156	-		30
Perfluorooctanesulfonamide (FOSA)	111		-		46-170	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	122		-		45-170	-		30
Perfluorododecanoic Acid (PFDoA)	114		-		67-153	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: WW CROSS

Project Number: 21001639

Lab Number: L2315874

Report Date: 06/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-03,07,09,12,14 Batch: WG1767504-2								
Perfluorotridecanoic Acid (PFTrDA)	132		-		48-158	-		30
Perfluorotetradecanoic Acid (PFTA)	105		-		59-182	-		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	91				58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	94				62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	92				70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	88				12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	89				57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	87				60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	91				71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	85				62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	93				14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	82				59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	89				69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	89				62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	86				10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	106				24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	90				55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	49				5-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	102				27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	87				48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	72				22-136

Matrix Spike Analysis

Batch Quality Control

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
1,4 Dioxane by 8270E-SIM - Mansfield Lab Associated sample(s): 01-03,05-12 QC Batch ID: WG1759733-4 WG1759733-5 QC Sample: L2315874-10 Client ID: MW-2												
1,4-Dioxane	1590	4900	7130	113		7270	116		40-140	2		30

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,4-Dioxane-d8	59		58		15-110

Matrix Spike Analysis
Batch Quality Control

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-03,07,09,12,14 QC Batch ID: WG1767504-3 QC Sample: L2315874-01 Client ID: CA-MW-302												
Perfluorobutanoic Acid (PFBA)	6.47	36.8	46.0	107		-	-		67-148	-		30
Perfluoropentanoic Acid (PFPeA)	20.2	36.8	61.3	112		-	-		63-161	-		30
Perfluorobutanesulfonic Acid (PFBS)	ND	32.7	35.6	106		-	-		65-157	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	34.5	38.2	111		-	-		37-219	-		30
Perfluorohexanoic Acid (PFHxA)	15.9	36.8	55.3	107		-	-		69-168	-		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	34.7	35.9	103		-	-		52-156	-		30
Perfluoroheptanoic Acid (PFHpA)	6.53	36.8	45.7	106		-	-		58-159	-		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	33.6	37.4	107		-	-		69-177	-		30
Perfluorooctanoic Acid (PFOA)	5.43	36.8	44.2	105		-	-		63-159	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	35	37.3	106		-	-		49-187	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	35.1	38.2	109		-	-		61-179	-		30
Perfluorononanoic Acid (PFNA)	ND	36.8	37.5	98		-	-		68-171	-		30
Perfluorooctanesulfonic Acid (PFOS)	13.3	34.2	50.5	109		-	-		52-151	-		30
Perfluorodecanoic Acid (PFDA)	ND	36.8	37.4	100		-	-		63-171	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	35.3	37.3	106		-	-		56-173	-		30
Perfluorononanesulfonic Acid (PFNS)	ND	35.4	37.3	105		-	-		48-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	36.8	40.4	110		-	-		60-166	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	36.8	43.0	112		-	-		60-153	-		30
Perfluorodecanesulfonic Acid (PFDS)	ND	35.6	35.0	98		-	-		38-156	-		30
Perfluorooctanesulfonamide (FOSA)	ND	36.8	38.7	105		-	-		46-170	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	36.8	41.4	112		-	-		45-170	-		30
Perfluorododecanoic Acid (PFDoA)	ND	36.8	49.2	134		-	-		67-153	-		30

Matrix Spike Analysis
Batch Quality Control

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-03,07,09,12,14 QC Batch ID: WG1767504-3 QC Sample: L2315874-01 Client ID: CA-MW-302												
Perfluorotridecanoic Acid (PFTrDA)	3.39F	36.8	52.4	133		-	-		48-158	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	36.8	37.4F	102		-	-		59-182	-		30

Surrogate (Extracted Internal Standard)	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	161				10-162
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	**176**	Q			12-142
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**215**	Q			14-147
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	102				27-126
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	102				24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	83				55-137
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	95				62-124
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	69				57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	77				60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	92				71-134
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	71				48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	79				22-136
Perfluoro[13C4]Butanoic Acid (MPFBA)	88				58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	69				62-163
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	26				5-112
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	93				69-131
Perfluoro[13C8]Octanoic Acid (M8PFOA)	89				62-129
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	81				59-139
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	82				70-131

Lab Duplicate Analysis
Batch Quality Control

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-03,07,09,12,14 QC Batch ID: WG1767504-4 QC Sample: L2315874-07 Client ID: MW-106						
Perfluorobutanoic Acid (PFBA)	ND	ND	ng/l	NC		30
Perfluoropentanoic Acid (PFPeA)	ND	ND	ng/l	NC		30
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/l	NC		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/l	NC		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/l	NC		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	ND	ng/l	NC		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	ND	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/l	NC		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	ND	ng/l	NC		30
Perfluorononanesulfonic Acid (PFNS)	ND	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
Perfluorodecanesulfonic Acid (PFDS)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonamide (FOSA)	ND	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-03,07,09,12,14 QC Batch ID: WG1767504-4 QC Sample: L2315874-07 Client ID: MW-106						
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/l	NC		30

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	92		92		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	97		96		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	88		89		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	115		118		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	90		95		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	87		94		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	91		89		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	85		93		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	109		110		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	88		89		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	84		84		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	85		92		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	94		99		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	91		88		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	75		88		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	33		29		5-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	93		92		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	75		81		48-131

Lab Duplicate Analysis
Batch Quality Control

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-03,07,09,12,14 QC Batch ID: WG1767504-4 QC Sample: L2315874-07 Client ID: MW-106

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	73		68		22-136

METALS

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-01
Client ID: CA-MW-302
Sample Location: JAFFREY, NH
Sample Depth:
Matrix: Water

Date Collected: 03/23/23 14:00
Date Received: 03/27/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.0050	--	1	03/29/23 23:02	03/30/23 23:32	EPA 3005A	1,6010D	MRC
Barium, Dissolved	0.0238		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:32	EPA 3005A	1,6010D	MRC
Cadmium, Dissolved	0.00065		mg/l	0.00020	--	1	03/29/23 16:33	03/30/23 18:23	EPA 3005A	1,6020B	NTB
Chromium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:32	EPA 3005A	1,6010D	MRC
Lead, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:32	EPA 3005A	1,6010D	MRC
Mercury, Dissolved	ND		mg/l	0.00020	--	1	03/30/23 01:23	03/30/23 13:03	EPA 7470A	1,7470A	ZNK
Selenium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:32	EPA 3005A	1,6010D	MRC
Silver, Dissolved	ND		mg/l	0.0070	--	1	03/29/23 23:02	03/30/23 23:32	EPA 3005A	1,6010D	MRC

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-02
Client ID: CA-MW-303
Sample Location: JAFFREY, NH
Sample Depth:
Matrix: Water

Date Collected: 03/24/23 11:15
Date Received: 03/27/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.0050	--	1	03/29/23 23:02	03/30/23 22:47	EPA 3005A	1,6010D	MRC
Barium, Dissolved	0.0701		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 22:47	EPA 3005A	1,6010D	MRC
Cadmium, Dissolved	0.00036		mg/l	0.00020	--	1	03/29/23 16:33	03/30/23 18:28	EPA 3005A	1,6020B	NTB
Chromium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 22:47	EPA 3005A	1,6010D	MRC
Lead, Dissolved	0.0139		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 22:47	EPA 3005A	1,6010D	MRC
Mercury, Dissolved	ND		mg/l	0.00020	--	1	03/30/23 01:23	03/30/23 12:53	EPA 7470A	1,7470A	ZNK
Selenium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 22:47	EPA 3005A	1,6010D	MRC
Silver, Dissolved	ND		mg/l	0.0070	--	1	03/29/23 23:02	03/30/23 22:47	EPA 3005A	1,6010D	MRC

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-03
Client ID: CA-MW-304
Sample Location: JAFFREY, NH
Sample Depth:
Matrix: Water

Date Collected: 03/24/23 10:45
Date Received: 03/27/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.0050	--	1	03/29/23 23:02	03/30/23 22:52	EPA 3005A	1,6010D	MRC
Barium, Dissolved	0.0142		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 22:52	EPA 3005A	1,6010D	MRC
Cadmium, Dissolved	ND		mg/l	0.00020	--	1	03/29/23 16:33	03/30/23 18:33	EPA 3005A	1,6020B	NTB
Chromium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 22:52	EPA 3005A	1,6010D	MRC
Lead, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 22:52	EPA 3005A	1,6010D	MRC
Mercury, Dissolved	ND		mg/l	0.00020	--	1	03/30/23 01:23	03/30/23 13:06	EPA 7470A	1,7470A	ZNK
Selenium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 22:52	EPA 3005A	1,6010D	MRC
Silver, Dissolved	ND		mg/l	0.0070	--	1	03/29/23 23:02	03/30/23 22:52	EPA 3005A	1,6010D	MRC

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-04
Client ID: MW-102
Sample Location: JAFFREY, NH
Sample Depth:
Matrix: Water

Date Collected: 03/23/23 16:20
Date Received: 03/27/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.0050	--	1	03/29/23 23:02	03/30/23 23:07	EPA 3005A	1,6010D	MRC
Barium, Dissolved	0.682		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:07	EPA 3005A	1,6010D	MRC
Cadmium, Dissolved	63.97		mg/l	0.00200	--	10	03/29/23 16:33	03/30/23 19:50	EPA 3005A	1,6020B	NTB
Chromium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:07	EPA 3005A	1,6010D	MRC
Lead, Dissolved	0.0106		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:07	EPA 3005A	1,6010D	MRC
Mercury, Dissolved	ND		mg/l	0.00020	--	1	03/30/23 01:23	03/30/23 13:10	EPA 7470A	1,7470A	ZNK
Selenium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:07	EPA 3005A	1,6010D	MRC
Silver, Dissolved	ND		mg/l	0.0070	--	1	03/29/23 23:02	03/30/23 23:07	EPA 3005A	1,6010D	MRC

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-05
Client ID: MW-103
Sample Location: JAFFREY, NH
Sample Depth:
Matrix: Water

Date Collected: 03/23/23 15:50
Date Received: 03/27/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.0050	--	1	03/29/23 23:02	03/30/23 23:12	EPA 3005A	1,6010D	MRC
Barium, Dissolved	0.0109		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:12	EPA 3005A	1,6010D	MRC
Cadmium, Dissolved	0.00275		mg/l	0.00020	--	1	03/29/23 16:33	03/30/23 18:53	EPA 3005A	1,6020B	NTB
Chromium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:12	EPA 3005A	1,6010D	MRC
Lead, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:12	EPA 3005A	1,6010D	MRC
Mercury, Dissolved	ND		mg/l	0.00020	--	1	03/30/23 01:23	03/30/23 13:13	EPA 7470A	1,7470A	ZNK
Selenium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:12	EPA 3005A	1,6010D	MRC
Silver, Dissolved	ND		mg/l	0.0070	--	1	03/29/23 23:02	03/30/23 23:12	EPA 3005A	1,6010D	MRC

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-06
Client ID: MW-105
Sample Location: JAFFREY, NH
Sample Depth:
Matrix: Water

Date Collected: 03/23/23 11:40
Date Received: 03/27/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.0050	--	1	03/29/23 23:02	03/30/23 23:17	EPA 3005A	1,6010D	MRC
Barium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:17	EPA 3005A	1,6010D	MRC
Cadmium, Dissolved	ND		mg/l	0.00020	--	1	03/29/23 16:33	03/30/23 19:36	EPA 3005A	1,6020B	NTB
Chromium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:17	EPA 3005A	1,6010D	MRC
Lead, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:17	EPA 3005A	1,6010D	MRC
Mercury, Dissolved	ND		mg/l	0.00020	--	1	03/30/23 01:23	03/30/23 13:16	EPA 7470A	1,7470A	ZNK
Selenium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:17	EPA 3005A	1,6010D	MRC
Silver, Dissolved	ND		mg/l	0.0070	--	1	03/29/23 23:02	03/30/23 23:17	EPA 3005A	1,6010D	MRC

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-07
Client ID: MW-106
Sample Location: JAFFREY, NH
Sample Depth:
Matrix: Water

Date Collected: 03/23/23 12:50
Date Received: 03/27/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.0050	--	1	03/29/23 23:02	03/30/23 23:22	EPA 3005A	1,6010D	MRC
Barium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:22	EPA 3005A	1,6010D	MRC
Cadmium, Dissolved	ND		mg/l	0.00020	--	1	03/29/23 16:33	03/30/23 19:03	EPA 3005A	1,6020B	NTB
Chromium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:22	EPA 3005A	1,6010D	MRC
Lead, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:22	EPA 3005A	1,6010D	MRC
Mercury, Dissolved	ND		mg/l	0.00020	--	1	03/30/23 01:23	03/30/23 13:28	EPA 7470A	1,7470A	ZNK
Selenium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:22	EPA 3005A	1,6010D	MRC
Silver, Dissolved	ND		mg/l	0.0070	--	1	03/29/23 23:02	03/30/23 23:22	EPA 3005A	1,6010D	MRC

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-08
Client ID: MW-108
Sample Location: JAFFREY, NH
Sample Depth:
Matrix: Water

Date Collected: 03/23/23 13:10
Date Received: 03/27/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.0050	--	1	03/29/23 23:02	03/30/23 23:27	EPA 3005A	1,6010D	MRC
Barium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:27	EPA 3005A	1,6010D	MRC
Cadmium, Dissolved	ND		mg/l	0.00020	--	1	03/29/23 16:33	03/30/23 19:07	EPA 3005A	1,6020B	NTB
Chromium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:27	EPA 3005A	1,6010D	MRC
Lead, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:27	EPA 3005A	1,6010D	MRC
Mercury, Dissolved	ND		mg/l	0.00020	--	1	03/30/23 01:23	03/30/23 13:31	EPA 7470A	1,7470A	ZNK
Selenium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 23:27	EPA 3005A	1,6010D	MRC
Silver, Dissolved	ND		mg/l	0.0070	--	1	03/29/23 23:02	03/30/23 23:27	EPA 3005A	1,6010D	MRC

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-09
Client ID: MW-203
Sample Location: JAFFREY, NH
Sample Depth:
Matrix: Water

Date Collected: 03/23/23 16:45
Date Received: 03/27/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.0050	--	1	03/29/23 23:02	03/31/23 00:06	EPA 3005A	1,6010D	MRC
Barium, Dissolved	0.0706		mg/l	0.0100	--	1	03/29/23 23:02	03/31/23 00:06	EPA 3005A	1,6010D	MRC
Cadmium, Dissolved	0.00288		mg/l	0.00020	--	1	03/29/23 16:33	03/30/23 19:12	EPA 3005A	1,6020B	NTB
Chromium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/31/23 00:06	EPA 3005A	1,6010D	MRC
Lead, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/31/23 00:06	EPA 3005A	1,6010D	MRC
Mercury, Dissolved	ND		mg/l	0.00020	--	1	03/30/23 01:23	03/30/23 13:35	EPA 7470A	1,7470A	ZNK
Selenium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/31/23 00:06	EPA 3005A	1,6010D	MRC
Silver, Dissolved	ND		mg/l	0.0070	--	1	03/29/23 23:02	03/31/23 00:06	EPA 3005A	1,6010D	MRC

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-10
Client ID: MW-2
Sample Location: JAFFREY, NH
Sample Depth:
Matrix: Water

Date Collected: 03/24/23 12:10
Date Received: 03/27/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.0050	--	1	03/29/23 16:33	03/31/23 15:50	EPA 3005A	1,6010D	MRC
Barium, Dissolved	0.0199		mg/l	0.0100	--	1	03/29/23 16:33	03/31/23 15:50	EPA 3005A	1,6010D	MRC
Cadmium, Dissolved	0.00027		mg/l	0.00020	--	1	03/29/23 16:33	03/30/23 18:18	EPA 3005A	1,6020B	NTB
Chromium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 16:33	03/31/23 15:50	EPA 3005A	1,6010D	MRC
Lead, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 16:33	03/31/23 15:50	EPA 3005A	1,6010D	MRC
Mercury, Dissolved	ND		mg/l	0.00020	--	1	04/18/23 10:44	04/21/23 11:04	EPA 7470A	1,7470A	ZNK
Selenium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 16:33	03/31/23 15:50	EPA 3005A	1,6010D	MRC
Silver, Dissolved	ND		mg/l	0.0070	--	1	03/29/23 16:33	03/31/23 15:50	EPA 3005A	1,6010D	MRC

