RELEASE ABATEMENT MEASURE MODIFICATION AND STATUS REPORT

10-50 Main Street
Ashland, MA
MassDEP RTN 3-15917

Prepared for:
Ashland Properties, LLC
330 Hopping Brook Road
Holliston, Massachusetts

Prepared by:
Campbell Environmental Incorporated
38 Sunset Drive
Northboro, Massachusetts

December 2022

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LABORATORY DATA

LIMITATIONS

1 INTRODUCTION

1.0 INTRODUCTION

Campbell Environmental Incorporated (CEI) prepared this Release Abatement Measure (RAM) Plan status report and plan modification on behalf of Ashland Properties, LLC (Ashland Properties). This plan describes the proposed response actions for the site located at 10-50 Main Street, Ashland, Massachusetts. The modified plan incorporates comments provided by the Massachusetts Department of Environmental Protection (MassDEP) and the USEPA. The status report summarizes site activities from February-June 2022.

The site is listed under Release Tracking Number (RTN) 3-15917. The site was closed in 2011 via submittal of a Class A3 Response Action Outcome, (Permanent Solution Statement with Conditions). An Activity and Use Limitation (AUL) was filed in May 2011 restricting residential, day care and school use at the site.

The site consists of approximately 7.79 acres of land identified on the Town of Ashland Assessors Map as parcel 0140-0128. The site is largely occupied by an interconnected commercial building and paved parking. Historical uses of the property included a textile mill and manufacturing. The site is currently occupied by commercial and warehousing tenants.

Ashland Properties intends to conduct response actions sufficient to allow future residential use at the site. Following the completion of response actions a new AUL will filed along with a revised Permanent Solution Statement (PSS) and Risk Assessment.

Ashland Properties plans to renovate the existing site property for mixed use commercial and residential development. As part of their redevelopment plan, with the exception of the 10 Main Street building, a ground floor open air parking garage will be constructed. The new building will not include a basement. Residential development will occur above the parking garage and on the third floor of the 10 Main Street building. An estimated 25% of the residential development will be affordable housing. The construction of a ground floor/open air garage and the installation of vapor barriers will mitigate the potential for vapor intrusion. Construction of approximately 2,540 square feet of service/storage/utility rooms in the open-air garage is also planned. Installation of vapor barriers is proposed in these ground floor garage service/storage/utility rooms and at the 10 Main Street building. Vapor barriers will be installed in all ground floor enclosed rooms. Following the installation of the vapor barriers, indoor air testing for chlorinated volatile organic compounds (cVOCs) will be conducted. Limited soil excavation is planned to install footings and new utilities. Field screening of soils with a photoionization detector (PID) will occur during excavation. To the extent feasible, if elevated volatile organic compound impacts are detected during excavation (e.g. field screening results above 100 ppmv) then soils will be segregated for proper disposal. The majority of the final site configuration will be paved or covered by parking garage.

This information is provided in accordance with the Massachusetts Contingency Plan (MCP) 310 CMR 40.0444. Figures, including a MassGIS Priority Resource Map, a Locus Map and proposed Site Plans are attached.

2 SITE CHARACTERISTICS

2.1 Site Contacts

Persons responsible for the RAM include the following:

Richard Gordon, President
Ashland Properties LLC
330 Hopping Brook Road
Holliston, MA 01746

Ph. 5088938931

The Licensed Site Professional is:

George E. Campbell
Campbell Environmental Incorporated
38 Sunset Drive
Northboro, MA 01532

Ph. 5083080402

2.2 Site Location, Description and Operations

The attached MassDEP GIS Priority Resource Map and Site Locus Map identifies the site on the Framingham, Massachusetts 15-minute series topographic quadrangle map published by the United States Geological Survey (USGS).

The site consists of approximately 7.79 acres of land identified on the Town of Ashland Assessors Map as parcel 0140-0128. The site is largely occupied by an interconnected commercial building and paved parking. Historical uses of the property included a textile mill and manufacturing. The site is currently occupied by commercial and warehousing tenants.

The subject site includes groundwater and soils impacted by OHM. As described in the previous PSS, the site is impacted by on site historical releases of Oil and Hazardous Materials (OHM) including cVOCs, metals and PCBs. The site is also impacted by releases of OHM derived from the upgradient Nyanza Superfund Site. A map of the Nyanza site, prepared by the EPA, illustrating the subject site, is attached. Groundwater at the site is impacted by OHM releases derived from the Nyanza site.

2.3 Site Hydrology and Sensitive Receptors

2.3.1 Surficial Geology and Soils

Based on data collected during subsurface investigations, soils beneath the site consist of historical fill materials underlain by sand and gravel. The Sudbury River is located immediately northwest of the site. The groundwater flow direction is northwest, towards the Sudbury River.

2.3.2 SENSITIVE RECEPTORS

The site is currently occupied by commercial and warehousing tenants and is largely covered by pavement and building. The site is located in a mixed use commercial and residential area in Ashland. The Sudbury River is downgradient of the site. Note that a retaining wall, located north of the site, separates the Sudbury River bank from the paved parking area. Residential properties are not downgradient. No potable wells are located within 500 feet of the site. The site is not located within a designated Zone II groundwater recharge area or IWPA, Zone A of a Class A Surface Water or Potential Drinking Water Source Area. In accordance with the MCP, site groundwater is not designated as GW-1 (protective of drinking water). The Sudbury River is north and west of the site. Potential impacts to the Sudbury River have been investigated as part of the assessment at the Nyanza superfund site.

cVOC impacted groundwater is located within 30 feet of the on-site occupied commercial buildings and is less than 15 feet below surface grade. Groundwater at the site is therefore designated as GW-2 and GW-3. Vapor intrusion risk was evaluated during the 2011 Response Action Outcome (RAO/site closure) Statement. Based on the shallow depth to groundwater and the VOCs present in groundwater, a potential exists for exposure to VOCs in the indoor air through the vapor exposure pathway. Response actions including construction of an open-air garage and installation of vapor barriers are proposed to reduce the potential risk to future on site occupants.

3 RELEASE ABATEMENT MEASURE

3.0 RAM

3.1 RAM OBJECTIVE AND ACTIVITIES

The objective of the RAM is to conduct additional response actions to allow for residential use of the property and to properly manage impacted soil and groundwater encountered during excavation. Following the response actions, a new Activity and Use Limitation and revised Permanent Solution Statement and Risk Assessment will be filed with MassDEP. Additional response actions will include the installation of vapor barriers to mitigate potential vapor intrusion. The vapor barriers will be installed in the service/storage/utility rooms in the open-air garage and in the 10 Main Street building. Following the construction of the parking garage and installation of the vapor barriers, a minimum of two rounds of indoor air sampling will be conducted via summa canisters and the EPA TO-15 Method. In addition, a limited quantity of soil will be excavated when subsurface utility corridors and footings are installed. Soil quality will be assessed via field screening with a calibrated photo ionization detector (PID) via the jar headspace technique and sampling for VOCs. The RAM is proposed to reduce potential risks to human health, safety, public welfare, and the environment. The proposed RAM activities are further described below. RAM activities likely will occur during the first half of 2023.

3.2 CONCEPTUAL SITE MODEL

As documented under RTN 3-15917, OHM, including tetrachloroethylene, (PCE) and associated daughter products and metals likely were released on site due to historical use of the property. The site groundwater is also impacted by OHM, including VOCs derived from the upgradient Nyanza superfund site. Over time, these VOCs are likely to decline in concentration due to cleanup at the Nyanza site and the natural attenuation of VOCs. Prior indoor air sampling in the current site buildings conducted by both the USEPA and ARCADIS (prior consultant) indicated that VOCs concentrations in indoor air are acceptable for commercial uses. Additional response actions, including the construction of an open-air ground floor parking garage and installation of vapor barriers, will be conducted so that the site may be used for residential purposes. Following construction, the great majority of the site will be covered by garage, building or asphalt paved roadways and parking. With the exception of 10 Main Street, all residential development will occur over the open-air parking garage. No ground floor residential developments are proposed. Following completion of the response actions, a new AUL will be filed. A draft AUL will be provided to the MassDEP prior to recording the AUL. The new AUL will include limitations on ground floor residential development and require LSP oversight during future management of soil at the site. Following the completion of the response actions, a revised PSS, risk assessment and new AUL will be prepared.

3 RELEASE ABATEMENT MEASURE

3.3 SOIL ASSESSMENT AND MANAGEMENT

Activities that may be conducted under this RAM include field screening of soils, soil excavation, stockpiling of soil, post excavation sampling of soils for laboratory analysis, soil classification sampling and subsequent transportation of the soil to an authorized disposal facility. Excavation for footings, utilities or lighting fixtures likely is not expected to exceed ten feet below surface grade. Prior to and during construction, three monitoring wells, previously installed by the USEPA, will be protected by steel plates and protective concrete barriers. An excavator or backhoe will be used to advance excavations. As needed, haybales and absorbent booms will be installed to prevent migration of sediment and water to storm sewers and surface water. Dewatering of groundwater is not currently planned although a limited quantity of groundwater or rainwater may be recovered for disposal at a licensed facility. If needed, the recovered groundwater or rainwater will be containerized in a fractionation (frac.) tank and sampled prior to offsite disposal. Post excavation bottom and sidewall soil samples will be retained for field screening with a calibrated photoionization detector (PID) and the jar headspace technique. Select samples will be retained for VOC laboratory analysis. When feasible, soils with elevated VOC concentrations (e.g. above 100 ppmv) will be stockpiled on plastic for preclassification sampling and subsequent disposal. The impacted soils will be stockpiled on and covered with plastic. Following post excavation sampling, the excavation will either be backfilled with clean fill and/or native excavated soils. Soils designated for off-site disposal will be sampled for waste classification and transported to an authorized facility under a Massachusetts 21E Bill of Lading (BOL) or uniform hazardous waste manifest. Up to 500 cubic yards of soil may be stockpiled and securely covered with plastic prior to transportation of this soil to an authorized facility.

3.4 VAPOR BARRIERS

Most of the ground floor of the new building will be open-air parking. Residential construction will not occur on the ground floor but will occur above the open-air parking garage and on the second floor of the 10 Main Street Building. A Drago Wrap Vapor Intrusion Barrier or equivalent will be installed under the service/storage/utility rooms on the ground floor and at the ground floor at 10 Main Street. The installation will follow manufacturers specifications. Smoke testing will be conducted following installation to check for leaks in the membrane. MassDEP and USEPA will be provided with notice prior to the installation of the barriers and smoke testing. Following the smoke testing, a concrete topping slab will be applied to protect the vapor barrier and further reduce the potential for future vapor intrusion. Additional information concerning the vapor barrier will be included in subsequent RAM Status and/or completion reports. Following installation, a minimum of two rounds of indoor air sampling will be conducted for cVOCs via EPA method TO-15.

3 RELEASE ABATEMENT MEASURE

3.5 ENVIRONMENTAL MONITORING

The following environmental monitoring plan will be implemented during the RAM activities:

3.5.1 INDOOR AIR SAMPLING

Following the construction of the garage and installation of vapor barriers, two rounds of indoor air sampling for cVOCs will be conducted in central locations inside the building during winter months. Sample locations will include the ground floor service/storage/utility rooms, the 10 Main Street building and select locations within the residential development. Two samples will be collected inside the ground floor of the 10 Main Street building with one sample located in the rear of the building. Consistent with MassDEP guidance, doors and windows will be closed for at least 24 hours prior to sampling. Sampling will occur following the construction/renovation. MassDEP and USEPA will be provided with notice prior to sampling. The air samples will be collected using laboratory supplied summa canisters via the EPA TO-15 Method over a 24-hour time period. RAM response actions will be governed by a site-specific health and safety plan.

3.5.2 EXCAVATION AIR MONITORING

Ambient air in the vicinity of the excavation area will be periodically monitored with a PID. The detection of elevated VOCs during excavation will require implementation of proper health and safety protocols and may require the temporary cessation of excavation. In addition, soil samples collected during the assessment will be field screened with a PID via the jar headspace screening technique. Screening of soil samples during the assessment will help determine whether the objectives of the RAM have been met. Following screening, select post excavation soil samples will be retained for VOC and metals laboratory analysis.

3.5.3 DUST MONITORING

Minimal dust is expected due to the limited size of the excavation areas for footings/utilities. However, the excavation area will be visually monitored for dust. Excavation will cease if excessive dust is detected. If needed, spray water will be used to control dust via spray hose. Excavated soils will be securely stockpiled either in a roll off or covered with plastic at the end of each workday.

3.5.4 RUNOFF

Due to the small size of the proposed excavations, runoff during field activities is considered unlikely. As needed, absorbent booms and/or hay bales will used to prevent site runoff. Stormwater catch basins will be protected by hay bales. Contaminated soils will be stockpiled on impervious surfaces or plastic and securely covered with plastic.

3 RELEASE ABATEMENT MEASURE

Crushed stone will be used as needed to reduce the potential for dust in unpaved areas. Trucks will be inspected prior to leaving the site. If excessive soil is detected on the tires, the truck tires will be cleaned via scrubbing and/or spray washing with potable water. The wash water will be either contained or allowed to infiltrate into the site ground surface.

3.5.5 SECURITY

Access to the excavation areas will be restricted via temporary fencing and/or safety cones and caution tape. Only authorized personnel will be allowed access to the work areas. All work areas and stockpiles will be secured at the end of the day. Prior to the start of construction or demolition, three previously installed EPA monitoring wells will be protected by steel plates and/or protective concrete barriers. These wells are identified as MW-40Main (located in front of 30 Main Street) and RMW-405A and RMW-405B (located in the northeast corner of the rear parking lot). These monitoring wells are identified on the attached Soil Boring and Monitoring Well Location Plan Map.

3.6 PERMITS

Digsafe will be contacted at least 72-hours prior to the start of the excavation. If needed, an excavation permit will be obtained from the Town of Ashland. Ashland Properties will also obtain any other Town of Ashland permits needed for this project. These permits likely will include a construction permit and notice of intent as needed.

3.7 PUBLIC INVOLVEMENT

Notification letters were forwarded to Town of Ashland officials to inform them of the RAM Plan.

3.8 SCHEDULE

RAM field activities will likely be initiated during the first half of 2023. RAM Status reports will be prepared as required by the MCP. Following completion of RAM activities, a RAM Completion report will be prepared.

3.9 HEALTH AND SAFETY

RAM response actions will be governed by a site-specific health and safety plan (HASP). Ashland Properties will develop their health and safety plan for construction activities. All field sampling and LSP oversight will be performed in accordance with a HASP.

3 RELEASE ABATEMENT MEASURE

4.0 2022 SOIL AND GROUNDWATER SAMPLING

4.1 SOIL SAMPLING/MONITORING WELL INSTALLATION

Subsurface investigations were conducted in March and April 2022. These investigations included the field screening and sampling of soils and the installation of three monitoring wells and the sampling of site groundwater. The soil investigations were conducted to assess current soil quality in the vicinity where future construction may occur. The groundwater sampling was conducted to determine if chlorinated volatile organic compounds (VOCs) currently exceeds the MassDEP GW-2 Standards.

On March 22, 2022, seven soil borings (C-1 through C-7) were advanced on site via a Geoprobe direct push drilling rig. Prior to drilling the site was premarked for Digsafe and Town of Ashland subsurface utility clearance. Drilling was conducted by a Massachusetts licensed driller, Technical Drilling Services, with oversight provided by a CEI hydrogeologist. Soil samples were collected with two-inch diameter five-foot long. plastic sleeves. Note that shallow drill (approximately one to two feet below surface grade) refusal was encountered immediately east of the building at 50 Main Street. This refusal is likely due to the presence of a historic building foundation. Soil samples were continuously screened with a photoionization detector (PID) using the jar head space screening method. All jar headspace field screening results were non detected. Subsurface lithology included approximately up to five feet of historical fill underlain by predominantly fine to coarse sands and gravel. Monitoring wells MW-1, MW-2 and MW-3 were installed at boring locations C-1, C-3 and C-5. The monitoring wells were constructed with two-inch diameter PVC solid riser and well screen. The monitoring wells were completed with a surface mounted steel road box set in concrete. Subsurface lithologic logs and well construction schematics are attached. Three composite soil samples (C-1, C-3 and C-5) from 2-10 feet below grade were retained for analysis of soil preclassification parameters including VOCs, PCBs, RCRA 8 metals and semi-volatile organics. Four composite soil samples (C-2, C-4, C-6 and C-7) from 2-5 feet below grade were retained RCRA 8 metals and PCBs. All soil samples were collected using laboratory supplied glassware and following collection, transported on ice to a Massachusetts certified laboratory for analysis.

The laboratory analytical results indicate that these soil samples did not exceeded Massachusetts Contingency Plan (MCP) S-1/GW-2/GW-3 Soil Standards. See the attached tabular results summary and the laboratory analytical data. See the attached figure illustrating the soil boring locations.

4.2 GROUNDWATER SAMPLING

On April 11, 2022 groundwater samples were collected from monitoring wells MW-1, MW-2 and MW-3. Prior to sampling, each well was gauged with an electronic interface probe capable of detecting non aqueous phase liquids (NAPL) and the depth to the water

3 RELEASE ABATEMENT MEASURE

table at an accuracy of 0.01 feet or greater. No NAPL was detected during gauging or sampling. As measured from the top of the well casing, the depth to the water table ranged from 2.56 feet at MW-2 to 7.23 feet at MW-1. Following gauging, using dedicated disposable sampling tubing, all wells were purged of approximately three times the volume of water present in each well. Following purging, groundwater samples were collected using laboratory supplied sample bottles. Following collection, samples were transported on ice to a Massachusetts certified laboratory for VOC analysis.

The April 2022 groundwater analytical data indicates that chlorinated VOCs exceed MCP GW-2 Standards (protective of indoor air quality) at monitoring well MW-1 and MW-2. Specifically, trichloroethene was detected in MW-1 at 14.4 ug/l and cis-1,2 dichloroethene was detected at 29.2 ug/l in MW-1 and 67.5 ug/l at MW-2. These analytical results are generally consistent (but lower) than historical data. See the attached tabular results summary and the laboratory analytical data. See the attached figure illustrating the soil boring/monitoring well locations.

On September 17 2022 and October 20, 2022 groundwater samples were collected from monitoring wells MW-2, and B-5 (September) and MW-1 and MW-3 (October). Note that well B-5 was not installed by CEI but was installed during prior historical site investigations. B-5 is located in close proximity to the building at 10 Main Street. Due to limited access (presence of a vehicle) two visits were needed to sample these monitoring wells. Prior to sampling, each well was gauged with an electronic interface probe capable of detecting non aqueous phase liquids (NAPL) and the depth to the water table at an accuracy of 0.01 feet or greater. NAPL was not detected during gauging or sampling. As measured from the top of the well casing, the depth to the water table ranged from 3.54 feet at MW-2 to 15.02 feet at MW-1. Following gauging, using dedicated disposable sampling tubing, all wells were purged of approximately three times the volume of water present in each well. Following purging, groundwater samples were collected using laboratory supplied sample bottles. Following collection, samples were transported on ice to a Massachusetts certified laboratory for VOC analysis.

The fall 2022 groundwater analytical data indicates that MCP GW-2 Standards (protective of indoor air quality) were exceeded at monitoring well MW-1 for trichloroethene, and at MW-2 for cis-1,2-dichloroethene. Specifically, trichloroethene was detected in MW-1 at 7.7 ug/l and cis-1,2-dichloroethene was detected at 73.6 ug/l at MW-2. No other VOCs exceeded MassDEP GW-2 groundwater standards. VOCs did not exceed any MassDEP GW-2 Standards at monitoring wells MW-3 and B-5. These analytical results are generally consistent (but generally lower) than historical data. See the attached tabular results summary and the laboratory analytical data.


SITE
Ashland
ASHLAND STATE PARK
Maguncø Hill
Industrial Waste Ponds
OLD RR GRADE
SUDBURY RIVER
Wildcat Hill
Cowassock
Fish Hill
Gravel Pits
Wildwood Cem
Brackett Reservoir (No 2)
Ashland Jr High Sch
Ashland High Sch
BADGER
WINTER
FOUNTAIN
PROSPECT
UNION
PIPELINE
Warren Sch

MassDEP - Bureau of Waste Site Cleanup

Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

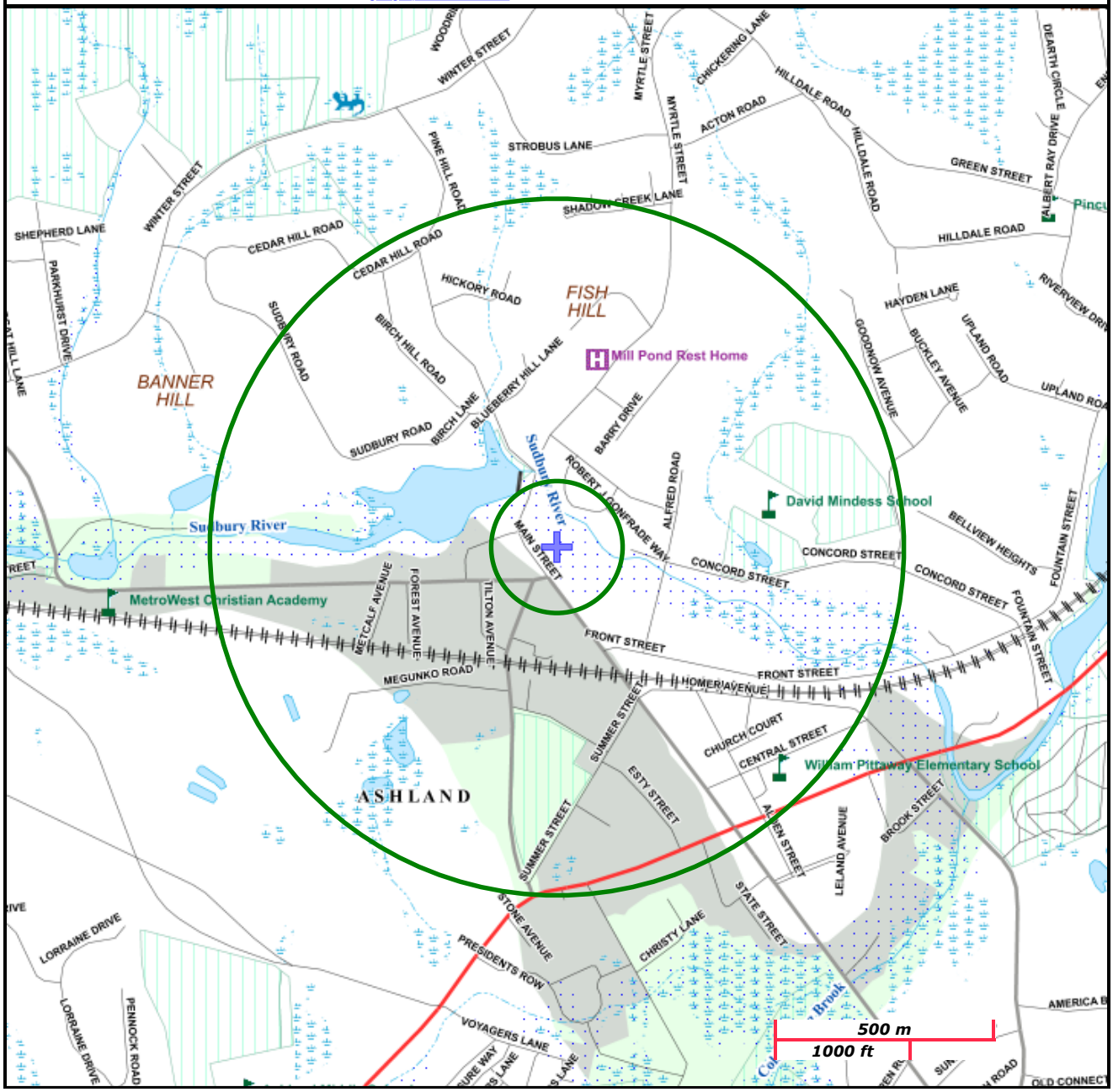
Site Information:

10-50 MAIN STREET ASHLAND, MA

NAD83 UTM Meters:
4681889mN , 296581mE (Zone: 19)
December 9, 2022

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: https://www.mass.gov/orgs/massgis-bureau-of-geographic-information.

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail

Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct

Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam

Aquifers: Medium Yield, High Yield, EPA Sole Source

Non Potential Drinking Water Source Area: Medium, High (Yield)

PWS Protection Areas: Zone II, IWPA, Zone A

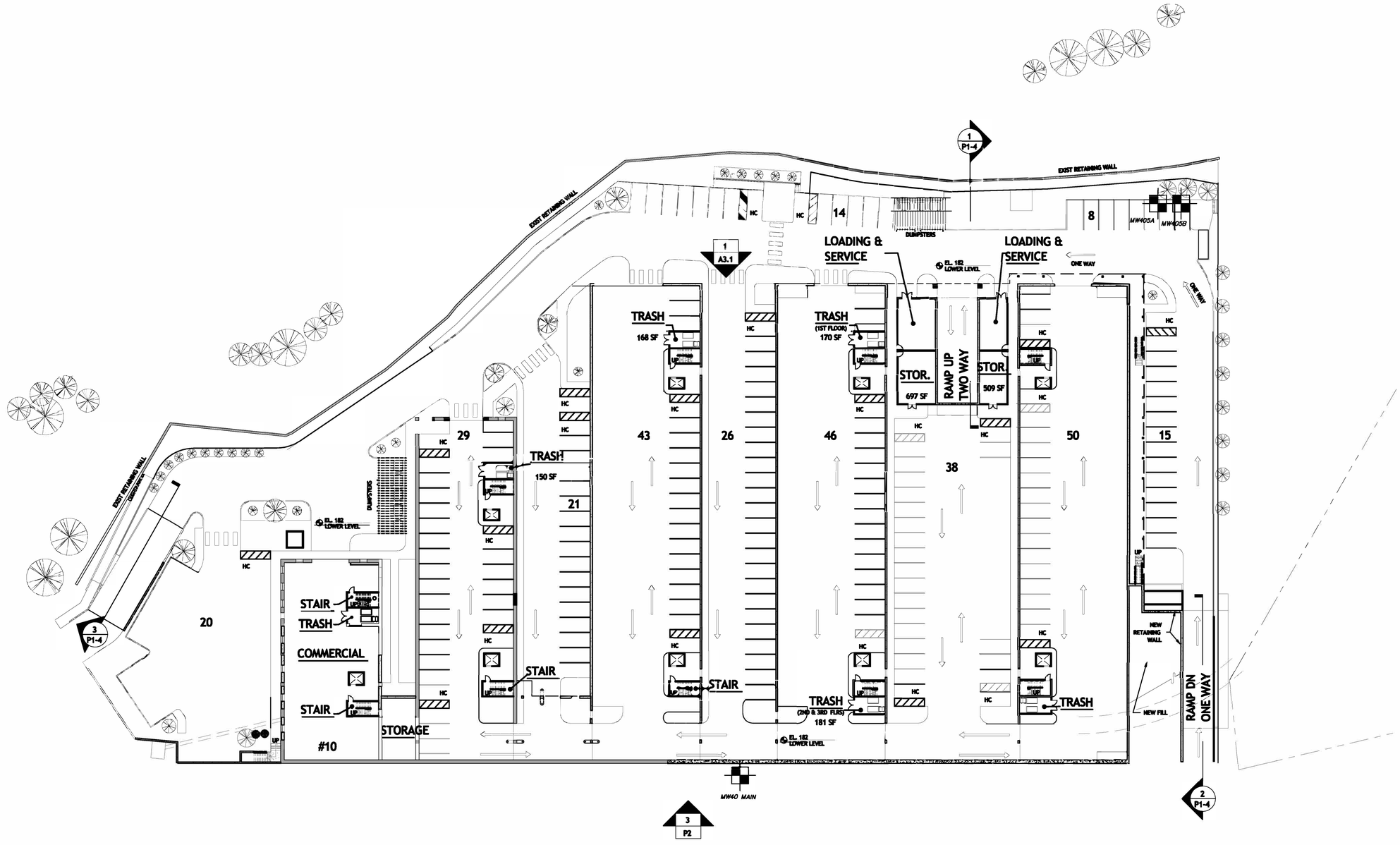
Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

NHESP Pri-Hab of Rare Species; Vernal Pool: Cert., Potential

Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.



Proposed Ground Floor Plan

PLAN PREPARED FROM CAD FILE PREPARED AND PROVIDED BY:
GORMAN RICHARDSON LEWIS ARCHITECTS

GRAPHIC SCALE: 1"=30'

0 10 20 30 40 50 75 100 125 150 FEET
0 5 10 15 20 25 30 35 40 45 METERS

CONNORSTONE ENGINEERING INC.
CIVIL ENGINEERS AND LAND SURVEYORS
10 SOUTHWEST CUTOFF, SUITE 7
NORTHBOROUGH, MASSACHUSETTS 01532
PHONE: 508-393-9727 FAX: 508-393-9249

MONITOR WELL PLAN OF #10-50 MAIN STREET IN ASHLAND, MA

4/11/2022	REVISE BLDG.-10
REVISED:	DESCRIPTION:
DRAWN BY: REM	CHECK BY: GRC
DATE: MARCH 10, 2022	
SCALE: 1"=30'	SHEET 1 OF 1.