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-11
Client ID: MW-6D
Sample Location: JAFFREY, NH
Sample Depth:
Matrix: Water

Date Collected: 03/24/23 13:20
Date Received: 03/27/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.0050	--	1	03/29/23 23:02	03/31/23 00:16	EPA 3005A	1,6010D	MRC
Barium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/31/23 00:16	EPA 3005A	1,6010D	MRC
Cadmium, Dissolved	0.01913		mg/l	0.00020	--	1	03/29/23 16:33	03/30/23 19:17	EPA 3005A	1,6020B	NTB
Chromium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/31/23 00:16	EPA 3005A	1,6010D	MRC
Lead, Dissolved	0.0162		mg/l	0.0100	--	1	03/29/23 23:02	03/31/23 00:16	EPA 3005A	1,6010D	MRC
Mercury, Dissolved	ND		mg/l	0.00020	--	1	03/30/23 01:23	03/30/23 13:41	EPA 7470A	1,7470A	ZNK
Selenium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/31/23 00:16	EPA 3005A	1,6010D	MRC
Silver, Dissolved	ND		mg/l	0.0070	--	1	03/29/23 23:02	03/31/23 00:16	EPA 3005A	1,6010D	MRC

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-12
Client ID: DUP-1
Sample Location: JAFFREY, NH
Sample Depth:
Matrix: Water

Date Collected: 03/24/23 10:45
Date Received: 03/27/23
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.0050	--	1	03/29/23 23:02	03/31/23 00:21	EPA 3005A	1,6010D	MRC
Barium, Dissolved	0.0133		mg/l	0.0100	--	1	03/29/23 23:02	03/31/23 00:21	EPA 3005A	1,6010D	MRC
Cadmium, Dissolved	ND		mg/l	0.00020	--	1	03/29/23 16:33	03/30/23 19:22	EPA 3005A	1,6020B	NTB
Chromium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/31/23 00:21	EPA 3005A	1,6010D	MRC
Lead, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/31/23 00:21	EPA 3005A	1,6010D	MRC
Mercury, Dissolved	ND		mg/l	0.00020	--	1	03/30/23 01:23	03/30/23 13:45	EPA 7470A	1,7470A	ZNK
Selenium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/31/23 00:21	EPA 3005A	1,6010D	MRC
Silver, Dissolved	ND		mg/l	0.0070	--	1	03/29/23 23:02	03/31/23 00:21	EPA 3005A	1,6010D	MRC

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 01-09,11-12 Batch: WG1759732-1										
Arsenic, Dissolved	ND		mg/l	0.0050	--	1	03/29/23 23:02	03/30/23 22:07	1,6010D	MRC
Barium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 22:07	1,6010D	MRC
Chromium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 22:07	1,6010D	MRC
Lead, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 22:07	1,6010D	MRC
Selenium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 23:02	03/30/23 22:07	1,6010D	MRC
Silver, Dissolved	ND		mg/l	0.0070	--	1	03/29/23 23:02	03/30/23 22:07	1,6010D	MRC

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 01-09,11-12 Batch: WG1759735-1										
Mercury, Dissolved	ND		mg/l	0.00020	--	1	03/30/23 01:23	03/30/23 12:46	1,7470A	ZNK

Prep Information

Digestion Method: EPA 7470A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 01-12 Batch: WG1760387-1										
Cadmium, Dissolved	ND		mg/l	0.00020	--	1	03/29/23 16:33	03/30/23 17:48	1,6020B	NTB

Prep Information

Digestion Method: EPA 3005A

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 10 Batch: WG1761282-1										
Arsenic, Dissolved	ND		mg/l	0.0050	--	1	03/29/23 16:33	03/31/23 15:40	1,6010D	MRC
Barium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 16:33	03/31/23 15:40	1,6010D	MRC
Chromium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 16:33	03/31/23 15:40	1,6010D	MRC
Lead, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 16:33	03/31/23 15:40	1,6010D	MRC
Selenium, Dissolved	ND		mg/l	0.0100	--	1	03/29/23 16:33	03/31/23 15:40	1,6010D	MRC
Silver, Dissolved	ND		mg/l	0.0070	--	1	03/29/23 16:33	03/31/23 15:40	1,6010D	MRC

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 10 Batch: WG1768041-1										
Mercury, Dissolved	ND		mg/l	0.00020	--	1	04/18/23 10:44	04/21/23 10:36	1,7470A	ZNK

Prep Information

Digestion Method: EPA 7470A

Lab Control Sample Analysis

Batch Quality Control

Project Name: WW CROSS

Project Number: 21001639

Lab Number: L2315874

Report Date: 06/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-09,11-12 Batch: WG1759732-2								
Arsenic, Dissolved	107		-		80-120	-		
Barium, Dissolved	96		-		80-120	-		
Chromium, Dissolved	98		-		80-120	-		
Lead, Dissolved	98		-		80-120	-		
Selenium, Dissolved	101		-		80-120	-		
Silver, Dissolved	98		-		80-120	-		
Dissolved Metals - Mansfield Lab Associated sample(s): 01-09,11-12 Batch: WG1759735-2								
Mercury, Dissolved	101		-		80-120	-		
Dissolved Metals - Mansfield Lab Associated sample(s): 01-12 Batch: WG1760387-2								
Cadmium, Dissolved	95		-		80-120	-		
Dissolved Metals - Mansfield Lab Associated sample(s): 10 Batch: WG1761282-2								
Arsenic, Dissolved	103		-		80-120	-		
Barium, Dissolved	98		-		80-120	-		
Chromium, Dissolved	100		-		80-120	-		
Lead, Dissolved	98		-		80-120	-		
Selenium, Dissolved	99		-		80-120	-		
Silver, Dissolved	99		-		80-120	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: WW CROSS

Project Number: 21001639

Lab Number: L2315874

Report Date: 06/22/23

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 10 Batch: WG1768041-2					
Mercury, Dissolved	101	-	80-120	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-09,11-12 QC Batch ID: WG1759732-3 QC Sample: L2315874-01 Client ID: CA-MW-302												
Arsenic, Dissolved	ND	0.12	0.133	111		-	-		75-125	-		20
Barium, Dissolved	0.0238	2	1.94	96		-	-		75-125	-		20
Chromium, Dissolved	ND	0.2	0.198	99		-	-		75-125	-		20
Lead, Dissolved	ND	0.53	0.522	98		-	-		75-125	-		20
Selenium, Dissolved	ND	0.12	0.129	108		-	-		75-125	-		20
Silver, Dissolved	ND	0.05	0.0498	100		-	-		75-125	-		20
Dissolved Metals - Mansfield Lab Associated sample(s): 01-09,11-12 QC Batch ID: WG1759735-3 QC Sample: L2315874-02 Client ID: CA-MW-303												
Mercury, Dissolved	ND	0.005	0.00508	102		-	-		75-125	-		20
Dissolved Metals - Mansfield Lab Associated sample(s): 01-12 QC Batch ID: WG1760387-3 WG1760387-4 QC Sample: L2315874-10 Client ID: MW-2												
Cadmium, Dissolved	0.00027	0.053	0.04980	93		0.04834	91		75-125	3		20
Dissolved Metals - Mansfield Lab Associated sample(s): 10 QC Batch ID: WG1761282-3 WG1761282-4 QC Sample: L2315874-10 Client ID: MW-2												
Arsenic, Dissolved	ND	0.12	0.127	106		0.127	106		75-125	0		20
Barium, Dissolved	0.0199	2	1.96	97		1.96	97		75-125	0		20
Chromium, Dissolved	ND	0.2	0.196	98		0.197	98		75-125	1		20
Lead, Dissolved	ND	0.53	0.519	98		0.519	98		75-125	0		20
Selenium, Dissolved	ND	0.12	0.122	102		0.124	103		75-125	2		20
Silver, Dissolved	ND	0.05	0.0491	98		0.0490	98		75-125	0		20
Dissolved Metals - Mansfield Lab Associated sample(s): 10 QC Batch ID: WG1768041-3 WG1768041-4 QC Sample: L2315874-10 Client ID: MW-2												
Mercury, Dissolved	ND	0.005	0.00505	101		0.00520	104		75-125	3		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-09,11-12 QC Batch ID: WG1759732-4 QC Sample: L2315874-01 Client ID: CA-MW-302						
Arsenic, Dissolved	ND	ND	mg/l	NC		20
Barium, Dissolved	0.0238	0.0257	mg/l	8		20
Chromium, Dissolved	ND	ND	mg/l	NC		20
Lead, Dissolved	ND	ND	mg/l	NC		20
Selenium, Dissolved	ND	ND	mg/l	NC		20
Silver, Dissolved	ND	ND	mg/l	NC		20
Dissolved Metals - Mansfield Lab Associated sample(s): 01-09,11-12 QC Batch ID: WG1759735-4 QC Sample: L2315874-02 Client ID: CA-MW-303						
Mercury, Dissolved	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-01
Client ID: CA-MW-302
Sample Location: JAFFREY, NH

Date Collected: 03/23/23 14:00
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	0.011		mg/l	0.005	--	1	04/05/23 05:40	04/05/23 13:02	121,4500CN-CE	JER

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-02
Client ID: CA-MW-303
Sample Location: JAFFREY, NH

Date Collected: 03/24/23 11:15
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	--	1	04/05/23 05:40	04/05/23 12:36	121,4500CN-CE	JER

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-03
Client ID: CA-MW-304
Sample Location: JAFFREY, NH

Date Collected: 03/24/23 10:45
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	--	1	04/05/23 05:40	04/05/23 13:03	121,4500CN-CE	JER

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-05
Client ID: MW-103
Sample Location: JAFFREY, NH

Date Collected: 03/23/23 15:50
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	--	1	04/05/23 05:40	04/05/23 13:04	121,4500CN-CE	JER

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-06
Client ID: MW-105
Sample Location: JAFFREY, NH

Date Collected: 03/23/23 11:40
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	--	1	04/05/23 05:40	04/05/23 13:05	121,4500CN-CE	JER

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-07
Client ID: MW-106
Sample Location: JAFFREY, NH

Date Collected: 03/23/23 12:50
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	--	1	04/05/23 05:40	04/05/23 13:06	121,4500CN-CE	JER

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-08
Client ID: MW-108
Sample Location: JAFFREY, NH

Date Collected: 03/23/23 13:10
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	--	1	04/05/23 05:40	04/05/23 13:09	121,4500CN-CE	JER

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-09
Client ID: MW-203
Sample Location: JAFFREY, NH

Date Collected: 03/23/23 16:45
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	0.009		mg/l	0.005	--	1	04/05/23 05:40	04/05/23 13:10	121,4500CN-CE	JER

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-10
Client ID: MW-2
Sample Location: JAFFREY, NH

Date Collected: 03/24/23 12:10
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	--	1	04/05/23 05:40	04/05/23 12:37	121,4500CN-CE	JER

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-11
Client ID: MW-6D
Sample Location: JAFFREY, NH

Date Collected: 03/24/23 13:20
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	0.033		mg/l	0.005	--	1	04/05/23 05:40	04/05/23 12:41	121,4500CN-CE	JER

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

SAMPLE RESULTS

Lab ID: L2315874-12
Client ID: DUP-1
Sample Location: JAFFREY, NH

Date Collected: 03/24/23 10:45
Date Received: 03/27/23
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	--	1	04/05/23 05:40	04/05/23 13:23	121,4500CN-CE	JER

Project Name: WW CROSS
Project Number: 21001639
Lab Number: L2315874
Report Date: 06/22/23

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01,03,05-09,12 Batch: WG1762748-1										
Cyanide, Total	ND		mg/l	0.005	--	1	04/05/23 05:40	04/05/23 12:51	121,4500CN-CE	JER
General Chemistry - Westborough Lab for sample(s): 02,10-11 Batch: WG1762749-1										
Cyanide, Total	ND		mg/l	0.005	--	1	04/05/23 05:40	04/05/23 12:33	121,4500CN-CE	JER

Lab Control Sample Analysis

Batch Quality Control

Project Name: WW CROSS

Project Number: 21001639

Lab Number: L2315874

Report Date: 06/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03,05-09,12 Batch: WG1762748-2								
Cyanide, Total	108		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 02,10-11 Batch: WG1762749-2								
Cyanide, Total	105		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 02,10-11 QC Batch ID: WG1762749-3 WG1762749-4 QC Sample: L2315874-10 Client ID: MW-2												
Cyanide, Total	ND	0.2	0.201	100		0.208	104		90-110	3		30

Lab Duplicate Analysis

Batch Quality Control

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 02,10-11 QC Batch ID: WG1762749-5 QC Sample: L2315874-10 Client ID: MW-2						
Cyanide, Total	ND	ND	mg/l	NC		30

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2315874-01A	Vial HCl preserved	C	NA		4.6	Y	Absent		8260-NH(14)
L2315874-01B	Vial HCl preserved	C	NA		4.6	Y	Absent		8260-NH(14)
L2315874-01C	Vial HCl preserved	C	NA		4.6	Y	Absent		8260-NH(14)
L2315874-01D	Plastic 250ml unpreserved	B	NA		5.9	Y	Absent		A2-NH-537-ISOTOPE(28)
L2315874-01E	Plastic 250ml unpreserved	B	NA		5.9	Y	Absent		A2-NH-537-ISOTOPE(28)
L2315874-01F	Plastic 250ml NaOH preserved	C	>12	>12	4.6	Y	Absent		TCN-4500(14)
L2315874-01G	Plastic 250ml HNO3 preserved	C	<2	<2	4.6	Y	Absent		PB-SI(180),BA-SI(180),AG-SI(180),AS-SI(180),CR-SI(180),SE-SI(180),HG-S(28)
L2315874-01H	Amber 250ml unpreserved	C	7	7	4.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-02A	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)
L2315874-02B	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)
L2315874-02C	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)
L2315874-02D	Plastic 250ml unpreserved	B	NA		5.9	Y	Absent		A2-NH-537-ISOTOPE(28)
L2315874-02E	Plastic 250ml unpreserved	B	NA		5.9	Y	Absent		A2-NH-537-ISOTOPE(28)
L2315874-02F	Plastic 250ml NaOH preserved	A	>12	>12	3.6	Y	Absent		TCN-4500(14)
L2315874-02G	Plastic 250ml HNO3 preserved	A	<2	<2	3.6	Y	Absent		PB-SI(180),BA-SI(180),AS-SI(180),AG-SI(180),CR-SI(180),HG-S(28),SE-SI(180)
L2315874-02H	Amber 250ml unpreserved	A	7	7	3.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-02I	Amber 250ml unpreserved	A	7	7	3.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-03A	Vial HCl preserved	C	NA		4.6	Y	Absent		8260-NH(14)
L2315874-03B	Vial HCl preserved	C	NA		4.6	Y	Absent		8260-NH(14)
L2315874-03C	Vial HCl preserved	C	NA		4.6	Y	Absent		8260-NH(14)