KEY PLAN	ORIENTATION	SEAL	COPYRIGHT	FIRM	CLIENT	PROJECT	DATA	REVISIONS	TITLE	SHEET

G | R | L | A
Gorman Richardson Lewis Architects
239 South Street Hopkinton, MA 01748
www.grlarchitects.com

ASHLAND MILLS
10-50 MAIN ST. ASHLAND, MA

Date: JULY 05, 2022
Proj. No.: 2020101.00
Scale: 1/16" = 1'-0"
Drawn By: Author
Checked By: Checker

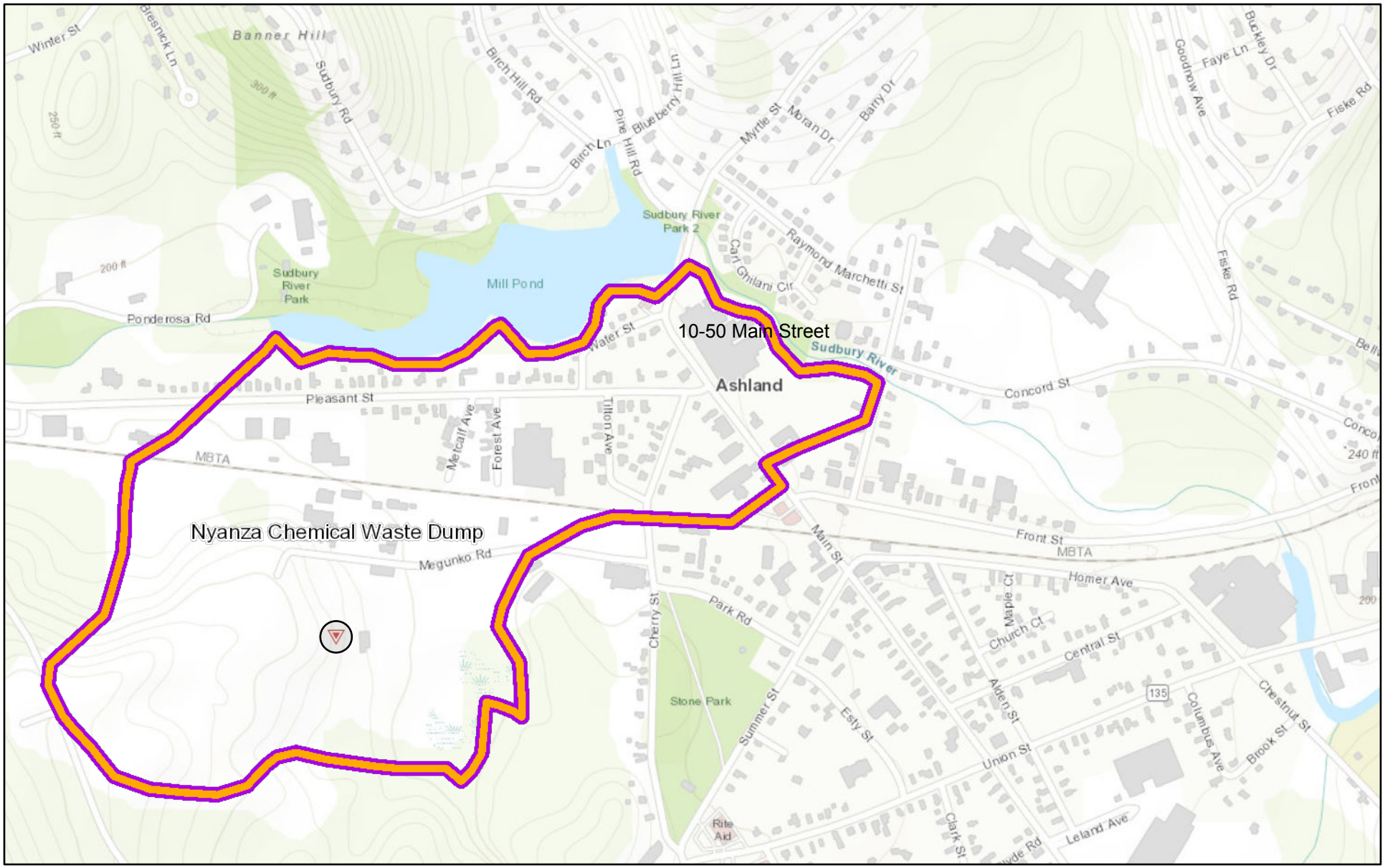
No.	Description	Date

FIRST FLOOR PLAN

A1.1

2020101.00 - ASHLAND MILLS PLANNING BOARD SUBMISSION - JULY 05, 2022

C:_Revit Local\1050 MAIN ST-2_Working Group Massing_EHalstead WYW98.rvt
7/5/2022 5:03:23 PM



April 28, 2020

Override 1

State Outlines

Sites

Incidents of National Significance

Federal Facility Docket/Superfund NPL/RCRA CA

Federal Facility Docket/Brownfields/RCRA CA

RCRA Corrective Action/Superfund NPL

Federal Facility Docket/Superfund NPL

1:11,313

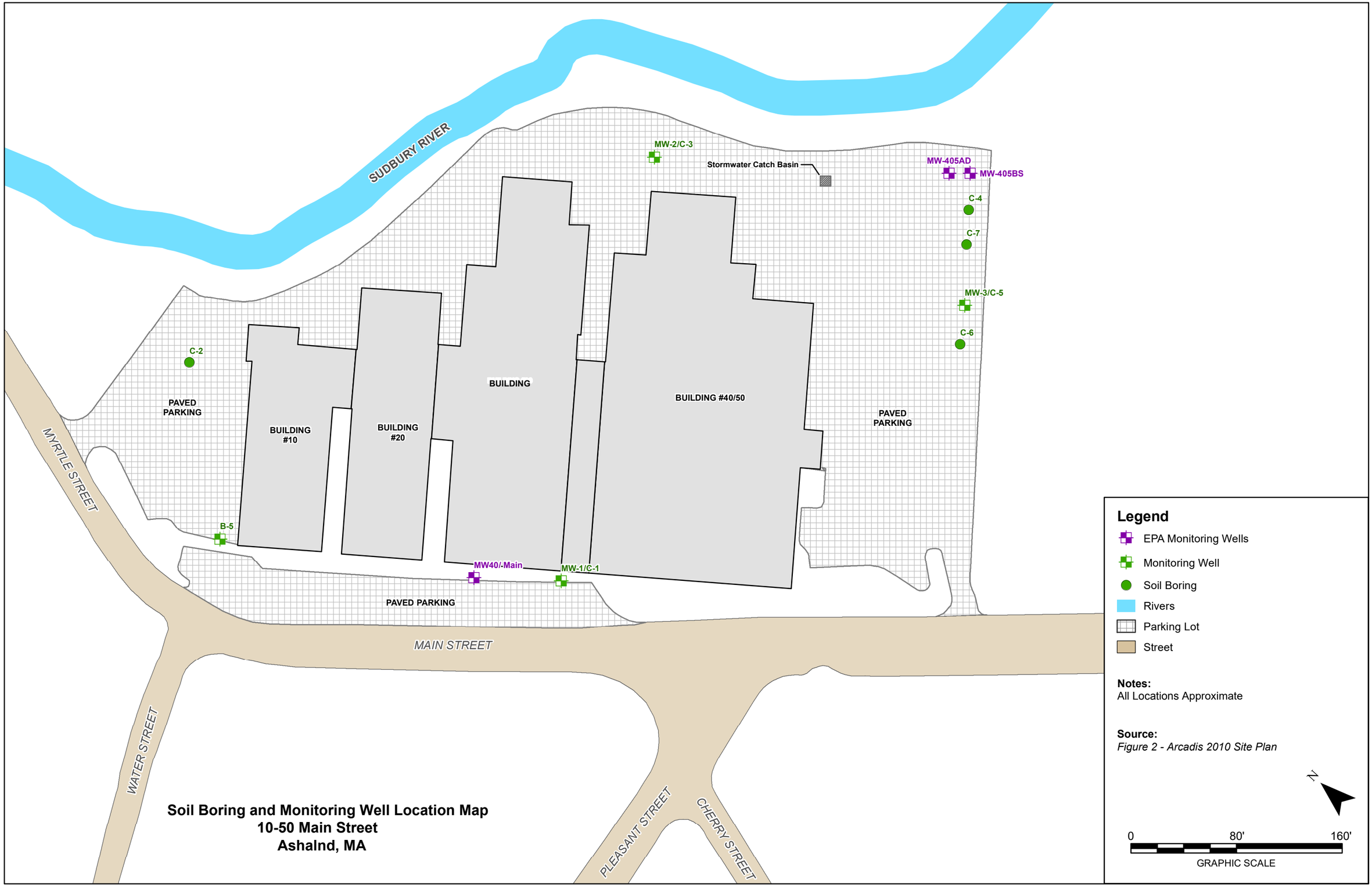
0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

US EPA, Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL,

Generated from: Cleanups in My Community: Date above is the date map

map


SUDBURY RIVER
MW-2/C-3
Stormwater Catch Basin
MW-405AD
MW-405BS
C-4
C-7
MW-3/C-5
C-6
C-2
PAVED PARKING
BUILDING #10
BUILDING #20
BUILDING
BUILDING #40/50
PAVED PARKING
MYRTLE STREET
B-5
MW40/-Main
MW-1/C-1
PAVED PARKING
MAIN STREET
WATER STREET
PLEASANT STREET
CHERRY STREET
Soil Boring and Monitoring Well Location Map
10-50 Main Street
Ashalnd, MA
Legend
EPA Monitoring Wells
Monitoring Well
Soil Boring
Rivers
Parking Lot
Street
Notes:
All Locations Approximate
Source:
Figure 2 - Arcadis 2010 Site Plan
N
0
80'
160'
GRAPHIC SCALE

LITHOLOGIC LOGS
AND WELL CONSTRUCTION SCHEMATICS

CEI

PROJECT INFORMATION

Project Name: **10-50 Main Street, Ashland**

Project Number:

BORING NO. C-1/MW-1

SHEET 1 of 1

DATE STARTED 3/22/22

DATE COMPLETED 3/22/22

Boring Co.	TDS	Boring Location	
Driller		Drilling Method	Geoprobe
Logged By	GC	Drilling Equipment	Geoprobe
Checked By	GC	TOC Elevation (feet)	

Groundwater Levels		
Date	Time	Depth
NA		

DEPTH	SAMPLE INFORMATION: DEPTH (feet)	Type & No.	BLOWS PER 6 INCHES	PEN/REC (inches)	PID/ FID	STRATUM / SAMPLE DESCRIPTION: Grading term (if applicable), SOIL GROUP NAME, color, moisture state [density, % & size range, max particle size, angularity, shape] or [consistency, plasticity, % of fines], evidence of contamination (visual, olfactory)	USCS Symbol	REMARKS (e.g., Well Info)
					0	Suspect Ash/Cobbles, SAND Fill		
	5							
					0	Fine to Medium SAND w/Cobble		
	10							
					0	Medium to Coarse SAND w/Cobble		
	15							
						Fine to Medium SAND w/Cobble		
	20							
						PVC well Screen set at 4-14 feet below grade Flush mount manhole installed		

Notes:
1)
2)
3)
4)

As-Built Groundwater Monitoring Well Construction Diagram - Overburden

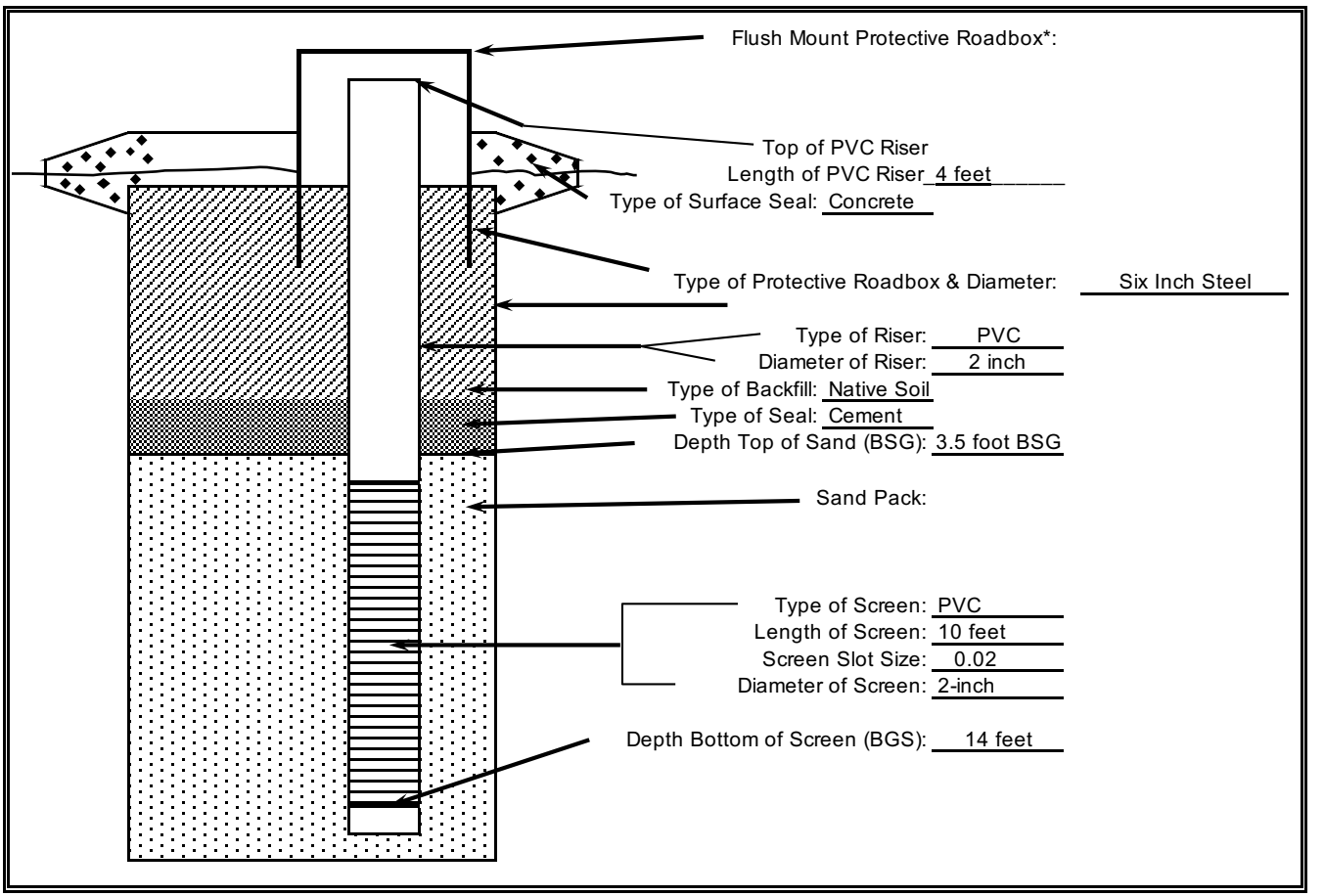
Project: 10-50 Main St.
Ashland, MA

Location: Ashland, MA
Drilling Company: TDS

Date Start: 3/22/22
Drilling Method: Geoprobe

Boring ID: MW-1/C-1

Well Construction Schematic Not To Scale



BSG = Below Surface Grade (feet)
Well construction schematic not to scale

CEI

PROJECT INFORMATION

Project Name: **10-50 Main Street, Ashland**

Project Number:

BORING NO. C-2

SHEET 1 of 1

DATE STARTED 3/22/22

DATE COMPLETED 3/22/22

Boring Co.	TDS	Boring Location	
Driller		Drilling Method	Geoprobe
Logged By	GC	Drilling Equipment	Geoprobe
Checked By	GC	TOC Elevation (feet)	