*Values in parentheses indicate holding time in days

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2315874-03D	Plastic 250ml unpreserved	B	NA		5.9	Y	Absent		A2-NH-537-ISOTOPE(28)
L2315874-03E	Plastic 250ml unpreserved	B	NA		5.9	Y	Absent		A2-NH-537-ISOTOPE(28)
L2315874-03F	Plastic 250ml NaOH preserved	C	>12	>12	4.6	Y	Absent		TCN-4500(14)
L2315874-03G	Plastic 250ml HNO3 preserved	C	<2	<2	4.6	Y	Absent		PB-SI(180),BA-SI(180),AG-SI(180),AS-SI(180),CR-SI(180),SE-SI(180),HG-S(28)
L2315874-03H	Amber 250ml unpreserved	C	7	7	4.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-03I	Amber 250ml unpreserved	C	7	7	4.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-04A	Vial HCl preserved	C	NA		4.6	Y	Absent		8260-NH(14)
L2315874-04B	Vial HCl preserved	C	NA		4.6	Y	Absent		8260-NH(14)
L2315874-04C	Vial HCl preserved	C	NA		4.6	Y	Absent		8260-NH(14)
L2315874-04D	Plastic 250ml HNO3 preserved	C	<2	<2	4.6	Y	Absent		PB-SI(180),BA-SI(180),AG-SI(180),AS-SI(180),CR-SI(180),HG-S(28),SE-SI(180)
L2315874-05A	Vial HCl preserved	C	NA		4.6	Y	Absent		8260-NH(14)
L2315874-05B	Vial HCl preserved	C	NA		4.6	Y	Absent		8260-NH(14)
L2315874-05C	Vial HCl preserved	C	NA		4.6	Y	Absent		8260-NH(14)
L2315874-05D	Plastic 250ml NaOH preserved	C	>12	>12	4.6	Y	Absent		TCN-4500(14)
L2315874-05E	Plastic 250ml HNO3 preserved	C	<2	<2	4.6	Y	Absent		PB-SI(180),BA-SI(180),AG-SI(180),AS-SI(180),CR-SI(180),SE-SI(180),HG-S(28)
L2315874-05F	Amber 250ml unpreserved	C	7	7	4.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-05G	Amber 250ml unpreserved	C	7	7	4.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-06A	Vial HCl preserved	C	NA		4.6	Y	Absent		8260-NH(14)
L2315874-06B	Vial HCl preserved	C	NA		4.6	Y	Absent		8260-NH(14)
L2315874-06C	Vial HCl preserved	C	NA		4.6	Y	Absent		8260-NH(14)
L2315874-06D	Plastic 250ml NaOH preserved	C	>12	>12	4.6	Y	Absent		TCN-4500(14)
L2315874-06E	Plastic 250ml HNO3 preserved	C	<2	<2	4.6	Y	Absent		PB-SI(180),BA-SI(180),AG-SI(180),AS-SI(180),CR-SI(180),HG-S(28),SE-SI(180)
L2315874-06F	Amber 250ml unpreserved	C	7	7	4.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-06G	Amber 250ml unpreserved	C	7	7	4.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-07A	Vial HCl preserved	C	NA		4.6	Y	Absent		8260-NH(14)
L2315874-07B	Vial HCl preserved	C	NA		4.6	Y	Absent		8260-NH(14)
L2315874-07C	Vial HCl preserved	C	NA		4.6	Y	Absent		8260-NH(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2315874-07D	Plastic 250ml unpreserved	B	NA		5.9	Y	Absent		A2-NH-537-ISOTOPE(28)
L2315874-07E	Plastic 250ml unpreserved	B	NA		5.9	Y	Absent		A2-NH-537-ISOTOPE(28)
L2315874-07F	Plastic 250ml NaOH preserved	C	>12	>12	4.6	Y	Absent		TCN-4500(14)
L2315874-07G	Plastic 250ml HNO3 preserved	C	<2	<2	4.6	Y	Absent		PB-SI(180),BA-SI(180),AS-SI(180),AG-SI(180),CR-SI(180),HG-S(28),SE-SI(180)
L2315874-07H	Amber 250ml unpreserved	C	7	7	4.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-07I	Amber 250ml unpreserved	C	7	7	4.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-08A	Vial HCl preserved	C	NA		4.6	Y	Absent		8260-NH(14)
L2315874-08B	Vial HCl preserved	C	NA		4.6	Y	Absent		8260-NH(14)
L2315874-08C	Vial HCl preserved	C	NA		4.6	Y	Absent		8260-NH(14)
L2315874-08D	Plastic 250ml NaOH preserved	C	>12	>12	4.6	Y	Absent		TCN-4500(14)
L2315874-08E	Plastic 250ml HNO3 preserved	C	<2	<2	4.6	Y	Absent		PB-SI(180),BA-SI(180),AS-SI(180),AG-SI(180),CR-SI(180),HG-S(28),SE-SI(180)
L2315874-08F	Amber 250ml unpreserved	C	7	7	4.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-08G	Amber 250ml unpreserved	C	7	7	4.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-09A	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)
L2315874-09B	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)
L2315874-09C	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)
L2315874-09D	Plastic 250ml unpreserved	B	NA		5.9	Y	Absent		A2-NH-537-ISOTOPE(28)
L2315874-09E	Plastic 250ml unpreserved	B	NA		5.9	Y	Absent		A2-NH-537-ISOTOPE(28)
L2315874-09F	Plastic 250ml NaOH preserved	A	>12	>12	3.6	Y	Absent		TCN-4500(14)
L2315874-09G	Plastic 250ml HNO3 preserved	A	<2	<2	3.6	Y	Absent		PB-SI(180),BA-SI(180),AS-SI(180),AG-SI(180),CR-SI(180),HG-S(28),SE-SI(180)
L2315874-09H	Amber 250ml unpreserved	A	7	7	3.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-09I	Amber 250ml unpreserved	A	7	7	3.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-10A	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)
L2315874-10A1	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)
L2315874-10A2	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)
L2315874-10A3	Vial HCl preserved	NA	NA			Y	Absent		8260-NH(14)
L2315874-10B	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)

*Values in parentheses indicate holding time in days

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2315874-10B1	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)
L2315874-10B2	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)
L2315874-10C	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)
L2315874-10C1	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)
L2315874-10C2	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)
L2315874-10D	Plastic 250ml NaOH preserved	A	>12	>12	3.6	Y	Absent		TCN-4500(14)
L2315874-10D1	Plastic 250ml NaOH preserved	A	>12	>12	3.6	Y	Absent		TCN-4500(14)
L2315874-10D2	Plastic 250ml NaOH preserved	A	>12	>12	3.6	Y	Absent		TCN-4500(14)
L2315874-10E	Plastic 250ml HNO3 preserved	A	<2	<2	3.6	Y	Absent		PB-SI(180),BA-SI(180),AS-SI(180),AG-SI(180),CR-SI(180),SE-SI(180),HG-S(28)
L2315874-10E1	Plastic 250ml HNO3 preserved	A	<2	<2	3.6	Y	Absent		PB-SI(180),BA-SI(180),AS-SI(180),AG-SI(180),CR-SI(180),SE-SI(180),HG-S(28)
L2315874-10E2	Plastic 250ml HNO3 preserved	A	<2	<2	3.6	Y	Absent		PB-SI(180),BA-SI(180),AS-SI(180),AG-SI(180),CR-SI(180),SE-SI(180),HG-S(28)
L2315874-10F	Amber 250ml unpreserved	A	7	7	3.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-10F1	Amber 250ml unpreserved	A	7	7	3.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-10F2	Amber 250ml unpreserved	A	7	7	3.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-10G	Amber 250ml unpreserved	A	7	7	3.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-10G1	Amber 250ml unpreserved	A	7	7	3.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-10G2	Amber 250ml unpreserved	A	7	7	3.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-11A	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)
L2315874-11B	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)
L2315874-11C	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)
L2315874-11D	Plastic 250ml NaOH preserved	A	>12	>12	3.6	Y	Absent		TCN-4500(14)
L2315874-11E	Plastic 250ml HNO3 preserved	A	<2	<2	3.6	Y	Absent		PB-SI(180),BA-SI(180),AS-SI(180),AG-SI(180),CR-SI(180),HG-S(28),SE-SI(180)
L2315874-11F	Amber 250ml unpreserved	A	7	7	3.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-11G	Amber 250ml unpreserved	A	7	7	3.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-12A	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)
L2315874-12B	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)
L2315874-12C	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)

*Values in parentheses indicate holding time in days

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2315874-12D	Plastic 250ml unpreserved	A	NA		3.6	Y	Absent		A2-NH-537-ISOTOPE(28)
L2315874-12E	Plastic 250ml unpreserved	A	NA		3.6	Y	Absent		A2-NH-537-ISOTOPE(28)
L2315874-12F	Plastic 250ml NaOH preserved	A	>12	>12	3.6	Y	Absent		TCN-4500(14)
L2315874-12G	Plastic 250ml HNO3 preserved	A	<2	<2	3.6	Y	Absent		PB-SI(180),BA-SI(180),AG-SI(180),AS-SI(180),CR-SI(180),HG-S(28),SE-SI(180)
L2315874-12H	Amber 250ml unpreserved	A	7	7	3.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-12I	Amber 250ml unpreserved	A	7	7	3.6	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L2315874-13A	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)
L2315874-13B	Vial HCl preserved	A	NA		3.6	Y	Absent		8260-NH(14)
L2315874-14A	Plastic 250ml unpreserved	B	NA		5.9	Y	Absent		A2-NH-537-ISOTOPE(28)

*Values in parentheses indicate holding time in days

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: WW CROSS
Project Number: 21001639

Lab Number: L2315874
Report Date: 06/22/23

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	WW CROSS	**Lab Number:**	L2315874
Project Number:	21001639	**Report Date:**	06/22/23

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	WW CROSS	**Lab Number:**	L2315874
Project Number:	21001639	**Report Date:**	06/22/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	WW CROSS	**Lab Number:**	L2315874
Project Number:	21001639	**Report Date:**	06/22/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	WW CROSS	**Lab Number:**	L2315874
Project Number:	21001639	**Report Date:**	06/22/23

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

134 Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) using Isotope Dilution. Alpha SOP 23528.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #:

Project Information

Project Name: WW CROSS

Project Location: JAFFREY, NH

Project #: 21001639

Project Manager: MOIRA WENTWORTH

ALPHA Quote #:

Client Information

Client: CREDERE ASSOCIATES

Address: 776 MAIN STREET

WESTBROOK, MAINE 04092

Phone: 207-828-1272

Fax:

Email: MWENTWORTH@CREDERELLC.COM

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 21001639

Regulatory Requirements/Report Limits

State/Fed Program *Criteria*

Other Project Specific Requirements/Comments/Detection Limits:
INVOICE TO INVOICES@CREDERELLC.COM

ANALYSIS

SAMPLE HANDLING
Filtration
☒ **Done**
☐ **Not Needed**
☐ **Lab to do**
Preservation
☐ **Lab to do**
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs 8260D	1,4 dioxane SIM 8270D with SIM	RCRA 8 dissolved metals	Cyanide 4500CN-E,C	PFAS 537.1								Sample Specific Comments	TOTAL # BOTTLES
	Field Blank	3/24/23	1200	water	CD	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	(2) 250 ml HDPE	9
	CA-MW-302	3/23/23	1400	water	CD	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐	Only 1 dioxane jar	8
	CA-MW-303	3/24/23	1115	water	ST	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐		9
	CA-MW-304	3/24/23	1045	water	CD	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐		9
	MW-102	3/23/23	1620	water	ST	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
	MW-103	3/23/23	1550	water	CD	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐		7
	MW-105	3/23/23	1140	water	CD	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐		7
	MW-106	3/23/23	1250	water	CD	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐		9
	MW-108	3/23/23	1310	water	ST	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐		7
	MW-203	3/23/23	1645	water	ST	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐		9
					Container Type	-	-	-	-	-	-	-	-	-	-	-	-		
					Preservative	-	-	-	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ)
(rev. 5-JAN-12)

CHAIN OF CUSTODY

PAGE 2 OF 2

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Project Information

Project Name: WW CROSS

Project Location: JAFFREY, NH

Project #: 21001639

Project Manager: MOIRA WENTWORTH

ALPHA Quote #:

Client Information

Client: CREDERE ASSOCIATES

Address: 776 MAIN STREET

WESTBROOK, MAINE 04092

Phone: 207-828-1272

Fax:

Email: MWENTWORTH@CREDERELLC.COM

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Date Rec'd in Lab:

ALPHA Job #:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info

PO #: 21001639

Regulatory Requirements/Report Limits

State/Fed Program | *Criteria*

Other Project Specific Requirements/Comments/Detection Limits:

INVOICE TO INVOICES@CREDERELLC.COM

ANALYSIS

SAMPLE HANDLING
Filtration
☒ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs 8260D	1,4 dioxane SIM 8270D with SIM	RCRA 8 dissolved metals	Cyanide 4500CN-E,C	PFAS 537.1								Sample Specific Comments	TOTAL # BOTTLES
	MW-2	3/24/23	1210	water	ST	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	MS/MSD	21
	MW-6D	3/24/23	1320	water	CD	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	High turbidity	7
	DUP-1	3/24/23	1045	water	CD	☒	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐		7
	Trip Blank	3/24/23	1200	water	CD	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Trip Blank VOAs	
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
					Container Type	-	-	-	-	-	-	-	-	-	-	-	-		
					Preservative	-	-	-	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ)
(rev. 5-JAN-12)

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 3/27/23

ALPHA Job #: L2315874

Client Information

Client: CREDERE ASSOCIATES
Address: 776 MAIN STREET
WESTBROOK, MAINE 04092
Phone: 207-828-1272
Fax:
Email: MWENTWORTH@CREDERELLC.COM
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: WW CROSS
Project Location: JAFFREY, NH
Project #: 21001639
Project Manager: MOIRA WENTWORTH
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:
INVOICE TO INVOICES@CREDERELLC.COM

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 21001639

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

ANALYSIS

SAMPLE HANDLING
Filtration
☒ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs 8260D	1,4 dioxane SIM 8270D with SIM	RCRA 8 dissolved metals	Cyanide 4500CN-E,C	PFAS 537.1	Sample Specific Comments	TOTAL # BOTTLES
	~~CA-MW-301~~ CD (removed)	X	X	~~water~~	X	☒	☒	☒	☒	☒		0
15874-01	CA-MW-302	3/23/23	1400	water	CD	☒	☒	☒	☒	☒	~~MS/MSD~~ CD	9
-02	CA-MW-303	3/24/23	1115	water	ST	☒	☒	☒	☒	☒		0
-03	CA-MW-304	3/24/23	1645	water	CD	☒	☒	☒	☒	☒		0
-04	CA-MW-102	3/23/23	1630	water	ST	☒	☒	☒	☒	☒	only VOCs + RCRA 8	4
-05	CA-MW-103	3/23/23	1550	water	CD	☒	☒	☒	☒	☐		7
-06	CA-MW-105	3/23/23	1140	water	CD	☒	☒	☒	☒	☐		7
-07	CA-MW-106	3/23/23	1250	water	CD	☒	☒	☒	☒	☒		0
-08	CA-MW-108	3/23/23	1310	water	ST	☒	☒	☒	☒	☐		7
-09	CA-MW-203	3/23/23	1645	water	ST	☒	☒	☒	☒	☒		9
	Container Type	-	-	-	-	-	-	-	-	-	-	-
	Preservative	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
CD	3/27/23 1125	AAL	3/27/23 1125
AAL	3/27/23	Rob Moore	3/27/23 1800
Rob Moore	3/27/23 1950		3/27/23 1950

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(I-NJ) (rev. 5-JAN-12)

CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 3/27/23

ALPHA Job #: L2315874

Client Information

Client: CREDERE ASSOCIATES
Address: 776 MAIN STREET
WESTBROOK, MAINE 04092
Phone: 207-828-1272
Fax:
Email: MWENTWORTH@CREDERELLC.COM
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: WW CROSS
Project Location: JAFFREY, NH
Project #: 21001639
Project Manager: MOIRA WENTWORTH
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:
INVOICE TO INVOICES@CREDERELLC.COM

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #: 21001639

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

ANALYSIS

SAMPLE HANDLING
Filtration
☒ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs 8260D	1,4 dioxane SIM 8270D with SIM	RCRA 8 dissolved metals	Cyanide 4500CN-E,C	PFAS 537.1	Sample Specific Comments	TOTAL # BOTTLES
15874-10	CA-MW-2	3/24/23	1210	water	ST	☒	☒	☒	☒	☐	MS/MSD CP-12	
-11	CA-MW-6D	3/24/23	1320	water	CD	☒	☒	☒	☒	☐		7
	~~CA-MW-14~~ (removed)	X	X	~~water~~	X	☒	☒	☒	☒	☐		7
	~~CA-MW-15D~~ (removed)	X	X	~~water~~	X	☒	☒	☒	☒	☐		7
-12	~~MW-DUP-1~~ DUP-1	3/24/23	1045	water	CD	☒	☒	☒	☒	☒		9
	~~MW-DUP-2~~ CD (removed)	X	X	~~water~~	X	☒	☒	☒	☒	☐		7
						☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐		

Container Type	-	-	-	-	-	-	-	-	-	-	-	-	
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	3/27/23 1125	[illegible] AAL	3/27/23 1125
AAL	3/27/23	Rob Mooney	3/27/23 1800
Rob Mooney	3/27/23 1950		3/24/23 1950

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

EMSL Analytical, Inc.

161 John Roberts Road South Portland, ME 04106
Phone/Fax: (207) 517-6921 / (207) 517-6922
http://www.EMSL.com / portlandlab@emsl.com

EMSL Order ID: 622300146
Customer ID: CRED25
Customer PO:
Project ID:

Attn: Moira Wentworth
Credere Associates, LLC
776 Main Street
Westbrook, ME 04092

Phone: (207) 828-1272
Fax: (207) 887-1051
Collected: 1/30/2023
Received: 2/02/2023
Analyzed: 2/18/2023

Proj: W.W.Cross/21001639

Summary Test Report for Asbestos Analysis of Bulk Material

Client Sample ID: 02C **Lab Sample ID:** 622300146-0001
Sample Description: Gym Area/Joint Compound, White

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/18/2023	White	0.0%	100.0%	None Detected	

Client Sample ID: 17C **Lab Sample ID:** 622300146-0002
Sample Description: Office Area/Joint Compound, White

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/18/2023	White	0.0%	100.0%	None Detected	

Client Sample ID: 22C **Lab Sample ID:** 622300146-0003
Sample Description: Gym Locker Rooms/Joint Compound, White

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/18/2023	White	0.0%	100.0%	None Detected	

Client Sample ID: 35C **Lab Sample ID:** 622300146-0004
Sample Description: Room 17/Joint Compound, White

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/18/2023	White	0.0%	100.0%	None Detected	

Client Sample ID: 48C **Lab Sample ID:** 622300146-0005
Sample Description: Room 4 Bathroom/Plaster Skimcoat, White

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/18/2023	White	0.0%	100.0%	None Detected	

Client Sample ID: 49C **Lab Sample ID:** 622300146-0006
Sample Description: Room 4 Bathroom/Plaster Basecoat, Beige

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/18/2023	Gray	0.0%	100.0%	None Detected	

Client Sample ID: CA-SACM-01 A **Lab Sample ID:** 622300146-0007
Sample Description: Room 17/Tar Paper - tar paper

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/18/2023	Black	0.0%	100%	None Detected	

EMSL Analytical, Inc.

161 John Roberts Road South Portland, ME 04106
Phone/Fax: (207) 517-6921 / (207) 517-6922
http://www.EMSL.com / portlandlab@emsl.com

EMSL Order ID: 622300146
Customer ID: CRED25
Customer PO:
Project ID:

Summary Test Report for Asbestos Analysis of Bulk Material

Client Sample ID: CA-SACM-01 B ***Lab Sample ID:*** **622300146-0008**

Sample Description: Room 17/Tar Paper - tar paper

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/18/2023	Black	0.0%	100%	None Detected	

PLM: ME CERT # BA-0178

PLM EPA NOB: ME CERT # BA-0178

Analyst(s):

Stephen Severn PLM (6)
PLM Grav. Reduction (2)

Reviewed and approved by:



Stephen Severn, Technical Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This is a summary report; official reports are available on LabConnect or upon request and relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. South Portland, ME NVLAP Lab Code 500094-0, VT AL197271, ME LM-0039, CT PH-0346

Initial report from: 02/18/202318:09:31

OrderID: 622300146

Asbestos Bulk Building Materials - Chain of Custody

EMSL Order Number / Lab Use Only: 622300146

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Credere Associates, LLC	Company Name:	Same
Contact Name:	Moira Wentworth	Billing Contact:	
Street Address:	776 Main Street	Street Address:	
City, State, Zip:	Westbrook, ME 04092	City, State, Zip:	
Country:	USA	Country:	
Phone:	207-828-1272 x36	Phone:	
Email(s) for Report:	mwentworth@crederellc.com	Email(s) for Invoice:	

Project Information

Project Name/No:	W.W. Cross/21001639	Purchase Order:	
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected:	NH
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)		
Sampled By Name:	M. Wentworth	Sampled By Signature:	
Date Sampled:	1/30/23	No. of Samples in Shipment	8

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☐ 1 Week ☑ 2 Week

Please call ahead for large projects and/or turnaround times 6 Hours or Less. *32 Hour TAT available for select tests only; samples must be submitted by 11:30am.

Test Selection

PLM - Bulk (reporting limit)

- ☑ PLM EPA 600/R-93/116 (<1%)
- ☑ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Bulk

- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable - NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Tests (please specify)

☑ Positive Stop - Clearly Identified Homogeneous Areas (HA)

Sample Number	HA Number	Sample Location	Material Description
02C	02	Gym Area	Joint Compound, White
17C	17	Office Area	Joint Compound, White
22C	22	Gym Locker Rooms	Joint Compound, White
35C	35	Room 17	Joint Compound, White
48C	48	Room 4 Bathroom	Plaster Skimcoat, White
49C	49	Room 4 Bathroom	Plaster Basecoat, Beige
CA-SACM-01(A,B)	01	Room 17	Tar Paper

RECEIVED
FEB 02 2023
BY: SJ

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Method of Shipment:	DEL.	Sample Condition Upon Receipt:	
Relinquished by:	mansfield CRE	Date/Time:	Received by: Date/Time 2/2/23 11:30 AM
Relinquished by:		Date/Time:	Received by: Date/Time

Controlled Document - Asbestos Bulk R7 9/14/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Laboratory Report

Absolute Resource associates
124 Heritage Avenue Portsmouth NH 03801

Moira Wentworth
CREDERE Associates
776 Main Street
Westbrook, ME 04092

PO Number: None
Job ID: 64430
Date Received: 2/2/23

Project: WW Cross 21001639

Attached please find results for the analysis of the samples received on the date referenced above.

Unless otherwise noted in the attached report, the analyses performed met the requirements of Absolute Resource Associates' Quality Assurance Plan. The Standard Operating Procedures are based upon USEPA SW-846, USEPA Methods for Chemical Analysis of Water and Wastewater, Standard Methods for the Examination of Water and Wastewater and other recognized methodologies. The results contained in this report pertain only to the samples as indicated on the chain of custody.

Absolute Resource Associates maintains certification with the agencies listed below. The reported results apply to the sample(s) in the condition as received at the time the laboratory took custody. This report shall not be reproduced except in full, without written approval of the laboratory. The liability of ARA is limited to the cost of the requested analyses, unless otherwise agreed upon in writing.

We appreciate the opportunity to provide laboratory services. If you have any questions regarding the enclosed report, please contact the laboratory and we will be glad to assist you.

Sincerely,
Absolute Resource Associates



Willie Stone
Authorized Signature

Date of Approval: 2/22/2023
Total number of pages: 20

Absolute Resource Associates Certifications

New Hampshire	1732	Massachusetts	M-NH902
Maine	NH902		

Project ID: WW Cross 21001639

Sample Association Table

Field ID	Matrix	Date-Time Sampled	Lab#	Analysis
CA-CP-1	Solid	1/30/2023 13:40	64430-001	
				PCBs in solids by 8082
CA-CP-2	Solid	1/30/2023 13:30	64430-002	
				PCBs in solids by 8082
CA-CP-3	Solid	1/30/2023 13:20	64430-003	
				Field Specified Laboratory Duplicate
				Field Specified Matrix Spike
				PCBs in solids by 8082
CA-CP-4	Solid	1/30/2023 13:50	64430-004	
				PCBs in solids by 8082
CA-DUP-4	Solid	1/30/2023 13:32	64430-005	
				PCBs in solids by 8082
CA-PCB-1	Solid	1/30/2023 11:00	64430-006	
				PCBs in solids by Soxhlet 8082
				Report on Weight As Received basis
CA-PCB-DUP	Solid	1/30/2023 11:02	64430-007	
				PCBs in solids by Soxhlet 8082
				Report on Weight As Received basis
CA-PCB-2	Solid	1/30/2023 12:15	64430-008	
				PCBs in solids by Soxhlet 8082
				Report on Weight As Received basis
CA-PCB-3	Solid	1/30/2023 11:10	64430-009	
				PCBs in solids by Soxhlet 8082
				Report on Weight As Received basis
CA-PCB-4	Solid	1/30/2023 11:10	64430-010	
				PCBs in solids by Soxhlet 8082
				Report on Weight As Received basis
CA-PCB-5	Solid	1/30/2023 11:15	64430-011	
				PCBs in solids by Soxhlet 8082
				Report on Weight As Received basis
CA-PCB-6	Solid	1/30/2023 11:20	64430-012	
				PCBs in solids by Soxhlet 8082
				Report on Weight As Received basis
CA-PCB-7	Solid	1/30/2023 11:40	64430-013	
				PCBs in solids by Soxhlet 8082
				Report on Weight As Received basis
CA-PCB-8	Solid	1/30/2023 12:05	64430-014	
				PCBs in solids by Soxhlet 8082
				Report on Weight As Received basis

Absolute Resource associates

Project ID: WW Cross 21001639
Job ID: 64430

Sample#: 64430-001
Sample ID: CA-CP-1
Matrix: Solid Percent Dry: 65.1% Results expressed on a dry weight basis.
Sampled: 1/30/23 13:40

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.14	0.14	ug/g	1	DBV	2/7/23	15926	2/8/23	11:32	SW3546/8082A
PCB-1221	< 0.14	0.14	ug/g	1	DBV	2/7/23	15926	2/8/23	11:32	SW3546/8082A
PCB-1232	< 0.14	0.14	ug/g	1	DBV	2/7/23	15926	2/8/23	11:32	SW3546/8082A
PCB-1242	< 0.14	0.14	ug/g	1	DBV	2/7/23	15926	2/8/23	11:32	SW3546/8082A
PCB-1248	< 0.14	0.14	ug/g	1	DBV	2/7/23	15926	2/8/23	11:32	SW3546/8082A
PCB-1254	< 0.14	0.14	ug/g	1	DBV	2/7/23	15926	2/8/23	11:32	SW3546/8082A
PCB-1260	**0.29**	0.14	ug/g	1	DBV	2/7/23	15926	2/8/23	11:32	SW3546/8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**77**	30-150	%	1	DBV	2/7/23	15926	2/8/23	11:32	SW3546/8082A
decachlorobiphenyl SUR	**63**	30-150	%	1	DBV	2/7/23	15926	2/8/23	11:32	SW3546/8082A

Sample#: 64430-002
Sample ID: CA-CP-2
Matrix: Solid Percent Dry: 63.3% Results expressed on a dry weight basis.
Sampled: 1/30/23 13:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.14	0.14	ug/g	1	DBV	2/7/23	15926	2/8/23	11:44	SW3546/8082A
PCB-1221	< 0.14	0.14	ug/g	1	DBV	2/7/23	15926	2/8/23	11:44	SW3546/8082A
PCB-1232	< 0.14	0.14	ug/g	1	DBV	2/7/23	15926	2/8/23	11:44	SW3546/8082A
PCB-1242	< 0.14	0.14	ug/g	1	DBV	2/7/23	15926	2/8/23	11:44	SW3546/8082A
PCB-1248	< 0.14	0.14	ug/g	1	DBV	2/7/23	15926	2/8/23	11:44	SW3546/8082A
PCB-1254	< 0.14	0.14	ug/g	1	DBV	2/7/23	15926	2/8/23	11:44	SW3546/8082A
PCB-1260	**0.30**	0.14	ug/g	1	DBV	2/7/23	15926	2/8/23	11:44	SW3546/8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**47**	30-150	%	1	DBV	2/7/23	15926	2/8/23	11:44	SW3546/8082A
decachlorobiphenyl SUR	**40**	30-150	%	1	DBV	2/7/23	15926	2/8/23	11:44	SW3546/8082A

Project ID: WW Cross 21001639
Job ID: 64430

Sample#: 64430-003
Sample ID: CA-CP-3
Matrix: Solid Percent Dry: 61.9% Results expressed on a dry weight basis.
Sampled: 1/30/23 13:20

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.16	0.16	ug/g	1	ACA	2/14/23	15954	2/15/23	16:58	SW3546/8082A
PCB-1221	< 0.16	0.16	ug/g	1	ACA	2/14/23	15954	2/15/23	16:58	SW3546/8082A
PCB-1232	< 0.16	0.16	ug/g	1	ACA	2/14/23	15954	2/15/23	16:58	SW3546/8082A
PCB-1242	< 0.16	0.16	ug/g	1	ACA	2/14/23	15954	2/15/23	16:58	SW3546/8082A
PCB-1248	< 0.16	0.16	ug/g	1	ACA	2/14/23	15954	2/15/23	16:58	SW3546/8082A
PCB-1254	< 0.16	0.16	ug/g	1	ACA	2/14/23	15954	2/15/23	16:58	SW3546/8082A
PCB-1260	**0.48**	0.16	ug/g	1	ACA	2/14/23	15954	2/15/23	16:58	SW3546/8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**38**	30-150	%	1	ACA	2/14/23	15954	2/15/23	16:58	SW3546/8082A
decachlorobiphenyl SUR	**34**	30-150	%	1	ACA	2/14/23	15954	2/15/23	16:58	SW3546/8082A

Sample#: 64430-004
Sample ID: CA-CP-4
Matrix: Solid Percent Dry: 78.7% Results expressed on a dry weight basis.
Sampled: 1/30/23 13:50

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.12	0.12	ug/g	1	ACA	2/14/23	15954	2/15/23	17:37	SW3546/8082A
PCB-1221	< 0.12	0.12	ug/g	1	ACA	2/14/23	15954	2/15/23	17:37	SW3546/8082A
PCB-1232	< 0.12	0.12	ug/g	1	ACA	2/14/23	15954	2/15/23	17:37	SW3546/8082A
PCB-1242	< 0.12	0.12	ug/g	1	ACA	2/14/23	15954	2/15/23	17:37	SW3546/8082A
PCB-1248	< 0.12	0.12	ug/g	1	ACA	2/14/23	15954	2/15/23	17:37	SW3546/8082A
PCB-1254	< 0.12	0.12	ug/g	1	ACA	2/14/23	15954	2/15/23	17:37	SW3546/8082A
PCB-1260	< 0.12	0.12	ug/g	1	ACA	2/14/23	15954	2/15/23	17:37	SW3546/8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**43**	30-150	%	1	ACA	2/14/23	15954	2/15/23	17:37	SW3546/8082A
decachlorobiphenyl SUR	**42**	30-150	%	1	ACA	2/14/23	15954	2/15/23	17:37	SW3546/8082A

Project ID: WW Cross 21001639
Job ID: 64430

Sample#: 64430-005
Sample ID: CA-DUP-4
Matrix: Solid Percent Dry: 61.7% Results expressed on a dry weight basis.
Sampled: 1/30/23 13:32

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.16	0.16	ug/g	1	DBV	2/7/23	15926	2/8/23	12:47	SW3546/8082A
PCB-1221	< 0.16	0.16	ug/g	1	DBV	2/7/23	15926	2/8/23	12:47	SW3546/8082A
PCB-1232	< 0.16	0.16	ug/g	1	DBV	2/7/23	15926	2/8/23	12:47	SW3546/8082A
PCB-1242	< 0.16	0.16	ug/g	1	DBV	2/7/23	15926	2/8/23	12:47	SW3546/8082A
PCB-1248	< 0.16	0.16	ug/g	1	DBV	2/7/23	15926	2/8/23	12:47	SW3546/8082A
PCB-1254	< 0.16	0.16	ug/g	1	DBV	2/7/23	15926	2/8/23	12:47	SW3546/8082A
PCB-1260	**0.43**	0.16	ug/g	1	DBV	2/7/23	15926	2/8/23	12:47	SW3546/8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**51**	30-150	%	1	DBV	2/7/23	15926	2/8/23	12:47	SW3546/8082A
decachlorobiphenyl SUR	**52**	30-150	%	1	DBV	2/7/23	15926	2/8/23	12:47	SW3546/8082A

Sample#: 64430-006
Sample ID: CA-PCB-1
Matrix: Solid Results expressed on a weight as received basis.
Sampled: 1/30/23 11:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.49	0.49	ug/g	5	DBV	2/7/23	15924	2/9/23	20:59	SW3540C8082A
PCB-1221	< 0.49	0.49	ug/g	5	DBV	2/7/23	15924	2/9/23	20:59	SW3540C8082A
PCB-1232	< 0.49	0.49	ug/g	5	DBV	2/7/23	15924	2/9/23	20:59	SW3540C8082A
PCB-1242	< 0.49	0.49	ug/g	5	DBV	2/7/23	15924	2/9/23	20:59	SW3540C8082A
PCB-1248	< 9.8	9.8	ug/g	5	DBV	2/7/23	15924	2/9/23	20:59	SW3540C8082A
PCB-1254	< 9.8	9.8	ug/g	5	DBV	2/7/23	15924	2/9/23	20:59	SW3540C8082A
PCB-1260	< 9.8	9.8	ug/g	5	DBV	2/7/23	15924	2/9/23	20:59	SW3540C8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**48**	30-150	%	5	DBV	2/7/23	15924	2/9/23	20:59	SW3540C8082A
decachlorobiphenyl SUR	**39**	30-150	%	5	DBV	2/7/23	15924	2/9/23	20:59	SW3540C8082A

Note: Elevated reporting limit was necessary due to matrix interference.