Groundwater Levels		
Date	Time	Depth
NA		

DEPTH	SAMPLE INFORMATION					STRATUM / SAMPLE DESCRIPTION	USCS Symbol	REMARKS (e.g., Well Info)
	DEPTH (feet)	Type & No.	BLOWS PER 6 INCHES	PEN/REC (inches)	PID/ FID	Grading term (if applicable), SOIL GROUP NAME, color, moisture state [density, % & size range, max particle size, angularity, shape] or [consistency, plasticity, % of fines], evidence of contamination (visual, olfactory)		
						Asphalt, stone, cobble		
	5				0	Suspect Ash/Cobbles, SAND Fill		
	10							
	15							
	20							

Notes:
1)
2)
3)
4)

CEI

PROJECT INFORMATION

Project Name: **10-50 Main Street, Ashland**

Project Number:

BORING NO. C-3/MW-2

SHEET 1 of 1

DATE STARTED 3/22/22

DATE COMPLETED 3/22/22

Boring Co.	TDS	Boring Location	
Driller		Drilling Method	Geoprobe
Logged By	GC	Drilling Equipment	Geoprobe
Checked By	GC	TOC Elevation (feet)	

Groundwater Levels		
Date	Time	Depth
NA		

DEPTH	SAMPLE INFORMATION: DEPTH (feet)	Type & No.	BLOWS PER 6 INCHES	PEN/REC (inches)	PID/ FID	STRATUM / SAMPLE DESCRIPTION	USCS Symbol	REMARKS (e.g., Well Info)
					0	Suspect Ash/Cobbles, SAND Fill		
	5							
					0	Medium to Coarse SAND, trace silt		
	10							
					0	Medium ro Coarse SAND, trace gravel		
	15							
						Well constricted with 10 feet of two inch diameter well screen and two feet of two inch diameter solid PVC riser Completed with six inch diameter surface manhole set in concrete		
	20							

Notes:
1)
2)
3)
4)

As-Built Monitoring Well Construction Diagram

Project: 10-50 Main St.
Ashland, MA

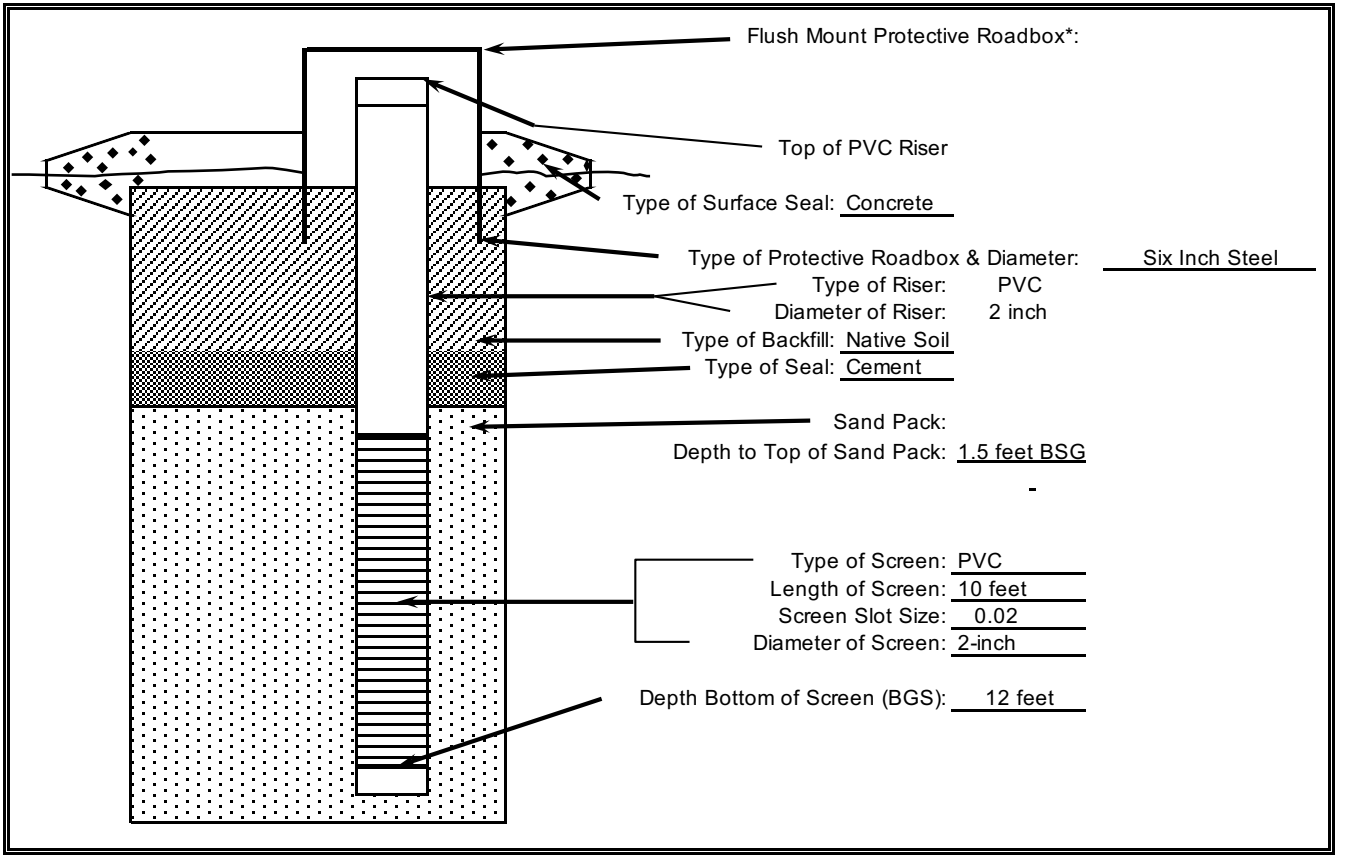
Location: Ashland, MA
Drilling Company: TDS

Date Start: 3/22/22

Drilling Method: Geoprobe

Boring ID: MW-2/C-3

Well Construction Schematic Not To Scale



BSG = Below Surface Grade (feet)
Well Construction Schematic Not to Scale

CEI

PROJECT INFORMATION

Project Name: **10-50 Main Street, Ashland**

Project Number:

BORING NO. C-4

SHEET 1 of 1

DATE STARTED 3/22/22

DATE COMPLETED 3/22/22

Boring Co.	TDS	Boring Location	
Driller		Drilling Method	Geoprobe
Logged By	GC	Drilling Equipment	Geoprobe
Checked By	GC	TOC Elevation (feet)	

Groundwater Levels		
Date	Time	Depth
NA		

DEPTH	SAMPLE INFORMATION: DEPTH (feet)	Type & No.	BLOWS PER 6 INCHES	PEN/REC (inches)	PID/ FID	STRATUM / SAMPLE DESCRIPTION: Grading term (if applicable), SOIL GROUP NAME, color, moisture state [density, % & size range, max particle size, angularity, shape] or [consistency, plasticity, % of fines], evidence of contamination (visual, olfactory)	USCS Symbol	REMARKS (e.g., Well Info)
						Asphalt/Concrete		
					0	Medium to Coarse SAND		
	5							
	10							
	15							
	20							

Notes:
1)
2)
3)
4)

CEI

PROJECT INFORMATION

Project Name: **10-50 Main Street, Ashland**

Project Number:

BORING NO. C-5/MW-3

SHEET 1 of 1

DATE STARTED 3/22/22

DATE COMPLETED 3/22/22

Boring Co.	TDS	Boring Location	
Driller		Drilling Method	Geoprobe
Logged By	GC	Drilling Equipment	Geoprobe
Checked By	GC	TOC Elevation (feet)	

Groundwater Levels		
Date	Time	Depth
NA		

DEPTH	SAMPLE INFORMATION: DEPTH (feet)	Type & No.	BLOWS PER 6 INCHES	PEN/REC (inches)	PID/ FID	STRATUM / SAMPLE DESCRIPTION: Grading term (if applicable), SOIL GROUP NAME, color, moisture state [density, % & size range, max particle size, angularity, shape] or [consistency, plasticity, % of fines], evidence of contamination (visual, olfactory)	USCS Symbol	REMARKS (e.g., Well Info)
						Asphalt/Concrete		
					0	Medium SAND, suspect Ash, Fill		
	5							
					0	5-7' Medium SAND, Suspect Ash, Cobble		
	10							
					0	Medium to Coarse SAND		
	15							
					0	Very Fine SAND		
						Well constriucted with 10' PVC well screen and two feet of PVC riser		
	20					Completed with surface mounted six inch manhole		

Notes:
1)
2)
3)
4)

As-Built Monitoring Well Construction Diagram

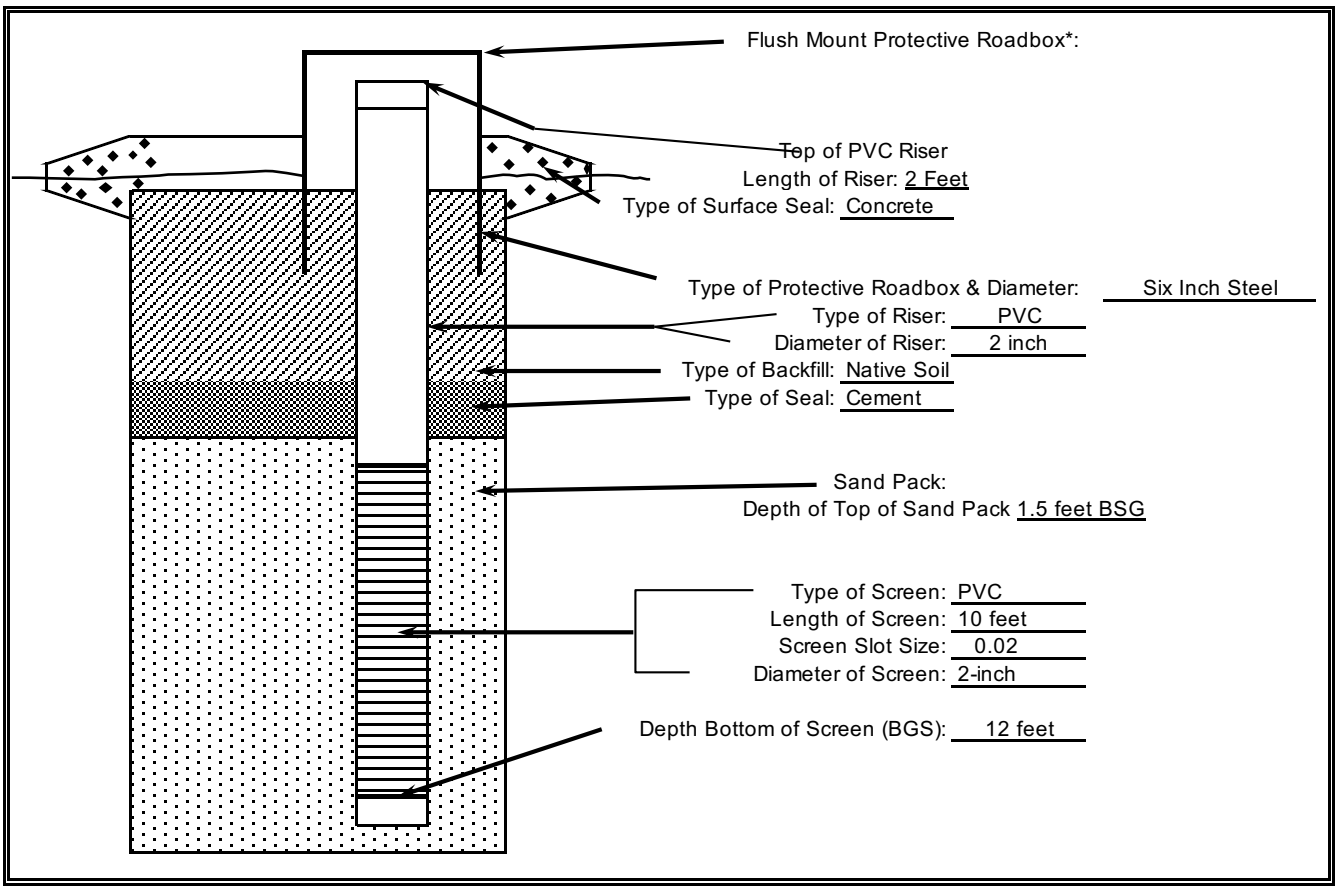
Project: 10-50 Main St.
Ashland, MA

Location: Ashland, MA
Drilling Company: TDS
Drilling Method: Geoprobe

Date Start: 3/22/22

Boring ID: MW-3/C-5

Well Construction Schematic Not to Scale



BSG = Below Surface Grade (feet)
Well Sonstruction Schematic Not To Scale

CEI

PROJECT INFORMATION

Project Name: **10-50 Main Street, Ashland**

Project Number:

BORING NO. C-6

SHEET 1 of 1

DATE STARTED 3/22/22

DATE COMPLETED 3/22/22

Boring Co.	TDS	Boring Location	
Driller		Drilling Method	Geoprobe
Logged By	GC	Drilling Equipment	Geoprobe
Checked By	GC	TOC Elevation (feet)	

Groundwater Levels		
Date	Time	Depth
NA		

DEPTH	SAMPLE INFORMATION					STRATUM / SAMPLE DESCRIPTION	USCS Symbol	REMARKS (e.g., Well Info)
	DEPTH (feet)	Type & No.	BLOWS PER 6 INCHES	PEN/REC (inches)	PID/ FID	Grading term (if applicable), SOIL GROUP NAME, color, moisture state [density, % & size range, max particle size, angularity, shape] or [consistency, plasticity, % of fines], evidence of contamination (visual, olfactory)		
						Asphalt/Crushed stone		
					0	Medium SAND, suspect Ash, Fill		
	5					Medium to Coarse SAND		
	10							
	15							
	20							

Notes:
1)
2)
3)
4)

CEI	PROJECT INFORMATION	BORING NO. C-7
	Project Name **10-50 Main Street, Ashland**	SHEET 1 of 1
	Project Number	DATE STARTED 3/22/22
		DATE COMPLETED 3/22/22

Boring Co.	TDS	Boring Location	
Driller		Drilling Method	Geoprobe
Logged By	GC	Drilling Equipment	Geoprobe
Checked By	GC	TOC Elevation (feet)	

Groundwater Levels		
Date	Time	Depth
NA		

DEPTH	SAMPLE INFORMATION					STRATUM / SAMPLE DESCRIPTION	USCS Symbol	REMARKS (e.g., Well Info)
	DEPTH (feet)	Type & No.	BLOWS PER 6 INCHES	PEN/REC (inches)	PID/ FID	Grading term (if applicable), SOIL GROUP NAME, color, moisture state [density, % & size range, max particle size, angularity, shape] or [consistency, plasticity, % of fines], evidence of contamination (visual, olfactory)		
						Asphalt		
						Concrete		
					0	Medium SAND, brick/wood fragments Fill		
	5							
						Very fine SAND, roots		
					0	Medium to Coarse SAND		
	10							
	15							
	20							