Absolute Resource associates

Project ID: WW Cross 21001639
Job ID: 64430

Sample#: 64430-007
Sample ID: CA-PCB-DUP
Matrix: Solid Results expressed on a weight as received basis.
Sampled: 1/30/23 11:02

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.50	0.50	ug/g	5	DBV	2/7/23	15924	2/9/23	21:11	SW3540C8082A
PCB-1221	< 0.50	0.50	ug/g	5	DBV	2/7/23	15924	2/9/23	21:11	SW3540C8082A
PCB-1232	< 0.50	0.50	ug/g	5	DBV	2/7/23	15924	2/9/23	21:11	SW3540C8082A
PCB-1242	< 0.50	0.50	ug/g	5	DBV	2/7/23	15924	2/9/23	21:11	SW3540C8082A
PCB-1248	< 20	20	ug/g	5	DBV	2/7/23	15924	2/9/23	21:11	SW3540C8082A
PCB-1254	< 20	20	ug/g	5	DBV	2/7/23	15924	2/9/23	21:11	SW3540C8082A
PCB-1260	< 20	20	ug/g	5	DBV	2/7/23	15924	2/9/23	21:11	SW3540C8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**76**	30-150	%	5	DBV	2/7/23	15924	2/9/23	21:11	SW3540C8082A
decachlorobiphenyl SUR	**57**	30-150	%	5	DBV	2/7/23	15924	2/9/23	21:11	SW3540C8082A

Note: Elevated reporting limit was necessary due to matrix interference.

Sample#: 64430-008
Sample ID: CA-PCB-2
Matrix: Solid Results expressed on a weight as received basis.
Sampled: 1/30/23 12:15

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.092	0.092	ug/g	1	DBV	2/7/23	15927	2/9/23	18:03	SW3540C8082A
PCB-1221	< 0.092	0.092	ug/g	1	DBV	2/7/23	15927	2/9/23	18:03	SW3540C8082A
PCB-1232	< 0.092	0.092	ug/g	1	DBV	2/7/23	15927	2/9/23	18:03	SW3540C8082A
PCB-1242	< 0.092	0.092	ug/g	1	DBV	2/7/23	15927	2/9/23	18:03	SW3540C8082A
PCB-1248	< 0.092	0.092	ug/g	1	DBV	2/7/23	15927	2/9/23	18:03	SW3540C8082A
PCB-1254	< 3.7	3.7	ug/g	1	DBV	2/7/23	15927	2/9/23	18:03	SW3540C8082A
PCB-1260	< 0.092	0.092	ug/g	1	DBV	2/7/23	15927	2/9/23	18:03	SW3540C8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**61**	30-150	%	1	DBV	2/7/23	15927	2/9/23	18:03	SW3540C8082A
decachlorobiphenyl SUR	**53**	30-150	%	1	DBV	2/7/23	15927	2/9/23	18:03	SW3540C8082A

Note: Elevated reporting limit was necessary due to the presence of non-target compound(s).

Absolute Resource associates

Project ID: WW Cross 21001639
Job ID: 64430

Sample#: 64430-009
Sample ID: CA-PCB-3
Matrix: Solid Results expressed on a weight as received basis.
Sampled: 1/30/23 11:10

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.095	0.095	ug/g	1	DBV	2/7/23	15927	2/9/23	18:15	SW3540C8082A
PCB-1221	< 0.095	0.095	ug/g	1	DBV	2/7/23	15927	2/9/23	18:15	SW3540C8082A
PCB-1232	< 0.095	0.095	ug/g	1	DBV	2/7/23	15927	2/9/23	18:15	SW3540C8082A
PCB-1242	< 0.095	0.095	ug/g	1	DBV	2/7/23	15927	2/9/23	18:15	SW3540C8082A
PCB-1248	**0.92**	0.095	ug/g	1	DBV	2/7/23	15927	2/9/23	18:15	SW3540C8082A
PCB-1254	**1.2**	0.095	ug/g	1	DBV	2/7/23	15927	2/9/23	18:15	SW3540C8082A
PCB-1260	< 4.8	4.8	ug/g	1	DBV	2/7/23	15927	2/9/23	18:15	SW3540C8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**76**	30-150	%	1	DBV	2/7/23	15927	2/9/23	18:15	SW3540C8082A
decachlorobiphenyl SUR	**72**	30-150	%	1	DBV	2/7/23	15927	2/9/23	18:15	SW3540C8082A

Note: Elevated reporting limit was necessary due to matrix interference.

Sample#: 64430-010
Sample ID: CA-PCB-4
Matrix: Solid Results expressed on a weight as received basis.
Sampled: 1/30/23 11:10

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.097	0.097	ug/g	1	DBV	2/7/23	15927	2/9/23	18:28	SW3540C8082A
PCB-1221	< 0.097	0.097	ug/g	1	DBV	2/7/23	15927	2/9/23	18:28	SW3540C8082A
PCB-1232	< 0.097	0.097	ug/g	1	DBV	2/7/23	15927	2/9/23	18:28	SW3540C8082A
PCB-1242	**1.2**	0.097	ug/g	1	DBV	2/7/23	15927	2/9/23	18:28	SW3540C8082A
PCB-1248	< 3.9	3.9	ug/g	1	DBV	2/7/23	15927	2/9/23	18:28	SW3540C8082A
PCB-1254	< 3.9	3.9	ug/g	1	DBV	2/7/23	15927	2/9/23	18:28	SW3540C8082A
PCB-1260	< 3.9	3.9	ug/g	1	DBV	2/7/23	15927	2/9/23	18:28	SW3540C8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**69**	30-150	%	1	DBV	2/7/23	15927	2/9/23	18:28	SW3540C8082A
decachlorobiphenyl SUR	**55**	30-150	%	1	DBV	2/7/23	15927	2/9/23	18:28	SW3540C8082A

Note: Elevated reporting limit was necessary due to matrix interference.

Absolute Resource associates

Project ID: WW Cross 21001639
Job ID: 64430

Sample#: 64430-011
Sample ID: CA-PCB-5
Matrix: Solid Results expressed on a weight as received basis.
Sampled: 1/30/23 11:15

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.093	0.093	ug/g	1	DBV	2/7/23	15927	2/9/23	18:40	SW3540C8082A
PCB-1221	< 0.093	0.093	ug/g	1	DBV	2/7/23	15927	2/9/23	18:40	SW3540C8082A
PCB-1232	< 0.093	0.093	ug/g	1	DBV	2/7/23	15927	2/9/23	18:40	SW3540C8082A
PCB-1242	**0.45**	0.093	ug/g	1	DBV	2/7/23	15927	2/9/23	18:40	SW3540C8082A
PCB-1248	< 0.093	0.093	ug/g	1	DBV	2/7/23	15927	2/9/23	18:40	SW3540C8082A
PCB-1254	< 0.093	0.093	ug/g	1	DBV	2/7/23	15927	2/9/23	18:40	SW3540C8082A
PCB-1260	< 0.093	0.093	ug/g	1	DBV	2/7/23	15927	2/9/23	18:40	SW3540C8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**63**	30-150	%	1	DBV	2/7/23	15927	2/9/23	18:40	SW3540C8082A
decachlorobiphenyl SUR	**58**	30-150	%	1	DBV	2/7/23	15927	2/9/23	18:40	SW3540C8082A

Sample#: 64430-012
Sample ID: CA-PCB-6
Matrix: Solid Results expressed on a weight as received basis.
Sampled: 1/30/23 11:20

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.092	0.092	ug/g	1	DBV	2/7/23	15927	2/9/23	18:53	SW3540C8082A
PCB-1221	< 0.092	0.092	ug/g	1	DBV	2/7/23	15927	2/9/23	18:53	SW3540C8082A
PCB-1232	< 0.092	0.092	ug/g	1	DBV	2/7/23	15927	2/9/23	18:53	SW3540C8082A
PCB-1242	**0.20**	0.092	ug/g	1	DBV	2/7/23	15927	2/9/23	18:53	SW3540C8082A
PCB-1248	< 0.092	0.092	ug/g	1	DBV	2/7/23	15927	2/9/23	18:53	SW3540C8082A
PCB-1254	**0.46**	0.092	ug/g	1	DBV	2/7/23	15927	2/9/23	18:53	SW3540C8082A
PCB-1260	**0.13**	0.092	ug/g	1	DBV	2/7/23	15927	2/9/23	18:53	SW3540C8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**50**	30-150	%	1	DBV	2/7/23	15927	2/9/23	18:53	SW3540C8082A
decachlorobiphenyl SUR	**47**	30-150	%	1	DBV	2/7/23	15927	2/9/23	18:53	SW3540C8082A

Project ID: WW Cross 21001639
Job ID: 64430

Sample#: 64430-013
Sample ID: CA-PCB-7
Matrix: Solid Results expressed on a weight as received basis.
Sampled: 1/30/23 11:40

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.93	0.93	ug/g	10	DBV	2/7/23	15927	2/9/23	21:24	SW3540C8082A
PCB-1221	< 0.93	0.93	ug/g	10	DBV	2/7/23	15927	2/9/23	21:24	SW3540C8082A
PCB-1232	< 0.93	0.93	ug/g	10	DBV	2/7/23	15927	2/9/23	21:24	SW3540C8082A
PCB-1242	< 0.93	0.93	ug/g	10	DBV	2/7/23	15927	2/9/23	21:24	SW3540C8082A
PCB-1248	**13**	0.93	ug/g	10	DBV	2/7/23	15927	2/9/23	21:24	SW3540C8082A
PCB-1254	< 0.93	0.93	ug/g	10	DBV	2/7/23	15927	2/9/23	21:24	SW3540C8082A
PCB-1260	< 0.93	0.93	ug/g	10	DBV	2/7/23	15927	2/9/23	21:24	SW3540C8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**86**	30-150	%	10	DBV	2/7/23	15927	2/9/23	21:24	SW3540C8082A
decachlorobiphenyl SUR	**60**	30-150	%	10	DBV	2/7/23	15927	2/9/23	21:24	SW3540C8082A

Sample#: 64430-014
Sample ID: CA-PCB-8
Matrix: Solid Results expressed on a weight as received basis.
Sampled: 1/30/23 12:05

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 9.2	9.2	ug/g	20	DBV	2/7/23	15927	2/9/23	21:36	SW3540C8082A
PCB-1221	< 9.2	9.2	ug/g	20	DBV	2/7/23	15927	2/9/23	21:36	SW3540C8082A
PCB-1232	< 9.2	9.2	ug/g	20	DBV	2/7/23	15927	2/9/23	21:36	SW3540C8082A
PCB-1242	< 9.2	9.2	ug/g	20	DBV	2/7/23	15927	2/9/23	21:36	SW3540C8082A
PCB-1248	< 9.2	9.2	ug/g	20	DBV	2/7/23	15927	2/9/23	21:36	SW3540C8082A
PCB-1254	< 9.2	9.2	ug/g	20	DBV	2/7/23	15927	2/9/23	21:36	SW3540C8082A
PCB-1260	< 9.2	9.2	ug/g	20	DBV	2/7/23	15927	2/9/23	21:36	SW3540C8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**79**	30-150	%	20	DBV	2/7/23	15927	2/9/23	21:36	SW3540C8082A
decachlorobiphenyl SUR	**58**	30-150	%	20	DBV	2/7/23	15927	2/9/23	21:36	SW3540C8082A

Note: Elevated reporting limit was necessary due to matrix interference.

Quality Control Report



124 Heritage Avenue Unit 16
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Case Narrative
Lab # 64430

Sample Receiving and Chain of Custody Discrepancies

Samples were received in acceptable condition, between 0 and 6 degrees C, on ice, and in accordance with sample handling, preservation and integrity guidelines.

Calibration

No exceptions noted.

Method Blank

No exceptions noted.

Surrogate Recoveries

No exceptions noted.

Laboratory Control Sample Results

No exceptions noted.

Matrix Spike/Matrix Spike Duplicate/Duplicate Results

Not requested for this project.

Other

Reporting Limits: Dilutions performed during the analysis are noted on the result pages.

No other exceptions noted.

GLOSSARY

%R	Percent Recovery
BLK	Blank (Method Blank, Preparation Blank)
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CRM	Certified Reference Material (associated with solid Metals samples)
CRMD	Certified Reference Material Duplicate (associated with solid Metals samples)
Dil'n	Dilution
DL	Detection Limit
DUP	Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection
LOQ	Limit of Quantitation
MB	Methanol Blank (associated with solid VOC samples)
MLCS	Methanol Laboratory Control Sample (associated with solid VOC samples)
MLCSD	Methanol Laboratory Control Sample Duplicate (associated with solid VOC samples)
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PB	Preparation Blank
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference
SUR	Surrogate