Notes:
1)
2)
3)
4)

TABLES AND LABORATORY ANALYTICAL DATA

Project Name 10-50 Main, Ashland MA

GROUNDWATER DATA		MassDEP GW2															
Sample Designation		Standards	MW-1		MW-1		MW-2		MW-2		MW-3		MW-3		B-5		
Sample Date			04/11/2022		10/20/2022		04/11/2022		09/17/2022		04/11/2022		10/20/2022		09/17/2022		
VOCs																	
1,1,1,2-Tetrachloroethane	ug/L	10	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
1,1,1-Trichloroethane	ug/L	4000	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
1,1,2,2-Tetrachloroethane	ug/L	9	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	
1,1,2-Trichloroethane	ug/L	900	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
1,1-Dichloroethane	ug/L	2000	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
1,1-Dichloroethene	ug/L	80	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
1,1-Dichloropropene	ug/L	NE	2	U	2	U	2	U	2	U	2	U	2	U	2	U	
1,2,3-Trichlorobenzene	ug/L	NE	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
1,2,3-Trichloropropane	ug/L	NE	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
1,2,4-Trichlorobenzene	ug/L	200	1	U	1	U	1.6	-	2.6	-	1	U	1	U	1	U	
1,2,4-Trimethylbenzene	ug/L	7000	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
1,2-Dibromo-3-Chloropropane	ug/L	NE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	
1,2-Dibromoethane	ug/L	2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
1,2-Dichlorobenzene	ug/L	8000	1	U	1	U	20.4	-	22.8	-	3.5	-	13.1	-	1	U	
1,2-Dichloroethane	ug/L	5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
1,2-Dichloropropane	ug/L	3	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
1,3,5-Trimethylbenzene	ug/L	7000	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
1,3-Dichlorobenzene	ug/L	6000	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
1,3-Dichloropropane	ug/L	NE	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
1,4-Dichlorobenzene	ug/L	60	1	U	1	U	4.6	-	5.9	-	1	U	2.6	-	1	U	
1,4-Dioxane - Screen	ug/L	6000	500	U	500	U	500	U	500	U	500	U	500	U	500	U	
2,2-Dichloropropane	ug/L	NE	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
2-Butanone	ug/L	50000	10	U	10	U	10	U	10	U	10	U	10	U	10	U	
2-Chlorotoluene	ug/L	NE	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
2-Hexanone	ug/L	NE	10	U	10	U	10	U	10	U	10	U	10	U	10	U	
4-Chlorotoluene	ug/L	NE	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
4-Isopropyltoluene	ug/L	7000	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
4-Methyl-2-Pentanone	ug/L	50000	10	U	10	U	10	U	10	U	10	U	10	U	10	U	
Acetone	ug/L	50000	10	U	10	U	10	U	10	U	10	U	10	U	10	U	
Benzene	ug/L	1000	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
Bromobenzene	ug/L	NE	2	U	2	U	2	U	2	U	2	U	2	U	2	U	
Bromochloromethane	ug/L	NE	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
Bromodichloromethane	ug/L	6	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	
Bromoform	ug/L	700	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
Bromomethane	ug/L	7	2	U	2	U	2	U	2	U	2	U	2	U	2	U	
Carbon Disulfide	ug/L	NE	1	U	1	U	1	U	1	U	1.3	-	1	U	1	U	
Carbon Tetrachloride	ug/L	2	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
Chlorobenzene	ug/L	200	1	U	1	U	29.5	-	29	-	9.2	-	24.8	-	1	U	
Chloroethane	ug/L	NE	2	U	2	U	2	U	2	U	2	U	2	U	2	U	
Chloroform	ug/L	50	1	U	2.4	-	1	U	1	U	1	U	1	U	1	U	
Chloromethane	ug/L	NE	2	U	2	U	2	U	2	U	2	U	2	U	2	U	
cis-1,2-Dichloroethene	ug/L	**20**	**29.2**	-	12	-	**67.5**	-	**73.6**	-	4.5	-	2.9	-	1	U	
cis-1,3-Dichloropropene	ug/L	10	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	
Dibromochloromethane	ug/L	20	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
Dibromomethane	ug/L	NE	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
Dichlorodifluoromethane	ug/L	NE	2	U	2	U	2	U	2	U	2	U	2	U	2	U	
Diethyl Ether	ug/L	NE	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
Di-isopropyl ether	ug/L	NE	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
Ethyl tertiary-butyl ether	ug/L	NE	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
Ethylbenzene	ug/L	20000	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
Hexachlorobutadiene	ug/L	50	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	
Hexachloroethane	ug/L	100	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
Isopropylbenzene	ug/L	7000	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
Methyl tert-Butyl Ether	ug/L	50000	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
Methylene Chloride	ug/L	2000	2	U	2	U	2	U	2	U	2	U	2	U	2	U	
Naphthalene	ug/L	700	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
n-Butylbenzene	ug/L	7000	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
n-Propylbenzene	ug/L	7000	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
sec-Butylbenzene	ug/L	7000	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
Styrene	ug/L	100	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
tert-Butylbenzene	ug/L	7000	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
Tertiary-amyl methyl ether	ug/L	NE	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
Tetrachloroethene	ug/L	50	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
Tetrahydrofuran	ug/L	NE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	
Toluene	ug/L	50000	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
trans-1,2-Dichloroethene	ug/L	80	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
trans-1,3-Dichloropropene	ug/L	10	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	
Trichloroethene	ug/L	**5**	**14.4**	-	**7.7**	-	1.2	-	1.4	-	1	U	1	U	1	U	
Trichlorofluoromethane	ug/L	NE	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
Vinyl Chloride	ug/L	2	1	U	1	U	1	U	1	U	1.4	-	1.1	-	1	U	
Xylene O	ug/L	3000	1	U	1	U	1	U	1	U	1	U	1	U	1	U	
Xylene P,M	ug/L	3000	2	U	2	U	2	U	2	U	2	U	2	U	2	U	
Xylenes (Total)	ug/L	3000	2	U	2	U	2	U	2	U	2	U	2	U	2	U	

Qualifier	**Description**
U	Undetected

SOIL DATA

10-50 Main Ashland MA

Sample Designation		2014-RCS1 MCP	2014-S1GW2 MCP	C-1 2-10ft		C-2 2-5ft		C-3 2-10ft		C-4 2-5ft		C-5 2-10ft	
Sample Date				03/22/2022		03/22/2022		03/22/2022		03/22/2022		03/22/2022	
VOCs													
1,1,1,2-Tetrachloroethane	mg/kg	**0.1**	**0.1**	**0.152**	U	---	---	**0.1**	U	---	---	**0.123**	U
1,1,1-Trichloroethane	mg/kg	30	500	0.152	U	---	---	0.1	U	---	---	0.123	U
1,1,2,2-Tetrachloroethane	mg/kg	**0.005**	**0.02**	**0.152**	U	---	---	**0.1**	U	---	---	**0.123**	U
1,1,2-Trichloroethane	mg/kg	**0.1**	2	**0.152**	U	---	---	**0.1**	U	---	---	**0.123**	U
1,1-Dichloroethane	mg/kg	0.4	9	0.152	U	---	---	0.1	U	---	---	0.123	U
1,1-Dichloroethene	mg/kg	3	40	0.152	U	---	---	0.1	U	---	---	0.123	U
1,1-Dichloropropene	mg/kg	NE	NE	0.152	U	---	---	0.1	U	---	---	0.123	U
1,2,3-Trichlorobenzene	mg/kg	NE	NE	0.152	U	---	---	0.1	U	---	---	0.123	U
1,2,3-Trichloropropane	mg/kg	100	NE	0.152	U	---	---	0.1	U	---	---	0.123	U
1,2,4-Trichlorobenzene	mg/kg	2	6	0.152	U	---	---	0.1	U	---	---	0.123	U
1,2,4-Trimethylbenzene	mg/kg	1000	100	0.152	U	---	---	0.1	U	---	---	0.123	U
1,2-Dibromo-3-Chloropropane	mg/kg	10	NE	0.758	U	---	---	0.502	U	---	---	0.614	U
1,2-Dibromoethane	mg/kg	**0.1**	**0.1**	**0.152**	U	---	---	**0.1**	U	---	---	**0.123**	U
1,2-Dichlorobenzene	mg/kg	9	100	0.152	U	---	---	0.1	U	---	---	0.123	U
1,2-Dichloroethane	mg/kg	**0.1**	**0.1**	**0.152**	U	---	---	**0.1**	U	---	---	**0.123**	U
1,2-Dichloropropane	mg/kg	**0.1**	**0.1**	**0.152**	U	---	---	**0.1**	U	---	---	**0.123**	U
1,3,5-Trimethylbenzene	mg/kg	10	100	0.152	U	---	---	0.1	U	---	---	0.123	U
1,3-Dichlorobenzene	mg/kg	3	100	0.152	U	---	---	0.1	U	---	---	0.123	U
1,3-Dichloropropane	mg/kg	500	NE	0.152	U	---	---	0.1	U	---	---	0.123	U
1,4-Dichlorobenzene	mg/kg	0.7	1	0.152	U	---	---	0.1	U	---	---	0.123	U
1,4-Dioxane - Screen	mg/kg	**0.2**	**6**	**30.3**	U	---	---	**20.1**	U	---	---	**24.6**	U
2,2-Dichloropropane	mg/kg	NE	NE	0.152	U	---	---	0.1	U	---	---	0.123	U
2-Butanone	mg/kg	4	50	0.758	U	---	---	0.502	U	---	---	0.614	U
2-Chlorotoluene	mg/kg	100	NE	0.152	U	---	---	0.1	U	---	---	0.123	U
2-Hexanone	mg/kg	100	NE	0.758	U	---	---	0.502	U	---	---	0.614	U
4-Chlorotoluene	mg/kg	NE	NE	0.152	U	---	---	0.1	U	---	---	0.123	U
4-Isopropyltoluene	mg/kg	100	100	0.152	U	---	---	0.1	U	---	---	0.123	U
4-Methyl-2-Pentanone	mg/kg	**0.4**	50	**0.758**	U	---	---	**0.502**	U	---	---	**0.614**	U
Acetone	mg/kg	6	50	0.758	U	---	---	0.502	U	---	---	0.614	U
Benzene	mg/kg	2	40	0.152	U	---	---	0.1	U	---	---	0.123	U
Bromobenzene	mg/kg	100	NE	0.152	U	---	---	0.1	U	---	---	0.123	U
Bromochloromethane	mg/kg	NE	NE	0.152	U	---	---	0.1	U	---	---	0.123	U
Bromodichloromethane	mg/kg	**0.1**	**0.1**	**0.152**	U	---	---	**0.1**	U	---	---	**0.123**	U
Bromoform	mg/kg	**0.1**	1	**0.152**	U	---	---	**0.1**	U	---	---	**0.123**	U
Bromomethane	mg/kg	0.5	0.5	0.152	U	---	---	0.1	U	---	---	0.123	U
Carbon Disulfide	mg/kg	100	NE	0.152	U	---	---	0.1	U	---	---	0.123	U
Carbon Tetrachloride	mg/kg	5	5	0.152	U	---	---	0.1	U	---	---	0.123	U
Chlorobenzene	mg/kg	1	3	0.152	U	---	---	0.1	U	---	---	0.123	U
Chloroethane	mg/kg	100	NE	0.152	U	---	---	0.1	U	---	---	0.123	U
Chloroform	mg/kg	0.2	0.2	0.152	U	---	---	0.1	U	---	---	0.123	U
Chloromethane	mg/kg	100	NE	0.152	U	---	---	0.1	U	---	---	0.123	U
cis-1,2-Dichloroethene	mg/kg	**0.1**	**0.1**	**0.152**	U	---	---	**0.1**	U	---	---	**0.123**	U
cis-1,3-Dichloropropene	mg/kg	**0.01**	0.4	**0.152**	U	---	---	**0.1**	U	---	---	**0.123**	U
Dibromochloromethane	mg/kg	**0.005**	**0.03**	**0.152**	U	---	---	**0.1**	U	---	---	**0.123**	U
Dibromomethane	mg/kg	500	NE	0.152	U	---	---	0.1	U	---	---	0.123	U
Dichlorodifluoromethane	mg/kg	1000	NE	0.152	U	---	---	0.1	U	---	---	0.123	U
Diethyl Ether	mg/kg	100	NE	0.152	U	---	---	0.1	U	---	---	0.123	U
Di-isopropyl ether	mg/kg	100	NE	0.152	U	---	---	0.1	U	---	---	0.123	U
Ethyl tertiary-butyl ether	mg/kg	NE	NE	0.152	U	---	---	0.1	U	---	---	0.123	U
Ethylbenzene	mg/kg	40	500	0.152	U	---	---	0.1	U	---	---	0.123	U
Hexachlorobutadiene	mg/kg	30	30	0.152	U	---	---	0.1	U	---	---	0.123	U
Isopropylbenzene	mg/kg	1000	100	0.152	U	---	---	0.1	U	---	---	0.123	U
Methyl tert-Butyl Ether	mg/kg	**0.1**	100	**0.152**	U	---	---	**0.1**	U	---	---	**0.123**	U
Methylene Chloride	mg/kg	**0.1**	4	**0.303**	U	---	---	**0.201**	U	---	---	**0.246**	U
Naphthalene	mg/kg	4	20	0.152	U	---	---	0.1	U	---	---	0.123	U
n-Butylbenzene	mg/kg	100	100	0.152	U	---	---	0.1	U	---	---	0.123	U
n-Propylbenzene	mg/kg	100	100	0.152	U	---	---	0.1	U	---	---	0.123	U
sec-Butylbenzene	mg/kg	100	100	0.152	U	---	---	0.1	U	---	---	0.123	U
Styrene	mg/kg	3	4	0.152	U	---	---	0.1	U	---	---	0.123	U
tert-Butylbenzene	mg/kg	100	100	0.152	U	---	---	0.1	U	---	---	0.123	U
Tertiary-amyl methyl ether	mg/kg	NE	NE	0.152	U	---	---	0.1	U	---	---	0.123	U
Tetrachloroethene	mg/kg	1	10	0.152	U	---	---	0.1	U	---	---	0.123	U
Tetrahydrofuran	mg/kg	500	NE	0.758	U	---	---	0.502	U	---	---	0.614	U
Toluene	mg/kg	30	500	0.152	U	---	---	0.1	U	---	---	0.123	U
trans-1,2-Dichloroethene	mg/kg	1	1	0.152	U	---	---	0.1	U	---	---	0.123	U
trans-1,3-Dichloropropene	mg/kg	**0.01**	0.4	**0.152**	U	---	---	**0.1**	U	---	---	**0.123**	U
Trichloroethene	mg/kg	0.3	0.3	0.152	U	---	---	0.1	U	---	---	0.123	U
Trichlorofluoromethane	mg/kg	1000	NE	0.152	U	---	---	0.1	U	---	---	0.123	U
Vinyl Chloride	mg/kg	0.7	0.7	0.152	U	---	---	0.1	U	---	---	0.123	U
Xylene O	mg/kg	100	100	0.152	U	---	---	0.1	U	---	---	0.123	U
Xylene P,M	mg/kg	100	100	0.303	U	---	---	0.201	U	---	---	0.246	U
Xylenes (Total)	mg/kg	100	100	0.303	U, D	---	---	0.201	U, D	---	---	0.246	U, D