- QC Report -

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW3540C8082A	BLK15924	PCB-1016		<	0.10	ug/g						
		PCB-1221		<	0.10	ug/g						
		PCB-1232		<	0.10	ug/g						
		PCB-1242		<	0.10	ug/g						
		PCB-1248		<	0.10	ug/g						
		PCB-1254		<	0.10	ug/g						
		PCB-1260		<	0.10	ug/g						
		tetrachloro-m-xylene SUR			75	%			30	150		
		decachlorobiphenyl SUR			81	%			30	150		
SW3540C8082A	LCS15924	PCB-1016			1.7	ug/g	2	87	40	140		
		PCB-1221		<	0.10	ug/g						
		PCB-1232		<	0.10	ug/g						
		PCB-1242		<	0.10	ug/g						
		PCB-1248		<	0.10	ug/g						
		PCB-1254		<	0.10	ug/g						
		PCB-1260			2.2	ug/g	2	108	40	140		
		tetrachloro-m-xylene SUR			82	%			30	150		
		decachlorobiphenyl SUR			96	%			30	150		
SW3540C8082A	LCSD15924	PCB-1016			1.8	ug/g	2	88	40	140	1	30
		PCB-1221		<	0.10	ug/g						
		PCB-1232		<	0.10	ug/g						
		PCB-1242		<	0.10	ug/g						
		PCB-1248		<	0.10	ug/g						
		PCB-1254		<	0.10	ug/g						
		PCB-1260			2.2	ug/g	2	110	40	140	2	30
		tetrachloro-m-xylene SUR			77	%			30	150		
		decachlorobiphenyl SUR			94	%			30	150		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW3540C8082A	BLK15927	PCB-1016		<	0.10	ug/g						
		PCB-1221		<	0.10	ug/g						
		PCB-1232		<	0.10	ug/g						
		PCB-1242		<	0.10	ug/g						
		PCB-1248		<	0.10	ug/g						
		PCB-1254		<	0.10	ug/g						
		PCB-1260		<	0.10	ug/g						
		tetrachloro-m-xylene SUR			72	%			30	150		
		decachlorobiphenyl SUR			77	%			30	150		
SW3540C8082A	LCS15927	PCB-1016			1.5	ug/g	2	75	40	140		
		PCB-1221		<	0.10	ug/g						
		PCB-1232		<	0.10	ug/g						
		PCB-1242		<	0.10	ug/g						
		PCB-1248		<	0.10	ug/g						
		PCB-1254		<	0.10	ug/g						
		PCB-1260			1.7	ug/g	2	84	40	140		
		tetrachloro-m-xylene SUR			73	%			30	150		
		decachlorobiphenyl SUR			73	%			30	150		
SW3540C8082A	LCSD15927	PCB-1016			1.5	ug/g	2	76	40	140	1	30
		PCB-1221		<	0.10	ug/g						
		PCB-1232		<	0.10	ug/g						
		PCB-1242		<	0.10	ug/g						
		PCB-1248		<	0.10	ug/g						
		PCB-1254		<	0.10	ug/g						
		PCB-1260			1.7	ug/g	2	87	40	140	4	30
		tetrachloro-m-xylene SUR			69	%			30	150		
		decachlorobiphenyl SUR			77	%			30	150		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW3546/8082A	BLK15926	PCB-1016		<	0.10	ug/g						
		PCB-1221		<	0.10	ug/g						
		PCB-1232		<	0.10	ug/g						
		PCB-1242		<	0.10	ug/g						
		PCB-1248		<	0.10	ug/g						
		PCB-1254		<	0.10	ug/g						
		PCB-1260		<	0.10	ug/g						
		tetrachloro-m-xylene SUR			86	%			30	150		
		decachlorobiphenyl SUR			81	%			30	150		
SW3546/8082A	LCS15926	PCB-1016			1.9	ug/g	2	93	40	140		
		PCB-1221		<	0.10	ug/g						
		PCB-1232		<	0.10	ug/g						
		PCB-1242		<	0.10	ug/g						
		PCB-1248		<	0.10	ug/g						
		PCB-1254		<	0.10	ug/g						
		PCB-1260			1.9	ug/g	2	95	40	140		
		tetrachloro-m-xylene SUR			99	%			30	150		
		decachlorobiphenyl SUR			90	%			30	150		
SW3546/8082A	LCSD15926	PCB-1016			1.9	ug/g	2	93	40	140	0	30
		PCB-1221		<	0.10	ug/g						
		PCB-1232		<	0.10	ug/g						
		PCB-1242		<	0.10	ug/g						
		PCB-1248		<	0.10	ug/g						
		PCB-1254		<	0.10	ug/g						
		PCB-1260			1.9	ug/g	2	97	40	140	2	30
		tetrachloro-m-xylene SUR			94	%			30	150		
		decachlorobiphenyl SUR			89	%			30	150		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW3546/8082A	BLK15954	PCB-1016		<	0.10	ug/g						
		PCB-1221		<	0.10	ug/g						
		PCB-1232		<	0.10	ug/g						
		PCB-1242		<	0.10	ug/g						
		PCB-1248		<	0.10	ug/g						
		PCB-1254		<	0.10	ug/g						
		PCB-1260		<	0.10	ug/g						
		tetrachloro-m-xylene SUR			91	%			30	150		
		decachlorobiphenyl SUR			107	%			30	150		
SW3546/8082A	LCS15954	PCB-1016			1.8	ug/g	2	92	40	140		
		PCB-1221		<	0.1	ug/g						
		PCB-1232		<	0.1	ug/g						
		PCB-1242		<	0.1	ug/g						
		PCB-1248		<	0.1	ug/g						
		PCB-1254		<	0.1	ug/g						
		PCB-1260			2.5	ug/g	2	124	40	140		
		tetrachloro-m-xylene SUR			74	%			30	150		
		decachlorobiphenyl SUR			134	%			30	150		
SW3546/8082A	LCSD15954	PCB-1016			1.9	ug/g	2	93	40	140	1	30
		PCB-1221		<	0.10	ug/g						
		PCB-1232		<	0.10	ug/g						
		PCB-1242		<	0.10	ug/g						
		PCB-1248		<	0.10	ug/g						
		PCB-1254		<	0.10	ug/g						
		PCB-1260			2.1	ug/g	2	103	40	140	18	30
		tetrachloro-m-xylene SUR			86	%			30	150		
		decachlorobiphenyl SUR			99	%			30	150		
SW3546/8082A	MS15954	PCB-1016	64430-003		1.2	ug/g	2.92	42	40	140		
		PCB-1221	64430-003	<	0.15	ug/g						
		PCB-1232	64430-003	<	0.15	ug/g						
		PCB-1242	64430-003	<	0.15	ug/g						
		PCB-1248	64430-003	<	0.15	ug/g						
		PCB-1254	64430-003	<	0.15	ug/g						
		PCB-1260	64430-003		2.3	ug/g	2.92	63	40	140		
		tetrachloro-m-xylene SUR	64430-003		46	%			30	150		
		decachlorobiphenyl SUR	64430-003		55	%			30	150		
SW3546/8082A	MS15954	PCB-1016	64495-017		1.6	ug/g	1.78	92	40	140		
		PCB-1221	64495-017	<	0.089	ug/g						
		PCB-1232	64495-017	<	0.089	ug/g						
		PCB-1242	64495-017	<	0.089	ug/g						
		PCB-1248	64495-017	<	0.089	ug/g						
		PCB-1254	64495-017	<	0.089	ug/g						
		PCB-1260	64495-017		1.8	ug/g	1.78	97	40	140		
		tetrachloro-m-xylene SUR	64495-017		85	%			30	150		
		decachlorobiphenyl SUR	64495-017		94	%			30	150		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW3546/8082A	MSD15954	PCB-1016	64430-003		1.6	ug/g	2.87	56	40	140	26	30
		PCB-1221	64430-003	<	0.14	ug/g						
		PCB-1232	64430-003	<	0.14	ug/g						
		PCB-1242	64430-003	<	0.14	ug/g						
		PCB-1248	64430-003	<	0.14	ug/g						
		PCB-1254	64430-003	<	0.14	ug/g						
		PCB-1260	64430-003		3.0	ug/g	2.87	89	40	140	27	30
		tetrachloro-m-xylene SUR	64430-003		62	%			30	150		
		decachlorobiphenyl SUR	64430-003		61	%			30	150		
SW3546/8082A	MSD15954	PCB-1016	64495-017		1.6	ug/g	1.82	88	40	140	2	30
		PCB-1221	64495-017	<	0.091	ug/g						
		PCB-1232	64495-017	<	0.091	ug/g						
		PCB-1242	64495-017	<	0.091	ug/g						
		PCB-1248	64495-017	<	0.091	ug/g						
		PCB-1254	64495-017	<	0.091	ug/g						
		PCB-1260	64495-017		1.9	ug/g	1.82	97	40	140	2	30
		tetrachloro-m-xylene SUR	64495-017		82	%			30	150		
		decachlorobiphenyl SUR	64495-017		94	%			30	150		

Absolute Resource associates
124 Heritage Avenue #16
Portsmouth, NH 03801
603-436-2001
absoluteresourceassociates.com

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

64430

Company Name: Credere Associates
Company Address: 776 Main Street, Westbrook
Report To: mwentworth@crederellc.com
Phone #: 207-828-1272

Project Name: WW Cross
Project #: 21001639
Project Location: (NH) MA ME VT _____
Accreditation Required? N/Y: _____
See absoluteresourceassociates.com for sample acceptance policy and current accreditation lists.
Protocol: RCRA SDWA NPDES MCP NHDES DOD
Notify ARA if your samples require specific methods, certifications or compliance protocol.
Reporting Limits: (QAPP) GW-1 S-1 EPA DW Other _____

ANALYSIS REQUEST

☐ VOC 8260 ☐ VOC 8260 NHDES ☐ VOC 8260 MADEP
☐ VOC 624.1 ☐ VOC BTEX MtBE, only ☐ VOC 8021VT
☐ VPH MADEP ☐ GRO 8015 ☐ 1,4-Dioxane
☐ VOC 524.2 ☐ VOC 524.2 NH List ☐ Gases-List:
☐ TPH 8100 ☐ DRO 8015 ☐ EPH MADEP ☐ TPH Fingerprint
☐ 8270PAH ☐ 8270ABN ☐ 625.1 ☐ EDB
☐ 8082 PCB ☐ 8081 Pesticides ☐ 608.3 Pest/PCB
☐ PFAS 537.1 ☐ PFAS 533 ☐ PFAS isotope dilution
☐ O&G 1664 ☐ Mineral O&G 1664
☐ pH ☐ BOD ☐ Conductivity ☐ Turbidity ☐ Apparent Color
☐ TSS ☐ TDS ☐ TS ☐ TVS ☐ Alkalinity ☐ Acidity
☐ RCRA Metals ☐ Priority Pollutant Metals ☐ TAL Metals ☐ Hardness
☐ Total Metals-list:
☐ Dissolved Metals-list:
☐ Ammonia ☐ COD ☐ TKN ☐ TN ☐ TON ☐ TOC ☐ Ferrous Iron
☐ T-Phosphorus ☐ Bacteria P/A ☐ Bacteria MPN ☐ Enterococci
☐ Cyanide ☐ Sulfide ☐ Nitrate + Nitrite ☐ Ortho P ☐ Phenols
☐ Nitrate ☐ Nitrite ☐ Chloride ☐ Sulfate ☐ Bromide ☐ Fluoride
☐ Corrosivity ☐ Ignitibility/FP
☐ TCLP Metals ☐ TCLP VOC ☐ TCLP SVOC ☐ TCLP Pesticide
Subcontract: ☐ Grain Size ☐ Herbicides ☐ Asbestos
8082 PCB via Soxhlet

Lab Sample ID (Lab Use Only)	Field ID	# CONTAINERS	Matrix: WATER	SOLID	OTHER	Preservation Method: HCl	HNO_3	H_2SO_4	NaOH	MeOH	Sampling: DATE	TIME	SAMPLER	Grab (G) or Composite (C)
64430-01	CA-CP-1	1		X							1/30/23	1340	LAK	C
-02	CA-CP-2	1		X							1/30/23	1330	LAK	C
-03	CA-CP-3	3		X							1/30/23	1320	LAK	C
-04	CA-CP-4	1		X							1/30/23	1350	LAK	C
-05	CP-DUP-4	1		X							1/30/23	1332	LAK	C
-06	CA-PCB-1	1		X							1/30/23	1100	MAW	G
-07	CA-PCB-DUP	1		X							1/30/23	1102	MAW	G
-08	CA-PCB-2	1		X							1/30/23	1215	MAW	G
-09	CA-PCB-3	1		X							1/30/23	1110	LAK MAW	G
-10	CA-PCB-4	1		X							1/30/23	1110	MAW	G
-11	CA-PCB-5	1		X							1/30/23	1115	LAK	G

TAT REQUESTED
Priority (24 hr)* ☐
Expedited (48 hr)* ☐
Standard ☒ (10 Business Days)
*Date Needed_____

Invoice To: _____
Email: _____
PO #: _____
Quote #: _____
☐ NH Reimbursement Pricing

SPECIAL INSTRUCTIONS
CA-CP-3 MS/MSD

Reporting Instructions:
☐ EDD:_____ Report To (email): mwentworth@crederellc.com

RECEIVED ON ICE ☒ YES ☐ NO
TEMPERATURE 4 °C

CUSTODY RECORD
QSD-01 Revision 07/27/2022

	Relinquished by Sampler:	Date	Time	Received by:	Date	Time
		2/2/23	1020		2/2/23	10:20
	Relinquished by:	Date	Time	Received by:	Date	Time
	Relinquished by:	Date	Time	Received by Laboratory:	Date	Time
		2/2/23	11:50		2/2/23	11:50

Absolute Resource associates
124 Heritage Avenue #16
Portsmouth, NH 03801
603-436-2001
absoluteresourceassociates.com

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Lab ID Here

Company Name: Credere Associates
Company Address: 776 Main St. Westbrook
Report To: Moira Wentworth
Phone #: 207-828-1272

Project Name: WW Cross
Project #: 21001639
Project Location: (NH) MA ME VT _____
Accreditation Required? N/Y: _____
See absoluteresourceassociates.com for sample acceptance policy and current accreditation lists.
Protocol: RCRA SDWA NPDES MCP NHDES DOD
Notify ARA if your samples require specific methods, certifications or compliance protocol.
Reporting Limits: (QAPP) EPA DW GW-1 S-1 Other_____

ANALYSIS REQUEST

❑ VOC 8260 ❑ VOC 8260 NHDES ❑ VOC 8260 MADEP
❑ VOC 624.1 ❑ VOC BTEX MBE, only ❑ VOC 8021VT
❑ VPH MADEP ❑ GRO 8015 ❑ 1,4-Dioxane
❑ VOC 524.2 ❑ VOC 524.2 NH List ❑ Gases-List:
❑ TPH 8100 ❑ DRO 8015 ❑ EPH MADEP ❑ TPH Fingerprint
❑ 8270PAH ❑ 8270ABN ❑ 625.1 ❑ EDB
❑ 8082 PCB ❑ 8081 Pesticides ❑ 608.3 Pest/PCB
❑ PFAS 537.1 ❑ PFAS 533 ❑ PFAS isotope dilution
❑ O&G 1664 ❑ Mineral O&G 1664
❑ pH ❑ BOD ❑ Conductivity ❑ Turbidity ❑ Apparent Color
❑ TSS ❑ TDS ❑ TS ❑ TVS ❑ Alkalinity ❑ Acidity
❑ RCRA Metals ❑ Priority Pollutant Metals ❑ TAL Metals ❑ Hardness
❑ Total Metals-list:
❑ Dissolved Metals-list:
❑ Ammonia ❑ COD ❑ TKN ❑ TN ❑ TON ❑ TOC ❑ Ferrous Iron
❑ T-Phosphorus ❑ Bacteria P/A ❑ Bacteria MPN ❑ Enterococci
❑ Cyanide ❑ Sulfide ❑ Nitrate + Nitrite ❑ Ortho P ❑ Phenols
❑ Nitrate ❑ Nitrite ❑ Chloride ❑ Sulfate ❑ Bromide ❑ Fluoride
❑ Corrosivity ❑ Ignitibility/FP
❑ TCLP Metals ❑ TCLP VOC ❑ TCLP SVOC ❑ TCLP Pesticide
Subcontract: ❑ Grain Size ❑ Herbicides ❑ Asbestos
8082 PCB via Soxhlet
Grab (G) or Composite (C)

Lab Sample ID (Lab Use Only)	Field ID	# CONTAINERS	Matrix: WATER	Matrix: SOLID	Matrix: OTHER	Preservation Method: HCl	Preservation Method: HNO_3	Preservation Method: H_2SO_4	Preservation Method: NaOH	Preservation Method: MeOH	Sampling: DATE	Sampling: TIME	Sampling: SAMPLER	8082 PCB via Soxhlet	Grab (G) or Composite (C)
044 30 -12	CA-PCB-6	1		X							1/30/23	1120	MW	X	G
-13	CA-PCB-7	1		X							1/30/23	1140	LAK	X	G
-14	CA-PCB-8	1		X							1/30/23	1205	LAK	X	G

TAT REQUESTED
Priority (24 hr)* ❑
Expedited (48 hr)* ❑
Standard ☒
(10 Business Days)
*Date Needed_____

Invoice To: _____
Email: _____
PO #: _____
Quote #: _____
❑ NH Reimbursement Pricing

SPECIAL INSTRUCTIONS

Reporting Instructions:
❑ EDD:_____ Report To (email): MWentworth@crederellc.com

RECEIVED ON ICE ☒YES ❑NO
TEMPERATURE 4 °C

CUSTODY RECORD
QSD-01 Revision 07/27/2022

	Date	Time		Date	Time
Relinquished by Sampler:	2/2/23	1020	Received by:	2/2/23	10:20
Relinquished by:			Received by:		
Relinquished by:	2/2/23	11:50	Received by Laboratory:	2/2/23	11:50

Sample Receipt Condition Report

64430

Absolute Resource Associates **Job Number:**

Samples Received from: ☐-UPS ☐-FedEx ☐-USPS ☒-Lab Courier ☐-Client Drop-off ☐-_____

Custody Seals - present & intact: ☐-Yes ☐-No ☒-N/A CoC signed: ☒-Yes ☐-No

Receipt Temp: 4 °C Samples on ice? ☒-Yes ☐-No ☐-N/A Sampled < 24 hrs ago? ☐-Yes ☒-No