Sample Date				03/22/2022		03/22/2022		03/22/2022		03/22/2022		03/22/2022		03/22/2022		03/22/2022	
TPH - ETPH																	
Total Petroleum Hydrocarbons	mg/kg	1000	1000	11.9	U	---	---	10.9	U	---	---	11	U	---	---	---	---
Total Metals																	
Arsenic	mg/kg	20	20	5.24	-	5.3	-	2.11	U	3.81	-	2.23	U	3.15	-	4.27	-
Barium	mg/kg	1000	1000	37.9	-	51	-	24.4	-	28.1	-	22.5	-	22.1	-	29.9	-
Cadmium	mg/kg	70	70	0.47	U	0.53	U	0.42	U	0.47	U	0.45	U	0.42	U	0.53	U
Chromium	mg/kg	100	100	13	-	13.5	-	7.94	-	11.2	-	8.64	-	7.8	-	14.1	-
Lead	mg/kg	200	200	59.3	-	147	-	4.23	U	9.05	-	4.46	U	13.3	-	49.4	-
Mercury	mg/kg	20	20	0.305	-	0.065	-	0.037	U	0.041	U	0.037	U	0.036	U	0.048	-
Selenium	mg/kg	400	400	4.71	U	5.33	U	4.23	U	4.71	U	4.46	U	4.2	U	5.3	U
Silver	mg/kg	100	100	0.94	U, D	1.07	EL, U, D	0.85	U, D	0.94	U, D	0.89	U, D	0.84	U, D	1.06	EL, U, D
PCBs																	
Aroclor 1016	mg/kg	1	1	0.06	U	0.07	U	0.06	U	0.06	U	0.05	U	0.05	U	0.06	U
Aroclor 1221	mg/kg	1	1	0.06	U	0.07	U	0.06	U	0.06	U	0.05	U	0.05	U	0.06	U
Aroclor 1232	mg/kg	1	1	0.06	U	0.07	U	0.06	U	0.06	U	0.05	U	0.05	U	0.06	U
Aroclor 1242	mg/kg	1	1	0.06	U	0.07	U	0.06	U	0.06	U	0.05	U	0.05	U	0.06	U
Aroclor 1248	mg/kg	1	1	0.06	U	0.07	U	0.06	U	0.06	U	0.05	U	0.05	U	0.06	U
Aroclor 1254	mg/kg	1	1	0.06	U	0.07	U	0.06	U	0.06	U	0.05	U	0.05	U	0.06	U
Aroclor 1260	mg/kg	1	1	0.06	U	0.07	U	0.06	U	0.06	U	0.05	U	0.05	U	0.06	U
Aroclor 1262	mg/kg	1	1	0.06	U	0.07	U	0.06	U	0.06	U	0.05	U	0.05	U	0.06	U
Aroclor 1268	mg/kg	1	1	0.06	U	0.07	U	0.06	U	0.06	U	0.05	U	0.05	U	0.06	U

CERTIFICATE OF ANALYSIS

George Campbell
Campbell Environmental
38 Sunset Drive
Northboro, MA 01532

RE: 10-50 Main Ashland MA (N/A)
ESS Laboratory Work Order Number: 22D0415

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 5:57 pm, Apr 19, 2022

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22D0415

SAMPLE RECEIPT

The following samples were received on April 12, 2022 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
22D0415-01	MW-1	Ground Water	8260B
22D0415-02	MW-2	Ground Water	8260B
22D0415-03	MW-3	Ground Water	8260B

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22D0415

PROJECT NARRATIVE

8260B Volatile Organic Compounds
D2D0238-CCV1 **Calibration required quadratic regression (Q).**
Bromoform (90% @ 80-120%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22D0415

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22D0415

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **22D0415-01 through 22D0415-03**

Matrices: (X) Ground Water/Surface Water ( ) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

(X) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	( ) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Date: April 19, 2022

Printed Name: Laurel Stoddard

Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: MW-1
Date Sampled: 04/11/22 09:53
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 22D0415
ESS Laboratory Sample ID: 22D0415-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
1,1,1-Trichloroethane	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
1,1,2,2-Tetrachloroethane	ND (0.5)		8260B		1	04/13/22 15:51	D2D0238	DD21314
1,1,2-Trichloroethane	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
1,1-Dichloroethane	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
1,1-Dichloroethene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
1,1-Dichloropropene	ND (2.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
1,2,3-Trichlorobenzene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
1,2,3-Trichloropropane	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
1,2,4-Trichlorobenzene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
1,2,4-Trimethylbenzene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
1,2-Dibromo-3-Chloropropane	ND (5.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
1,2-Dibromoethane	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
1,2-Dichlorobenzene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
1,2-Dichloroethane	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
1,2-Dichloropropane	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
1,3,5-Trimethylbenzene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
1,3-Dichlorobenzene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
1,3-Dichloropropane	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
1,4-Dichlorobenzene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
1,4-Dioxane - Screen	ND (500)		8260B		1	04/13/22 15:51	D2D0238	DD21314
2,2-Dichloropropane	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
2-Butanone	ND (10.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
2-Chlorotoluene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
2-Hexanone	ND (10.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
4-Chlorotoluene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
4-Isopropyltoluene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
4-Methyl-2-Pentanone	ND (10.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Acetone	ND (10.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Benzene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Bromobenzene	ND (2.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Bromochloromethane	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: MW-1
Date Sampled: 04/11/22 09:53
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 22D0415
ESS Laboratory Sample ID: 22D0415-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.6)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Bromoform	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Bromomethane	ND (2.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Carbon Disulfide	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Carbon Tetrachloride	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Chlorobenzene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Chloroethane	ND (2.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Chloroform	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Chloromethane	ND (2.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
cis-1,2-Dichloroethene	**29.2** (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
cis-1,3-Dichloropropene	ND (0.4)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Dibromochloromethane	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Dibromomethane	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Dichlorodifluoromethane	ND (2.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Diethyl Ether	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Di-isopropyl ether	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Ethyl tertiary-butyl ether	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Ethylbenzene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Hexachlorobutadiene	ND (0.6)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Hexachloroethane	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Isopropylbenzene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Methyl tert-Butyl Ether	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Methylene Chloride	ND (2.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Naphthalene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
n-Butylbenzene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
n-Propylbenzene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
sec-Butylbenzene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Styrene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
tert-Butylbenzene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Tertiary-amyl methyl ether	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Tetrachloroethene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Tetrahydrofuran	ND (5.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: MW-1
Date Sampled: 04/11/22 09:53
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 22D0415
ESS Laboratory Sample ID: 22D0415-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
trans-1,2-Dichloroethene	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
trans-1,3-Dichloropropene	ND (0.4)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Trichloroethene	**14.4** (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Trichlorofluoromethane	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Vinyl Chloride	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Xylene O	ND (1.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Xylene P,M	ND (2.0)		8260B		1	04/13/22 15:51	D2D0238	DD21314
Xylenes (Total)	ND (2.00)		8260B		1	04/13/22 15:51		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*101 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*95 %*		*70-130*
Surrogate: Dibromofluoromethane	*99 %*		*70-130*
Surrogate: Toluene-d8	*102 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: MW-2
Date Sampled: 04/11/22 10:50
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 22D0415
ESS Laboratory Sample ID: 22D0415-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
1,1,1-Trichloroethane	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
1,1,2,2-Tetrachloroethane	ND (0.5)		8260B		1	04/13/22 16:16	D2D0238	DD21314
1,1,2-Trichloroethane	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
1,1-Dichloroethane	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
1,1-Dichloroethene	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
1,1-Dichloropropene	ND (2.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
1,2,3-Trichlorobenzene	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
1,2,3-Trichloropropane	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
1,2,4-Trichlorobenzene	**1.6** (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
1,2,4-Trimethylbenzene	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
1,2-Dibromo-3-Chloropropane	ND (5.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
1,2-Dibromoethane	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
1,2-Dichlorobenzene	**20.4** (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
1,2-Dichloroethane	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
1,2-Dichloropropane	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
1,3,5-Trimethylbenzene	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
1,3-Dichlorobenzene	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
1,3-Dichloropropane	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
1,4-Dichlorobenzene	**4.6** (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
1,4-Dioxane - Screen	ND (500)		8260B		1	04/13/22 16:16	D2D0238	DD21314
2,2-Dichloropropane	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
2-Butanone	ND (10.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
2-Chlorotoluene	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
2-Hexanone	ND (10.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
4-Chlorotoluene	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
4-Isopropyltoluene	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
4-Methyl-2-Pentanone	ND (10.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Acetone	ND (10.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Benzene	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Bromobenzene	ND (2.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Bromochloromethane	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: MW-2
Date Sampled: 04/11/22 10:50
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 22D0415
ESS Laboratory Sample ID: 22D0415-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.6)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Bromoform	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Bromomethane	ND (2.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Carbon Disulfide	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Carbon Tetrachloride	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Chlorobenzene	**29.5** (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Chloroethane	ND (2.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Chloroform	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Chloromethane	ND (2.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
cis-1,2-Dichloroethene	**67.5** (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
cis-1,3-Dichloropropene	ND (0.4)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Dibromochloromethane	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Dibromomethane	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Dichlorodifluoromethane	ND (2.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Diethyl Ether	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Di-isopropyl ether	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Ethyl tertiary-butyl ether	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Ethylbenzene	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Hexachlorobutadiene	ND (0.6)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Hexachloroethane	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Isopropylbenzene	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Methyl tert-Butyl Ether	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Methylene Chloride	ND (2.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Naphthalene	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
n-Butylbenzene	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
n-Propylbenzene	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
sec-Butylbenzene	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Styrene	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
tert-Butylbenzene	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Tertiary-amyl methyl ether	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Tetrachloroethene	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Tetrahydrofuran	ND (5.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: MW-2
Date Sampled: 04/11/22 10:50
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 22D0415
ESS Laboratory Sample ID: 22D0415-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
trans-1,2-Dichloroethene	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
trans-1,3-Dichloropropene	ND (0.4)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Trichloroethene	**1.2** (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Trichlorofluoromethane	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Vinyl Chloride	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Xylene O	ND (1.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Xylene P,M	ND (2.0)		8260B		1	04/13/22 16:16	D2D0238	DD21314
Xylenes (Total)	ND (2.00)		8260B		1	04/13/22 16:16		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*102 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*96 %*		*70-130*
Surrogate: Dibromofluoromethane	*98 %*		*70-130*
Surrogate: Toluene-d8	*102 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: MW-3
Date Sampled: 04/11/22 12:03
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 22D0415
ESS Laboratory Sample ID: 22D0415-03
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
1,1,1-Trichloroethane	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
1,1,2,2-Tetrachloroethane	ND (0.5)		8260B		1	04/13/22 16:42	D2D0238	DD21314
1,1,2-Trichloroethane	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
1,1-Dichloroethane	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
1,1-Dichloroethene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
1,1-Dichloropropene	ND (2.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
1,2,3-Trichlorobenzene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
1,2,3-Trichloropropane	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
1,2,4-Trichlorobenzene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
1,2,4-Trimethylbenzene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
1,2-Dibromo-3-Chloropropane	ND (5.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
1,2-Dibromoethane	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
1,2-Dichlorobenzene	**3.5** (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
1,2-Dichloroethane	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
1,2-Dichloropropane	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
1,3,5-Trimethylbenzene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
1,3-Dichlorobenzene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
1,3-Dichloropropane	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
1,4-Dichlorobenzene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
1,4-Dioxane - Screen	ND (500)		8260B		1	04/13/22 16:42	D2D0238	DD21314
2,2-Dichloropropane	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
2-Butanone	ND (10.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
2-Chlorotoluene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
2-Hexanone	ND (10.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
4-Chlorotoluene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
4-Isopropyltoluene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
4-Methyl-2-Pentanone	ND (10.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Acetone	ND (10.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Benzene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Bromobenzene	ND (2.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Bromochloromethane	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: MW-3
Date Sampled: 04/11/22 12:03
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 22D0415
ESS Laboratory Sample ID: 22D0415-03
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.6)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Bromoform	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Bromomethane	ND (2.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Carbon Disulfide	**1.3** (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Carbon Tetrachloride	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Chlorobenzene	**9.2** (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Chloroethane	ND (2.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Chloroform	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Chloromethane	ND (2.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
cis-1,2-Dichloroethene	**4.5** (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
cis-1,3-Dichloropropene	ND (0.4)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Dibromochloromethane	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Dibromomethane	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Dichlorodifluoromethane	ND (2.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Diethyl Ether	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Di-isopropyl ether	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Ethyl tertiary-butyl ether	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Ethylbenzene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Hexachlorobutadiene	ND (0.6)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Hexachloroethane	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Isopropylbenzene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Methyl tert-Butyl Ether	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Methylene Chloride	ND (2.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Naphthalene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
n-Butylbenzene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
n-Propylbenzene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
sec-Butylbenzene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Styrene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
tert-Butylbenzene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Tertiary-amyl methyl ether	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Tetrachloroethene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Tetrahydrofuran	ND (5.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: MW-3
Date Sampled: 04/11/22 12:03
Percent Solids: N/A
Initial Volume: 5
Final Volume: 5
Extraction Method: 5030B

ESS Laboratory Work Order: 22D0415
ESS Laboratory Sample ID: 22D0415-03
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
trans-1,2-Dichloroethene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
trans-1,3-Dichloropropene	ND (0.4)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Trichloroethene	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Trichlorofluoromethane	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Vinyl Chloride	**1.4** (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Xylene O	ND (1.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Xylene P,M	ND (2.0)		8260B		1	04/13/22 16:42	D2D0238	DD21314
Xylenes (Total)	ND (2.00)		8260B		1	04/13/22 16:42		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*103 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*95 %*		*70-130*
Surrogate: Dibromofluoromethane	*99 %*		*70-130*
Surrogate: Toluene-d8	*102 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22D0415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DD21314 - 5030B										
Blank										
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L							
1,1,1-Trichloroethane	ND	1.0	ug/L							
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L							
1,1,2-Trichloroethane	ND	1.0	ug/L							
1,1-Dichloroethane	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloropropene	ND	2.0	ug/L							
1,2,3-Trichlorobenzene	ND	1.0	ug/L							
1,2,3-Trichloropropane	ND	1.0	ug/L							
1,2,4-Trichlorobenzene	ND	1.0	ug/L							
1,2,4-Trimethylbenzene	ND	1.0	ug/L							
1,2-Dibromo-3-Chloropropane	ND	5.0	ug/L							
1,2-Dibromoethane	ND	1.0	ug/L							
1,2-Dichlorobenzene	ND	1.0	ug/L							
1,2-Dichloroethane	ND	1.0	ug/L							
1,2-Dichloropropane	ND	1.0	ug/L							
1,3,5-Trimethylbenzene	ND	1.0	ug/L							
1,3-Dichlorobenzene	ND	1.0	ug/L							
1,3-Dichloropropane	ND	1.0	ug/L							
1,4-Dichlorobenzene	ND	1.0	ug/L							
1,4-Dioxane - Screen	ND	500	ug/L							
2,2-Dichloropropane	ND	1.0	ug/L							
2-Butanone	ND	10.0	ug/L							
2-Chlorotoluene	ND	1.0	ug/L							
2-Hexanone	ND	10.0	ug/L							
4-Chlorotoluene	ND	1.0	ug/L							
4-Isopropyltoluene	ND	1.0	ug/L							
4-Methyl-2-Pentanone	ND	10.0	ug/L							
Acetone	ND	10.0	ug/L							
Benzene	ND	1.0	ug/L							
Bromobenzene	ND	2.0	ug/L							
Bromochloromethane	ND	1.0	ug/L							
Bromodichloromethane	ND	0.6	ug/L							
Bromoform	ND	1.0	ug/L							
Bromomethane	ND	2.0	ug/L							
Carbon Disulfide	ND	1.0	ug/L							
Carbon Tetrachloride	ND	1.0	ug/L							
Chlorobenzene	ND	1.0	ug/L							
Chloroethane	ND	2.0	ug/L							
Chloroform	ND	1.0	ug/L							
Chloromethane	ND	2.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
cis-1,3-Dichloropropene	ND	0.4	ug/L							
Dibromochloromethane	ND	1.0	ug/L							

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22D0415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DD21314 - 5030B										
Dibromomethane	ND	1.0	ug/L							
Dichlorodifluoromethane	ND	2.0	ug/L							
Diethyl Ether	ND	1.0	ug/L							
Di-isopropyl ether	ND	1.0	ug/L							
Ethyl tertiary-butyl ether	ND	1.0	ug/L							
Ethylbenzene	ND	1.0	ug/L							
Hexachlorobutadiene	ND	0.6	ug/L							
Hexachloroethane	ND	1.0	ug/L							
Isopropylbenzene	ND	1.0	ug/L							
Methyl tert-Butyl Ether	ND	1.0	ug/L							
Methylene Chloride	ND	2.0	ug/L							
Naphthalene	ND	1.0	ug/L							
n-Butylbenzene	ND	1.0	ug/L							
n-Propylbenzene	ND	1.0	ug/L							
sec-Butylbenzene	ND	1.0	ug/L							
Styrene	ND	1.0	ug/L							
tert-Butylbenzene	ND	1.0	ug/L							
Tertiary-amyl methyl ether	ND	1.0	ug/L							
Tetrachloroethene	ND	1.0	ug/L							
Tetrahydrofuran	ND	5.0	ug/L							
Toluene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,3-Dichloropropene	ND	0.4	ug/L							
Trichloroethene	ND	1.0	ug/L							
Trichlorofluoromethane	ND	1.0	ug/L							
Vinyl Chloride	ND	1.0	ug/L							
Xylene O	ND	1.0	ug/L							
Xylene P,M	ND	2.0	ug/L							
Surrogate: 1,2-Dichloroethane-d4	*25.2*		ug/L	*25.00*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*23.9*		ug/L	*25.00*		*96*	*70-130*			
Surrogate: Dibromofluoromethane	*24.8*		ug/L	*25.00*		*99*	*70-130*			
Surrogate: Toluene-d8	*25.4*		ug/L	*25.00*		*102*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	9.1	1.0	ug/L	10.00		91	70-130			
1,1,1-Trichloroethane	9.1	1.0	ug/L	10.00		91	70-130			
1,1,2,2-Tetrachloroethane	9.0	0.5	ug/L	10.00		90	70-130			
1,1,2-Trichloroethane	8.8	1.0	ug/L	10.00		88	70-130			
1,1-Dichloroethane	9.4	1.0	ug/L	10.00		94	70-130			
1,1-Dichloroethene	10.8	1.0	ug/L	10.00		108	70-130			
1,1-Dichloropropene	9.4	2.0	ug/L	10.00		94	70-130			
1,2,3-Trichlorobenzene	9.0	1.0	ug/L	10.00		90	70-130			
1,2,3-Trichloropropane	8.9	1.0	ug/L	10.00		89	70-130			
1,2,4-Trichlorobenzene	9.3	1.0	ug/L	10.00		93	70-130			
1,2,4-Trimethylbenzene	9.4	1.0	ug/L	10.00		94	70-130			
1,2-Dibromo-3-Chloropropane	7.7	5.0	ug/L	10.00		77	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
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Quality Control Data

8260B Volatile Organic Compounds

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch DD21314 - 5030B										
1,2-Dibromoethane	9.1	1.0	ug/L	10.00		91	70-130			
1,2-Dichlorobenzene	9.2	1.0	ug/L	10.00		92	70-130			
1,2-Dichloroethane	8.8	1.0	ug/L	10.00		88	70-130			
1,2-Dichloropropane	9.0	1.0	ug/L	10.00		90	70-130			
1,3,5-Trimethylbenzene	9.4	1.0	ug/L	10.00		94	70-130			
1,3-Dichlorobenzene	9.2	1.0	ug/L	10.00		92	70-130			
1,3-Dichloropropane	9.2	1.0	ug/L	10.00		92	70-130			
1,4-Dichlorobenzene	9.2	1.0	ug/L	10.00		92	70-130			
1,4-Dioxane - Screen	ND	500	ug/L	200.0		0	0-332			
2,2-Dichloropropane	9.5	1.0	ug/L	10.00		95	70-130			
2-Butanone	45.9	10.0	ug/L	50.00		92	70-130			
2-Chlorotoluene	9.3	1.0	ug/L	10.00		93	70-130			
2-Hexanone	44.8	10.0	ug/L	50.00		90	70-130			
4-Chlorotoluene	9.3	1.0	ug/L	10.00		93	70-130			
4-Isopropyltoluene	8.9	1.0	ug/L	10.00		89	70-130			
4-Methyl-2-Pentanone	45.8	10.0	ug/L	50.00		92	70-130			
Acetone	41.3	10.0	ug/L	50.00		83	70-130			
Benzene	9.4	1.0	ug/L	10.00		94	70-130			
Bromobenzene	9.3	2.0	ug/L	10.00		93	70-130			
Bromochloromethane	9.5	1.0	ug/L	10.00		95	70-130			
Bromodichloromethane	9.3	0.6	ug/L	10.00		93	70-130			
Bromoform	8.6	1.0	ug/L	10.00		86	70-130			
Bromomethane	10.5	2.0	ug/L	10.00		105	70-130			
Carbon Disulfide	9.7	1.0	ug/L	10.00		97	70-130			
Carbon Tetrachloride	9.1	1.0	ug/L	10.00		91	70-130			
Chlorobenzene	9.3	1.0	ug/L	10.00		93	70-130			
Chloroethane	10.1	2.0	ug/L	10.00		101	70-130			
Chloroform	9.2	1.0	ug/L	10.00		92	70-130			
Chloromethane	8.8	2.0	ug/L	10.00		88	70-130			
cis-1,2-Dichloroethene	10.4	1.0	ug/L	10.00		104	70-130			
cis-1,3-Dichloropropene	9.6	0.4	ug/L	10.00		96	70-130			
Dibromochloromethane	9.7	1.0	ug/L	10.00		97	70-130			
Dibromomethane	9.3	1.0	ug/L	10.00		93	70-130			
Dichlorodifluoromethane	9.0	2.0	ug/L	10.00		90	70-130			
Diethyl Ether	10.1	1.0	ug/L	10.00		101	70-130			
Di-isopropyl ether	9.3	1.0	ug/L	10.00		93	70-130			
Ethyl tertiary-butyl ether	9.3	1.0	ug/L	10.00		93	70-130			
Ethylbenzene	9.2	1.0	ug/L	10.00		92	70-130			
Hexachlorobutadiene	8.7	0.6	ug/L	10.00		87	70-130			
Hexachloroethane	8.6	1.0	ug/L	10.00		86	70-130			
Isopropylbenzene	9.4	1.0	ug/L	10.00		94	70-130			
Methyl tert-Butyl Ether	9.6	1.0	ug/L	10.00		96	70-130			
Methylene Chloride	9.2	2.0	ug/L	10.00		92	70-130			
Naphthalene	8.2	1.0	ug/L	10.00		82	70-130			
n-Butylbenzene	9.0	1.0	ug/L	10.00		90	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22D0415

Quality Control Data

8260B Volatile Organic Compounds

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch DD21314 - 5030B										
n-Propylbenzene	9.4	1.0	ug/L	10.00		94	70-130			
sec-Butylbenzene	9.0	1.0	ug/L	10.00		90	70-130			
Styrene	9.1	1.0	ug/L	10.00		91	70-130			
tert-Butylbenzene	9.3	1.0	ug/L	10.00		93	70-130			
Tertiary-amyl methyl ether	9.0	1.0	ug/L	10.00		90	70-130			
Tetrachloroethene	9.3	1.0	ug/L	10.00		93	70-130			
Tetrahydrofuran	10.3	5.0	ug/L	10.00		103	70-130			
Toluene	9.2	1.0	ug/L	10.00		92	70-130			
trans-1,2-Dichloroethene	10.3	1.0	ug/L	10.00		103	70-130			
trans-1,3-Dichloropropene	8.9	0.4	ug/L	10.00		89	70-130			
Trichloroethene	9.1	1.0	ug/L	10.00		91	70-130			
Trichlorofluoromethane	9.8	1.0	ug/L	10.00		98	70-130			
Vinyl Chloride	9.7	1.0	ug/L	10.00		97	70-130			
Xylene O	9.3	1.0	ug/L	10.00		93	70-130			
Xylene P,M	18.7	2.0	ug/L	20.00		93	70-130			
Surrogate: 1,2-Dichloroethane-d4	*25.0*		ug/L	*25.00*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*24.7*		ug/L	*25.00*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*25.2*		ug/L	*25.00*		*101*	*70-130*			
Surrogate: Toluene-d8	*25.1*		ug/L	*25.00*		*101*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	9.2	1.0	ug/L	10.00		92	70-130	2	20	
1,1,1-Trichloroethane	9.1	1.0	ug/L	10.00		91	70-130	0.2	20	
1,1,2,2-Tetrachloroethane	8.7	0.5	ug/L	10.00		87	70-130	3	20	
1,1,2-Trichloroethane	9.0	1.0	ug/L	10.00		90	70-130	2	20	
1,1-Dichloroethane	9.5	1.0	ug/L	10.00		95	70-130	1	20	
1,1-Dichloroethene	11.0	1.0	ug/L	10.00		110	70-130	2	20	
1,1-Dichloropropene	9.4	2.0	ug/L	10.00		94	70-130	0.3	20	
1,2,3-Trichlorobenzene	9.1	1.0	ug/L	10.00		91	70-130	0.6	20	
1,2,3-Trichloropropane	8.7	1.0	ug/L	10.00		87	70-130	2	20	
1,2,4-Trichlorobenzene	9.2	1.0	ug/L	10.00		92	70-130	0.6	20	
1,2,4-Trimethylbenzene	9.4	1.0	ug/L	10.00		94	70-130	0	20	
1,2-Dibromo-3-Chloropropane	7.3	5.0	ug/L	10.00		73	70-130	5	20	
1,2-Dibromoethane	9.1	1.0	ug/L	10.00		91	70-130	0.1	20	
1,2-Dichlorobenzene	9.2	1.0	ug/L	10.00		92	70-130	0.4	20	
1,2-Dichloroethane	9.0	1.0	ug/L	10.00		90	70-130	2	20	
1,2-Dichloropropane	9.2	1.0	ug/L	10.00		92	70-130	2	20	
1,3,5-Trimethylbenzene	9.6	1.0	ug/L	10.00		96	70-130	1	20	
1,3-Dichlorobenzene	9.4	1.0	ug/L	10.00		94	70-130	2	20	
1,3-Dichloropropane	9.2	1.0	ug/L	10.00		92	70-130	0.1	20	
1,4-Dichlorobenzene	9.3	1.0	ug/L	10.00		93	70-130	0.1	20	
1,4-Dioxane - Screen	ND	500	ug/L	200.0		0	0-332	200	200	
2,2-Dichloropropane	9.4	1.0	ug/L	10.00		94	70-130	0.7	20	
2-Butanone	44.8	10.0	ug/L	50.00		90	70-130	2	20	
2-Chlorotoluene	9.4	1.0	ug/L	10.00		94	70-130	0.8	20	
2-Hexanone	43.3	10.0	ug/L	50.00		87	70-130	4	20	

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
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Quality Control Data

8260B Volatile Organic Compounds

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch DD21314 - 5030B										
4-Chlorotoluene	9.2	1.0	ug/L	10.00		92	70-130	0.5	20	
4-Isopropyltoluene	9.2	1.0	ug/L	10.00		92	70-130	3	20	
4-Methyl-2-Pentanone	44.3	10.0	ug/L	50.00		89	70-130	3	20	
Acetone	40.2	10.0	ug/L	50.00		80	70-130	3	20	
Benzene	9.4	1.0	ug/L	10.00		94	70-130	0.5	20	
Bromobenzene	9.2	2.0	ug/L	10.00		92	70-130	0.9	20	
Bromochloromethane	9.4	1.0	ug/L	10.00		94	70-130	1	20	
Bromodichloromethane	9.3	0.6	ug/L	10.00		93	70-130	0.2	20	
Bromoform	8.4	1.0	ug/L	10.00		84	70-130	2	20	
Bromomethane	10.5	2.0	ug/L	10.00		105	70-130	0.09	20	
Carbon Disulfide	9.8	1.0	ug/L	10.00		98	70-130	1	20	
Carbon Tetrachloride	9.2	1.0	ug/L	10.00		92	70-130	0.4	20	
Chlorobenzene	9.4	1.0	ug/L	10.00		94	70-130	1	20	
Chloroethane	10.1	2.0	ug/L	10.00		101	70-130	0.1	20	
Chloroform	9.3	1.0	ug/L	10.00		93	70-130	1	20	
Chloromethane	8.8	2.0	ug/L	10.00		88	70-130	0.6	20	
cis-1,2-Dichloroethene	9.9	1.0	ug/L	10.00		99	70-130	5	20	
cis-1,3-Dichloropropene	9.5	0.4	ug/L	10.00		95	70-130	0.3	20	
Dibromochloromethane	9.4	1.0	ug/L	10.00		94	70-130	3	20	
Dibromomethane	9.3	1.0	ug/L	10.00		93	70-130	0.1	20	
Dichlorodifluoromethane	8.8	2.0	ug/L	10.00		88	70-130	3	20	
Diethyl Ether	10.1	1.0	ug/L	10.00		101	70-130	0.1	20	
Di-isopropyl ether	9.4	1.0	ug/L	10.00		94	70-130	0.5	20	
Ethyl tertiary-butyl ether	9.2	1.0	ug/L	10.00		92	70-130	1	20	
Ethylbenzene	9.3	1.0	ug/L	10.00		93	70-130	0.8	20	
Hexachlorobutadiene	9.4	0.6	ug/L	10.00		94	70-130	7	20	
Hexachloroethane	8.8	1.0	ug/L	10.00		88	70-130	2	20	
Isopropylbenzene	9.4	1.0	ug/L	10.00		94	70-130	0.4	20	
Methyl tert-Butyl Ether	9.5	1.0	ug/L	10.00		95	70-130	1	20	
Methylene Chloride	9.1	2.0	ug/L	10.00		91	70-130	2	20	
Naphthalene	8.0	1.0	ug/L	10.00		80	70-130	2	20	
n-Butylbenzene	9.3	1.0	ug/L	10.00		93	70-130	3	20	
n-Propylbenzene	9.3	1.0	ug/L	10.00		93	70-130	0.4	20	
sec-Butylbenzene	9.1	1.0	ug/L	10.00		91	70-130	2	20	
Styrene	9.2	1.0	ug/L	10.00		92	70-130	1	20	
tert-Butylbenzene	9.4	1.0	ug/L	10.00		94	70-130	1	20	
Tertiary-amyl methyl ether	9.0	1.0	ug/L	10.00		90	70-130	0.4	20	
Tetrachloroethene	9.6	1.0	ug/L	10.00		96	70-130	2	20	
Tetrahydrofuran	10.2	5.0	ug/L	10.00		102	70-130	1	20	
Toluene	9.3	1.0	ug/L	10.00		93	70-130	0.6	20	
trans-1,2-Dichloroethene	10.6	1.0	ug/L	10.00		106	70-130	3	20	
trans-1,3-Dichloropropene	8.9	0.4	ug/L	10.00		89	70-130	0.3	20	
Trichloroethene	9.1	1.0	ug/L	10.00		91	70-130	0.2	20	
Trichlorofluoromethane	9.6	1.0	ug/L	10.00		96	70-130	1	20	
Vinyl Chloride	10.0	1.0	ug/L	10.00		100	70-130	2	20	