PFAS-only real ice? ☐-Yes ☐-No ☒-N/A Any signs of freezing? ☐-Yes ☒-No

Comments:_____

Preservation / Analysis	Bottle Size/Type & Quantity										Check pH for ALL applicable* samples and document:
HCl	40mL(G)		250mL(P)		500mL(P)		1L(G)				
HNO_3	125mL(P)		250mL(P)		500mL(P)						
H_2SO_4	40mL(G)		60mL(P)		125mL(P)		250mL(P)		500mL(P)		
NaOH	125mL(P)		250mL(P)								
$(NH_4)_2SO_4$	60mL(P)		125mL(P)		250mL(P)						
ZnAc-NaOH	125mL(P)		250mL(P)								
Trizma	125mL(P)		250mL (P)								
NH_4Ac	125mL(P)		250mL (P)								
NaS_2O_3	40mL(G)		120mL(P)								
MeOH	20mL(G)		40mL(G)								
None (solid)	2oz(G)		4oz(G)	16	8oz(G)		Syringe				
None (water)	40ml (G)		60mL(P)		125mL(P)		250mL(P)		500mL(P)		
Mold	Cassette		Bulk		Plate		Tape Lift				
Asbestos	Cassette		Bulk								
Lead	Cassette		Bulk		Wipe						

*pH ✓by analyst:VOC, PFAS, TOC,O&G
Residual Cl not present:
ABN625____Pest608____
Bacteria ResCl ✓by analyst

PC Dry applicable? (Y) N

1L(G) | | 1L (P) |

Login Review	Yes	No	NA	Comments
Proper lab sample containers/enough volume/correct preservative?	X			
Analyses marked on COC match bottles received?	X			
VOC &TOC Water-no headspace? VOC Solid-MeOH covers solid, no leaks, Prep Expiration OK?			X	
PFAS: ARA bottles & samples/FRB same Lot#? QC rec'd, if req'd?			X	Lot ID#:_____
Bacteria bottles provided by ARA?			X	
Samples within holding time?	X			
Immediate tests communicated in writing: NO_3, NO_2,o-PO_4, pH, BOD, Coliform/*E. coli* (P/A or MPN), Enterococci, Color Surfactants, Turbidity, Odor, CrVI, Ferrous Iron, Dissolved Oxygen, Unpres 624			X	
Date, time & ID on samples match CoC?	X			
Rushes communicated to analyst in writing?			X	
Subcontracted samples sent to sub lab?			X	Date Prep'd:_____ Date sent:_____
Pesticides EPA 608 pH5-9?			X	
Compliance samples have no discrepancies/require no flags?			X	(Or must be rejected)
Log-in Supervisor notified immediately of following items:			X	Discrepancies, compliance samples (NHDES, MADEP, DoD etc.) or uncommon requests.

Inspected and Received By: K.W. Date/Time: 2b23 14:11

Peer Review Checklist

☐ Client ID/Project Manager ☐ On Ice, Temperature OK? ☐ Sample IDs ☐ Analyses in Correctly

☐ Project Name ☐ PO# (if provided) ☐ Matrix -references

☐ TAT/rushes communicated ☐ Sub samples sent? Shipping Charge? ☐ Date/Time collected -wastewater methods

☐ Received Date/Time ☐ Issues noted above communicated? ☐ Short HTs communicated ☐ Notes from CoC in LIMS

Reviewed By: _____ Date: _____

Notes: (continue on back as needed)

	Initials	Date	What was sent?
Uploaded / PDF	_____	_____	Report / Data / EDD / Invoice
Uploaded / PDF	_____	_____	Report / Data / EDD / Invoice
Uploaded / PDF	_____	_____	Report / Data / EDD / Invoice

APPENDIX F

GPRS REPORT

Summary of Scanning for Underground Storage Tanks (UST's)

Prepared For: Credere Associates

Prepared By:
Michael Peters
Michael.Peters@gprsinc.com
Project Manager-Boston, MA
617-997-7626

February 1, 2023

February 1, 2023

Credere Associates
Attn: Moira Wentworth
Site: Jaffrey, NH

We appreciate the opportunity to provide this report for our work completed on January 30, 2023.

PURPOSE

The purpose of this project was to search for any suspected underground storage tanks (USTs) or suspected UST-related piping/anomalies remaining on the property. The scope of work consisted of 1 location, referred to as the "Sawtooth Room", within the interior of an abandoned building. The client provided the desired location prior to our scanning and our markings were then placed onto the surface using spray paint.

EQUIPMENT

- **Underground Scanning GPR Antenna**. The antenna with frequencies ranging from 250 MHz-450 MHz is mounted in a stroller frame which rolls over the surface. The surface needs to be reasonably smooth and unobstructed in order to obtain readable scans. Obstructions such as curbs, landscaping, and vegetation will limit the feasibility of GPR. The data is displayed on a screen and marked in the field in real time. The total depth achieved can be as much as 8' or more with this antenna but can vary widely depending on the types of materials being scanned through. Some soil types such as clay may limit maximum depths to 3' or less. As depth increases, targets must be larger in order to be detected and non-metallic targets can be especially difficult to locate. Depths provided should always be treated as estimates as their accuracy can be affected by multiple factors. For more information, please visit: Link
- **Electromagnetic Pipe Locator**. The EM locator can passively detect the electromagnetic fields from live AC power or from radio signals travelling along some conductive utilities. It can also be used in conjunction with a transmitter to connect directly to accessible, metallic pipes or tracer wires. A current is sent through the pipe or tracer wire at a specific frequency and the resulting EM field can then be detected by the receiver. A utility's ability to be located depends on a variety of factors including access to the utility, conductivity, grounding, interference from other fields, and many others. Depths provided should always be treated as estimates as their accuracy can be affected by multiple factors. For more information, please visit: Link
- **GPS**. This handheld GPS unit offers accuracy down to 4 inches; however, the accuracy will depend on the satellite environment and obstructions and should not be considered to be survey-grade. Features can be collected as points, lines, or areas and then exported into Google Earth or overlaid on a CAD drawing. For more information, please visit: Link
- **Magnetometer**. The magnetometer detects the magnetic field of a ferromagnetic object. It responds to the difference in the magnetic field between two sensors. It is interpreted in the field by listening to changes in frequency as emitted by a speaker on the device. Larger metallic objects can be located at depths of up to 10' or more but total depths will depend on the size, type, shape, and orientation of objects along with the amount of interference from other objects. For more information, please visit: Link

PROCESS

The EM pipe locator was used to connect to accessible, traceable pipes that may be tank-related such as vent pipes or product lines. A current is induced onto the pipe which creates an electromagnetic field that can be traced using the receiver. We can then attempt to trace these pipes to their origin or end point and paint or flag their locations.

Initial GPR scans were collected in order to evaluate the data and calibrate the equipment. Based on these findings, a scanning strategy is formed, consisting of scanning the entire area in a grid with 3' scan spacing in order to locate any potential UST's that may remain at the site. The GPR data is viewed in real time and anomalies in the data were located and marked on the surface along with their depths using spray paint. Relevant scan examples were saved and will be provided in this report.

The magnetometer was used to sweep the site every 3'-5' to search for readings that may represent buried, ferrous objects. Upon detection, the readings will be marked on the surface and then investigated from multiple directions and with other methods such as GPR.

LIMITATIONS

Please keep in mind that there are limitations to any subsurface investigation. The equipment may not achieve maximum effectiveness due to soil conditions, above ground obstructions, reinforced concrete, and a variety of other factors. No subsurface investigation or equipment can provide a complete image of what lies below. Our results should always be used in conjunction with as many methods as possible including consulting existing plans and drawings, exploratory excavation or potholing, visual inspection of above-ground features, and utilization of services such as One Call/811. Depths are dependent on many factors so depth accuracy can vary throughout a site and should be treated as estimates only. Relevant scan examples were saved and will be provided in this report.

Site-specific limitations are as follows: The sawtooth room has metal grates running throughout the room. These areas were outlined in red because metal blocks the GPR scan. Only uncovered areas can be considered scanned. Further, magnetometer was ineffective due to the amount of metal grates and debris.

FINDINGS

The subsurface conditions at the time of the scanning allowed for maximum GPR depth penetration of 5'-6' in the Sawtooth room. Utility locating was performed for boring locations on other areas of the property but is not included as part of the scope of this report.

The equipment and methods used did not detect reactions from definitive UST's. However, there are areas that are worth further investigation. One area is marked as an "area of interest". This area is a rectangular portion of the floor outlined by a metal rim. By visual investigation, the area looks to potentially be hollow and the GPR depth is limited to 1'-2' in this area. The area measures approximately 4' x 8' in size. Our data cannot determine if there is a UST in this area. However, the area is worth further investigation. Second, there were 4 visible pipes extending from the floor along the walls of the room that could potentially relate to a current or former UST. As part of our scan, we attempted to trace and locate these lines via GPR scan and active tone induction to determine if the lines lead to an area within the scan area that could then be further investigated for potential signs of UST. None of our methods resulted in a trace on any of these lines into the interior of the Sawtooth Room. The following pages will provide further explanation of the findings.



Prepared for: Credere Associates
Prepared By: GPRS
Date of Scanning: 1/30/23

Terms and Conditions

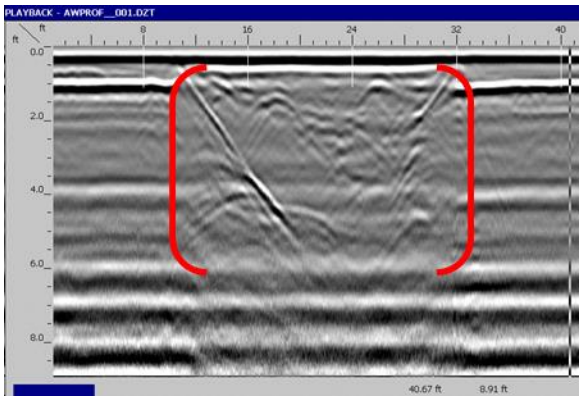
GPRS does not provide land survey or civil engineering data collection or documentation. This is provided as a reference map of the field markings and is not survey-grade.

LEGEND

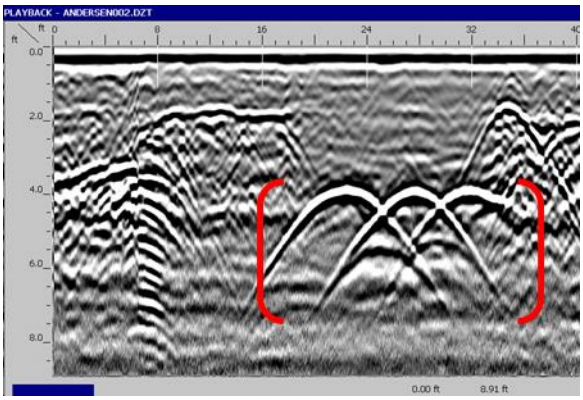
	ELECTRIC		SANITARY
	WATER		STORM
	COMM		UNKNOWN
	GAS		

39 Webster St.
Jaffrey, NH

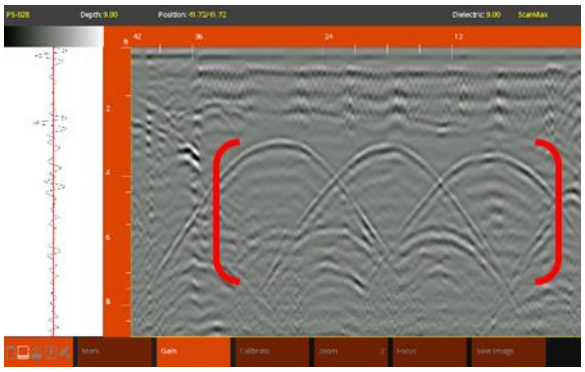
Prepared by:
GPRS



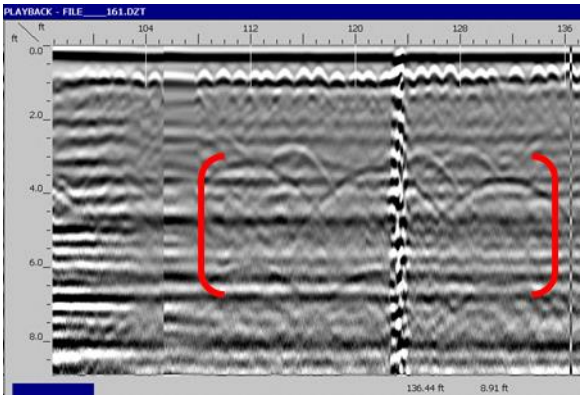
Sample GPR data screenshot showing a possible former tank pit or excavation. The change in the data from the excavation is apparent but GPR cannot determine whether this is due to a tank removal or whether tanks may still exist beyond the maximum depth penetration of the GPR signal.



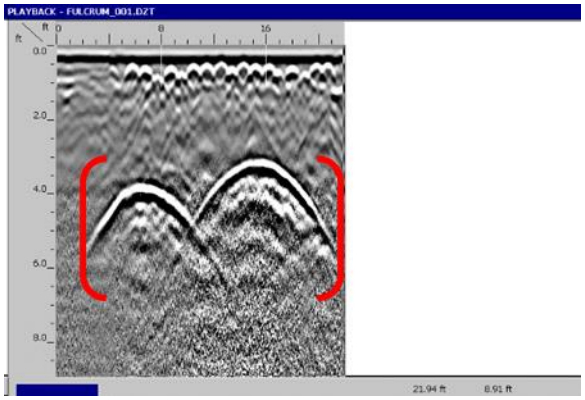
Sample GPR data screenshot showing three reactions from probable USTs. The diameters cannot be determined from these hyperbolas but they can be seen to be larger than a reaction from a typical utility.



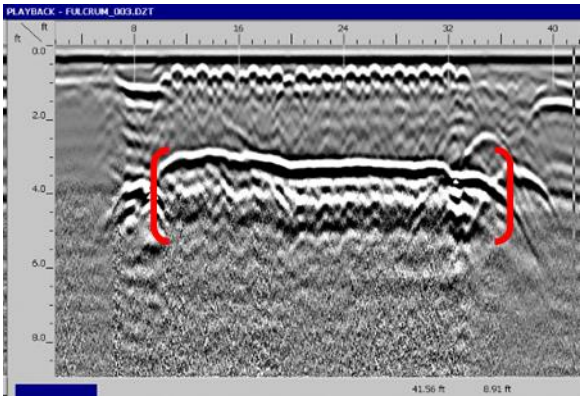
Sample GPR data screenshot showing three reactions from known USTs at an active fueling station. The concrete above the USTs is reinforced with wire mesh.



Sample GPR data screenshot showing three reactions from known USTs at an active fueling station. These USTs are non-metallic and therefore have a weaker reflection that is more difficult and sometimes impossible to identify in the GPR data.

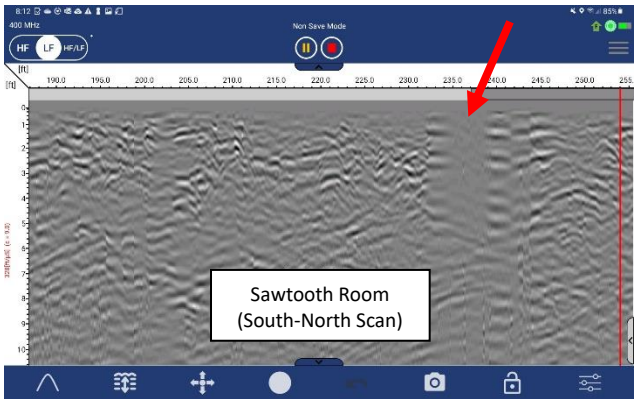


Sample GPR data screenshot showing two potential USTs. These reactions are larger than a typical utility but large utilities can look identical to a UST.



Sample GPR data screenshot showing a scan collected parallel along the top one of the suspected USTs shown in the data to the left. A parallel scan is used to determine a clear beginning and end to the reaction to the reaction which is an indicator of a UST and to determine an approximate length.

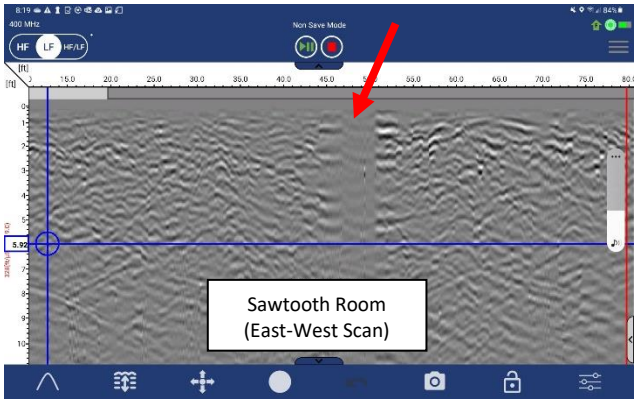
Sample Data Screenshots. (Not taken from this project)	Location: previously collected from various sites	GPRS



Data-shot 1: Sawtooth Room, South to North Scan. Max depth of 5'-6'. Red Arrow shows scan data under metal grating and lack of GPR penetration.



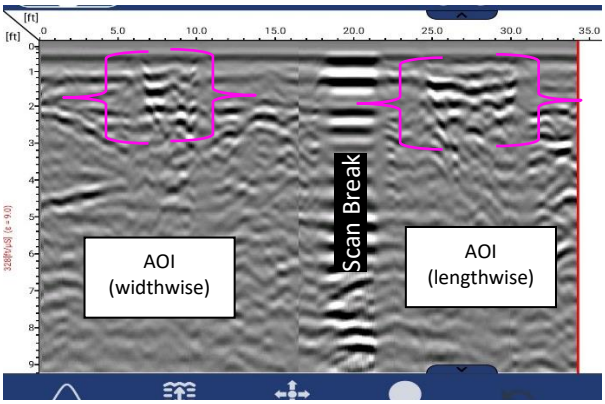
Picture 1: "Sawtooth Room" – Entire interior of this room was included in UST search



Data-shot 2: Sawtooth Room, East to West Scan. Max depth of 5'-6'. Red Arrow shows scan data under metal grating and lack of GPR penetration.



Picture 2: Interior of Sawtooth Room. Portion of metal grating outlined in red paint.



Data-shot 3: Area of Interest scan data in both direction. Pink brackets show area of interest and limited scan depth of 1'-2'.



Picture 3: "Area of Interest" located in Sawtooth Room



Picture 4: Interior of Sawtooth Room. Portion of metal grating outlined in red paint.



Picture 5: Interior of Sawtooth Room. Portion of metal grating outlined in red paint.



Picture 6: Interior of Sawtooth Room. 1 of 4 exposed pipes shown with red arrow.



Picture 7: Interior of Sawtooth Room. 3 of 4 Exposed pipes shown with red arrow.



Picture 8: Interior of Sawtooth Room. 3 of 4 Exposed pipes shown with red arrow.



Picture 9: Interior of Sawtooth Room. 3 of 4 Exposed pipes shown with red arrow.

CLOSING

GPRS, Inc. has been in business since 2001, specializing in underground storage tank location, concrete scanning, utility locating, and shallow void detection for projects throughout the United States. I encourage you to visit our website (www.gprsinc.com) and contact any of the numerous references listed.

GPRS appreciates the opportunity to offer our services, and we look forward to continuing to work with you on future projects. Please feel free to contact us for additional information or with any questions you may have regarding this report.

Signed,

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APPENDIX G

DATA USABILITY ASSESSMENT

Data Usability Assessment (DUA)
W.W. Cross Property
39 Webster Street, Jaffrey, New Hampshire
June 21, 2023

Credere has reviewed the following laboratory analytical data reports for precision, bias, accuracy, representativeness, comparability, and completeness:

- Absolute Resource Associates Job ID 64430
- Absolute Resource Associates Job ID 64495
- Absolute Resource Associates Job ID 64661
- Alpha Analytical Job ID L2315874

Asbestos lab reports were not reviewed as quality control information is not provided by the lab.

The following samples were included in the above laboratory reports and reviewed as part of this DUA:

Field Sample ID	Laboratory Sample ID
CA-CP-1	64430-01
CA-CP-2	64430-02
CA-CP-3	64430-03
CA-CP-4	64430-04
CA-DUP-4	64430-05
CA-PCB-1	64430-06
CA-PCB-DUP	64430-07
CA-PCB-2	64430-08
CA-PCB-3	64430-09
CA-PCB-4	64430-10
CA-PCB-5	64430-11
CA-PCB-6	64430-12
CA-PCB-7	64430-13
CA-PCB-8	64430-14
CA-SB-16(16-18)	64495-01
SB-DUP-3(16-18)	64495-02
CA-SB-14(7.5-8)	64495-03
CA-SB-27(0-2)	64495-04
CA-SB-25(0-2)	64495-05
CA-SB-26(0-2)	64495-06
CA-SB-24(0-2)	64495-07
CA-SB-18(0-2)	64495-08
CA-SB-19(0-2)	64495-09
CA-SB-20(0-2)	64495-10
CA-SB-23(0-2)	64495-11
CA-SB-22(0-2)	64495-12

Field Sample ID	Laboratory Sample ID
CA-SB-21 (0-2)	64495-13
B111R(6-8)	64495-14
CA-SB-01(0-2)	64495-15
SB-DUP-1(0-2)	64495-16
CA-SB-02(0-2)	64495-17
B117R(2-4)	64495-18
CA-SB-05(0-2)	64495-19
CA-SB-06(0-2)	64495-20
CA-SB-07(0-2)	64495-21
CA-SB-04(0-2)	64495-22
CA-SB-03(0-2)	64495-23
TB-SOIL-1	64495-24
CA-SB-17(17.5-18.5/18)	64661-01
CA-SB-15(17-18/17.5)	64661-02
CA-MW-302	L2315874-01
CA-MW-303	L2315874-02
CA-MW-304	L2315874-03
MW-102	L2315874-04
MW-103	L2315874-05
MW-105	L2315874-06
MW-106	L2315874-07
MW-108	L2315874-08
MW-203	L2315874-09
MW-2	L2315874-10
MW-6D	L2315874-11
MW-DUP-1	L2315874-12
TRIP BLANK	L2315874-13
FIELD BLANK	L2315874-14

General Summary

In general, the data reviewed for this project are usable for making project decisions. Data are considered representative with regard to the sample design. Qualified results were reviewed

relative to the associated comparison criteria to assess if bias impacts the usability of decisions to be made with the results. Qualified results were not in proximity to a respective standard and the usability was not impacted by any qualifications.

Data were also reviewed with regard to the data quality objectives (DQO). Reporting limits were sufficiently lower than the regulatory criteria and the DQOs are considered met.

Precision

Precision is a measure of the mutual agreement between concentrations of samples (e.g., duplicates) collected at the same time from the same location. Precision is measured by performing duplicate measurements in the field or laboratory. Precision is expressed in terms of relative percent difference (RPD) using the following equation:

$$RPD = [(C1-C2) /(C1+C2)/2)] \times 100$$

Where:
C1 = The larger of the two concentrations.
C2 = The smaller of the two concentrations.

The following field duplicate samples were collected during this Phase II ESA:

- CA-SB-DUP-1 is a soil field duplicate of CA-SB-01 (0.5-2.5)
- CA-SB-DUP-3 is a soil field duplicate of CA-SB-16 (16-18)
- MW-DUP-1 is a groundwater field duplicate of CA-MW-304
- CA-PCB-DUP is a PCB duplicate of CA-PCB-1

Analytical results were either non-detect, less than 5 times the laboratory reporting limit, or the calculated RPD was less than the acceptable limit of 50% for soil/solid or 30% for aqueous samples.

Bias

Bias is the systematic or persistent distortion of a measurement process that causes errors in one direction. Bias assessments are made using personnel, equipment, and spiking materials or reference materials as independent as possible from those used in the calibration of the measurement system. Bias assessments were based on the analysis of spiked samples so that the effect of the matrix on recovery is incorporated into the assessment. A documented spiking protocol and consistency in following that protocol are important in obtaining meaningful data quality estimates.

Matrix spike and matrix spike duplicate samples (MS/MSD) can be used to assess bias. Control samples for assessing bias were analyzed at a rate as specified in the analytical Standard Operating Procedures (SOPs) and specified analytical methods. CA-SB-02 (0-2), CA-SB-17 (17.5-18.5/18), CA-MW-2, and CA-CP-3 were project samples specifically requested for use in spiking by

Credere. Additionally, CA-SB-21(0-2) was used by the lab for solids MS/MSD for SVOCs, CA-SB-27(0-2) for mercury, and CA-SB-14 (7.5-8) for cyanide; and CA-MW-302 for aqueous MS/MSD for PFAS and dissolved metals and CA-MW-303 for mercury.

The laboratory provides quality control non-conformance reports that indicate if the laboratory control sample and laboratory control sample duplicate (LCS/LCSD) had low, failing, or high recoveries, and if the sample result was affected. Likewise, the laboratory reports any compounds that had failing RPDs in the LCS/LCSD pair. This indicates the percent difference between the laboratory sample and its duplicate or the spike and its duplicate. No LCS/LCSD nonconformance were reported except for the following:

- The VOC LCS %R for dichlorofluoromethane in batch 15951 was marginally below the lower limit and the LCSD %R for dichlorodifluoromethane, 2-butanone, 4-methyl-2-pentanone, and 2-hexanone were below the lower limit. Since less than 10% of compounds were out of range, data is not considered impacted.
- The PAH MS %R for fluoranthene and benzo(b)fluoranthene were marginally below the lower limit affecting sample CA-SB-02 (0-2). The corresponding MSD recoveries were acceptable. Parent sample results for these two analytes have been qualified as estimated with low bias (J-). As fluoranthene is well below the SRS and since benzo(b)fluoranthene already exceeds the SRS, these qualifications do not impact the usability of these results.
- The VOC MS and MSD %R for dichlorodifluoromethane, bromomethane, and carbon disulfide were marginally below the lower limit affecting sample CA-SB-17 (18). These results in the parent sample are qualified as estimated with a low bias (UJ). Since VOCs were not detected in soil across the Site, these qualifications does not impact the usability of the results.
- The VOC LCS/LCSD %R for chloroethane was above the upper limit affecting most aqueous samples (batches WG1762384 and WG1762147); however, since chloroethane was not detected in the affected samples (or any samples at the Site), data is not considered impacted. Naphthalene, ethyl-tert-butyl-ether, and tert-amyl methyl ether (TAME) were marginally below the lower limit in the LCSD only for batch WG1762384. Additionally, the RPD between the LCS and LCSD was above the limit for TAME, since less than 10% of the compounds are out of range, data is not considered impacted.
- The VOC MS %R for chloroethane was above the upper limit affecting sample CA-MW-2; however, since chloroethene was not detected in the sample, data is not considered impacted. Additionally, the %R for 2,2-dichloropropane, naphthalene, ethyl-tert-butyl-ether, 1,2,4-trichlorobenzene, and 1,2,3-trichlorobenzene were marginally below the lower limits. These results are qualified as estimated with a lower bias (UJ). Since these compounds were not detected universally across the Site and are not affiliated with the primary COPC list for VOCs (i.e., CVOCs), this qualification does not impact the usability of the results.

Accuracy

Accuracy is a statistical measurement of correctness and includes components of random error (variability due to imprecision) and systemic error. It, therefore, reflects the total error associated with a measurement. A measurement is accurate when the value reported does not differ from the true value or known concentration of the spike or standard. Surrogate compound recoveries are also used to assess accuracy and method performance for each sample analyzed. Analysis of performance evaluation samples are also used to provide additional information for assessing the accuracy of the analytical data being produced. Both accuracy and precision are calculated for each analytical batch, and the associated sample results are interpreted by considering these specific measurements.

No surrogate non-conformances were identified for this Phase II ESA data except for the following:

- %R for 2-fluorobiphenyl for sample CA-SB-25 (0-2) was above the limit; however, since no analytes were detected in the sample, data is not considered impacted.
- %R for two PFAS surrogates were above the limit for PFAS sample CA-MW-302; however, since the corresponding analytes were not detected, data is not considered impacted.
- %R for the 6:2FTS surrogate was above the limit for sample CA-MW-303. The corresponding 1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2FTS) is qualified as estimated with a high bias (J+). As this result is already below the AGQS, this qualification does not impact the usability of the data.
- %R for two PFAS surrogates were above the limit for PFAS sample CA-MW-304; however, since the corresponding analytes were not detected, data is not considered impacted.
- %R for 6:2FTS was above the limit for PFAS sample CA-MW-203; however, since the corresponding analyte was not detected, no qualification was needed. For the same sample, %R for two surrogates was below the limit. The corresponding perfluorobutanesulfonic acid (PFBS) and perfluorohexanoic acid (PFHxA) results are qualified as estimated with low bias (J-). Since neither of these analytes have AGQS, this qualification does not impact the usability of the results.
- %R for two PFAS surrogates were above the limit for PFAS sample DUP-1; however, since the corresponding analytes were not detected, data is not considered impacted.

Representativeness

Sample representativeness was assessed through an analysis of the blank results. The concentrations and frequencies of target analytes detected in blanks provide an indication of data representativeness. The five times and ten times rules were used judiciously to eliminate potential false positive results indicated by the blank data. Regulatory criteria were considered when using the five (5) and ten (10) times rule to avoid elevation of the reporting limit above the criteria for certain compounds. Blank non-conformances were not encountered during review of the data.

Sample representativeness was also assessed through an evaluation of the sample results compared to the sample design (locations and conceptual site model) to determine if the results are representative of the environment from which the samples were collected.

Sample representativeness was also assessed by comparing the laboratory detection limits to the applicable regulatory criteria. The laboratory reporting limits were within applicable regulatory criteria.

Comparability

Comparability is the confidence with which one data set can be compared to another data set (i.e., how well the data can be reproduced). The objective for this quality assurance/quality control (QA/QC) program is to produce data with the greatest possible degree of comparability. Comparability was achieved by using standard methods for sampling and analysis, reporting data in standard units, normalizing results to standard conditions and using standard and comprehensive reporting formats. Complete field documentation was used, including standardized data collection forms to support the assessment of comparability between data sets.

Completeness

Completeness is calculated by comparing the number of samples successfully analyzed to the number of samples collected. The goal for completeness is 95 percent. The completeness for this project was 100 percent, as there were no samples that were not analyzed due to holding time violations, samples spilled or broken, or any other reason.

The project was also reviewed for completeness in accordance with Credere's Generic Quality Assurance Project Plan (RFA 19043, rev.1) and Site Specific Quality Assurance Project Plan for the Site. The following deviations were noted:

- Soil borings CA-SB-08, CA-SB-09, CA-SB-10, CA-SB-11, CA-SB-12, and CA-SB-13 were not completed due to concerns about the structural integrity of the building. The inability to complete these soil borings safely leaves a data gap as to the north/northeastern extent of the creosote impacts.
- CA-SB-301 was not installed as refusal was encountered at 8 feet below ground surface. The intention with the placement of the well was to achieve a lower depth than MW-102 in the same area. As this was not achieved, the well was not installed. The inability to complete this monitoring well leaves below the currently monitoring well as a data gap.
- CA-SB-27 and CA-SB-17/MW-304 were moved onto the building pad per the SSQAPP as their original locations were inaccessible to the drill rig. This change is unlikely to impact project conclusions.
- MW-102 was sampled with no purge and only analyzed for VOCs and dissolved metals due to lack of water volume and recharge. This change is unlikely to impact project conclusions.

- MW-203 was sampled with no purge due to lack of water volume and recharge. The PFAS sample originally intended for MW-102 was moved to MW-203 as it is in close proximity and had more water available. This change is unlikely to impact project conclusions.
- MW-14 was not sampled as it was unable to be located due to ice and snow.
- The duplicate intended to be collected at MW-102 was moved to CA-MW-304 as the duplicate was intended for a sample with PFAS analysis. This change is unlikely to impact project conclusions.
- The MS/MSD intended for CA-MW-302 was moved to MW-2. This well was the only remaining well with adequate recharge and a history with the analytes that were being analyzed for. This change is unlikely to impact project conclusions.