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22D0415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DD21314 - 5030B										
Xylene O	9.5	1.0	ug/L	10.00		95	70-130	2	20	
Xylene P,M	18.8	2.0	ug/L	20.00		94	70-130	1	20	
Surrogate: 1,2-Dichloroethane-d4	*25.1*		ug/L	*25.00*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*24.9*		ug/L	*25.00*		*100*	*70-130*			
Surrogate: Dibromofluoromethane	*25.3*		ug/L	*25.00*		*101*	*70-130*			
Surrogate: Toluene-d8	*25.0*		ug/L	*25.00*		*100*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22D0415

Notes and Definitions

U	Analyte included in the analysis, but not detected
Q	Calibration required quadratic regression (Q).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probable Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22D0415

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Campbell Environmental - TB

Shipped/Delivered Via: ESS Courier

ESS Project ID: 22D0415
Date Received: 4/12/2022
Project Due Date: 4/19/2022
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 0 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / NA
10. Were any analyses received outside of hold time? Yes / No

11. Any Subcontracting needed? Yes / No
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA
13. Are the samples properly preserved? Yes / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	277733	Yes	No	Yes	VOA Vial	HCl	
1	277734	Yes	No	Yes	VOA Vial	HCl	
1	277735	Yes	No	Yes	VOA Vial	HCl	
2	277736	Yes	No	Yes	VOA Vial	HCl	
2	277737	Yes	No	Yes	VOA Vial	HCl	
2	277738	Yes	No	Yes	VOA Vial	HCl	
3	277739	Yes	No	Yes	VOA Vial	HCl	
3	277740	Yes	No	Yes	VOA Vial	HCl	
3	277741	Yes	No	Yes	VOA Vial	HCl	

2nd Review
Were all containers scanned into storage/lab? Initials KL Yes / No
Are barcode labels on correct containers? Yes / No / NA
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Campbell Environmental - TB

ESS Project ID: 22D0415
Date Received: 4/12/2022

Completed By: [signature] Date & Time: 4.12.22 1603

Reviewed By: [signature] Date & Time: 1602 4/12/22

185 Frances Avenue
Cranston, RI 02910
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 220415 | Page 1 of 1

Turn Time (Days): ☒ > 5 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: MCP - MA Criteria: GW-2

Is this project for any of the following?:
☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)
☒ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: Campbell Environmental INC
Address: 38 Sunset Drive, Northboro MA 01532
Phone:
Email Distribution List:

PROJECT INFORMATION

Project Name: 10-50 Main Street
Project Location: Ashland MA
Project Number:
Project Manager:
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	VOCs 8260	Total Number of Bottles
1	4-11-22	953	grab	GW	MW-1	X	
2	↓	1050	↓	↓	MW-2	X	
3	↓	1203	↓	↓	MW-3	X	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAcc, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by :

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 0.0

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration
☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	4-12-22		[signature] 4/12/22 11:34	[signature] 4/12/22	15:41		[signature] Taylor Dawes

CERTIFICATE OF ANALYSIS

George Campbell
Campbell Environmental
38 Sunset Drive
Northboro, MA 01532

RE: 10-50 Main Ashland MA (N/A)
ESS Laboratory Work Order Number: 22C0814

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 5:08 pm, Mar 30, 2022

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22C0814

SAMPLE RECEIPT

The following samples were received on March 23, 2022 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Question I: All samples for metals were analyzed for a subset of the required MCP list per the client's request.

Question I: 22C0814-01,-03, and -05 for EPH were analyzed for a subset of the required MCP list per the client's request.

Lab Number	Sample Name	Matrix	Analysis
22C0814-01	C-1 2-10ft	Soil	1010A, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8082A, 8100M, 8260B, 8270D, 9045
22C0814-02	C-2 2-5ft	Soil	6010C, 7471B, 8082A
22C0814-03	C-3 2-10ft	Soil	1010A, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8082A, 8100M, 8260B, 8270D, 9045
22C0814-04	C-4 2-5ft	Soil	6010C, 7471B, 8082A
22C0814-05	C-5 2-10ft	Soil	1010A, 6010C, 7.3.3.2, 7.3.4.1, 7471B, 8082A, 8100M, 8260B, 8270D, 9045
22C0814-06	C-6 2-5ft	Soil	6010C, 7471B, 8082A
22C0814-07	C-7 2-5ft	Soil	6010C, 7471B, 8082A

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22C0814

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Methanol

D2C0492-CCV1 **Continuing Calibration %Diff/Drift is below control limit (CD-).**
Tetrachloroethene (39% @ 20%)

DC22436-BS1 **Blank Spike recovery is below lower control limit (B-).**
Tetrachloroethene (68% @ 70-130%)

DC22436-BSD1 **Blank Spike recovery is below lower control limit (B-).**
Tetrachloroethene (63% @ 70-130%)

8270D Semi-Volatile Organic Compounds

D2C0474-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (77% @ 80-120%)

D2C0474-CCV1 **Continuing Calibration %Diff/Drift is below control limit (CD-).**
2,4-Dinitrophenol (23% @ 20%), 4-Nitrophenol (24% @ 20%), N-Nitrosodimethylamine (35% @ 20%), Phenol (21% @ 20%)

D2C0474-CCV1 **Initial Calibration Verification recovery is below lower control limit (ICV-).**
Aniline

D2C0499-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (112% @ 80-120%), Pentachlorophenol (106% @ 80-120%)

D2C0499-CCV1 **Initial Calibration Verification recovery is below lower control limit (ICV-).**
Aniline

DC22309-BS1 **Blank Spike recovery is below lower control limit (B-).**
Aniline (30% @ 40-140%)

DC22309-BSD1 **Blank Spike recovery is below lower control limit (B-).**
Aniline (37% @ 40-140%)

Total Metals

22C0814-02 **Elevated Method Reporting Limits due to sample matrix (EL).**
Silver

22C0814-07 **Elevated Method Reporting Limits due to sample matrix (EL).**
Silver

No other observations noted.

End of Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22C0814

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22C0814

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **22C0814-01 through 22C0814-07**

Matrices: ( ) Ground Water/Surface Water (x) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

(x) 8260 VOC CAM II A	(x) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(x) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
(x) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(x) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	(x) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (x) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (x) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (x) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (x) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes (x) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (x) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes ( ) No (x)*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (x)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (x)*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard Date: March 30, 2022

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-1 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 84

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-01
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**5.24** (2.36)		6010C		1	KJK	03/24/22 18:36	2.54	100	DC22344
Barium	**37.9** (2.36)		6010C		1	KJK	03/24/22 18:36	2.54	100	DC22344
Cadmium	ND (0.47)		6010C		1	KJK	03/24/22 18:36	2.54	100	DC22344
Chromium	**13.0** (0.94)		6010C		1	KJK	03/24/22 18:36	2.54	100	DC22344
Lead	**59.3** (4.71)		6010C		1	KJK	03/24/22 18:36	2.54	100	DC22344
Mercury	**0.305** (0.039)		7471B		1	YIV	03/24/22 13:20	0.6	40	DC22418
Selenium	ND (4.71)		6010C		1	KJK	03/24/22 18:36	2.54	100	DC22344
Silver	ND (0.94)		6010C		2	KJK	03/24/22 20:24	2.54	100	DC22344

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-1 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 84
Initial Volume: 32
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
1,1,1-Trichloroethane	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
1,1,2,2-Tetrachloroethane	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
1,1,2-Trichloroethane	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
1,1-Dichloroethane	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
1,1-Dichloroethene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
1,1-Dichloropropene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
1,2,3-Trichlorobenzene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
1,2,3-Trichloropropane	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
1,2,4-Trichlorobenzene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
1,2,4-Trimethylbenzene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
1,2-Dibromo-3-Chloropropane	ND (0.758)		8260B		1	03/24/22 13:56	D2C0492	DC22436
1,2-Dibromoethane	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
1,2-Dichlorobenzene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
1,2-Dichloroethane	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
1,2-Dichloropropane	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
1,3,5-Trimethylbenzene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
1,3-Dichlorobenzene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
1,3-Dichloropropane	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
1,4-Dichlorobenzene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
1,4-Dioxane - Screen	ND (30.3)		8260B		1	03/24/22 13:56	D2C0492	DC22436
2,2-Dichloropropane	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
2-Butanone	ND (0.758)		8260B		1	03/24/22 13:56	D2C0492	DC22436
2-Chlorotoluene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
2-Hexanone	ND (0.758)		8260B		1	03/24/22 13:56	D2C0492	DC22436
4-Chlorotoluene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
4-Isopropyltoluene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
4-Methyl-2-Pentanone	ND (0.758)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Acetone	ND (0.758)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Benzene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Bromobenzene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Bromochloromethane	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-1 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 84
Initial Volume: 32
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Bromoform	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Bromomethane	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Carbon Disulfide	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Carbon Tetrachloride	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Chlorobenzene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Chloroethane	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Chloroform	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Chloromethane	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
cis-1,2-Dichloroethene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
cis-1,3-Dichloropropene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Dibromochloromethane	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Dibromomethane	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Dichlorodifluoromethane	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Diethyl Ether	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Di-isopropyl ether	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Ethyl tertiary-butyl ether	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Ethylbenzene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Hexachlorobutadiene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Isopropylbenzene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Methyl tert-Butyl Ether	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Methylene Chloride	ND (0.303)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Naphthalene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
n-Butylbenzene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
n-Propylbenzene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
sec-Butylbenzene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Styrene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
tert-Butylbenzene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Tertiary-amyl methyl ether	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Tetrachloroethene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Tetrahydrofuran	ND (0.758)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Toluene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-1 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 84
Initial Volume: 32
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
trans-1,3-Dichloropropene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Trichloroethene	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Trichlorofluoromethane	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Vinyl Chloride	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Xylene O	ND (0.152)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Xylene P,M	ND (0.303)		8260B		1	03/24/22 13:56	D2C0492	DC22436
Xylenes (Total)	ND (0.303)		8260B		1	03/24/22 13:56		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*113 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*113 %*		*70-130*
Surrogate: Dibromofluoromethane	*119 %*		*70-130*
Surrogate: Toluene-d8	*117 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-1 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 84
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JLG
Prepared: 3/23/22 18:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	03/24/22 17:38		DC22304
Aroclor 1221	ND (0.06)		8082A		1	03/24/22 17:38		DC22304
Aroclor 1232	ND (0.06)		8082A		1	03/24/22 17:38		DC22304
Aroclor 1242	ND (0.06)		8082A		1	03/24/22 17:38		DC22304
Aroclor 1248	ND (0.06)		8082A		1	03/24/22 17:38		DC22304
Aroclor 1254	ND (0.06)		8082A		1	03/24/22 17:38		DC22304
Aroclor 1260	ND (0.06)		8082A		1	03/24/22 17:38		DC22304
Aroclor 1262	ND (0.06)		8082A		1	03/24/22 17:38		DC22304
Aroclor 1268	ND (0.06)		8082A		1	03/24/22 17:38		DC22304

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*95 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*95 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*106 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-1 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 84
Initial Volume: 20.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TLW
Prepared: 3/23/22 17:55

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	ND (11.9)		8100M		1	03/24/22 23:23	D2C0503	DC22308

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*74 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-1 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 84
Initial Volume: 15.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/23/22 19:15

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1-Biphenyl	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
1,2,4-Trichlorobenzene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
1,2-Dichlorobenzene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
1,3-Dichlorobenzene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
1,4-Dichlorobenzene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
2,4,5-Trichlorophenol	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
2,4,6-Trichlorophenol	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
2,4-Dichlorophenol	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
2,4-Dimethylphenol	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
2,4-Dinitrophenol	ND (1.93)		8270D		1	03/24/22 19:48	D2C0499	DC22309
2,4-Dinitrotoluene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
2,6-Dinitrotoluene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
2-Chloronaphthalene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
2-Chlorophenol	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
2-Methylnaphthalene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
2-Methylphenol	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
2-Nitrophenol	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
3,3′-Dichlorobenzidine	ND (0.773)		8270D		1	03/24/22 19:48	D2C0499	DC22309
3+4-Methylphenol	ND (0.773)		8270D		1	03/24/22 19:48	D2C0499	DC22309
4-Bromophenyl-phenylether	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
4-Chloroaniline	ND (0.773)		8270D		1	03/24/22 19:48	D2C0499	DC22309
4-Nitrophenol	ND (1.93)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Acenaphthene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Acenaphthylene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Acetophenone	ND (0.773)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Aniline	ND (1.93)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Anthracene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Azobenzene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Benzo(a)anthracene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Benzo(a)pyrene	ND (0.193)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Benzo(b)fluoranthene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Benzo(g,h,i)perylene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-1 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 84
Initial Volume: 15.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/23/22 19:15

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Benzo(k)fluoranthene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
bis(2-Chloroethoxy)methane	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
bis(2-Chloroethyl)ether	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
bis(2-chloroisopropyl)Ether	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
bis(2-Ethylhexyl)phthalate	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Butylbenzylphthalate	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Chrysene	ND (0.193)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Dibenzo(a,h)Anthracene	ND (0.193)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Dibenzofuran	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Diethylphthalate	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Dimethylphthalate	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Di-n-butylphthalate	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Di-n-octylphthalate	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Fluoranthene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Fluorene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Hexachlorobenzene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Hexachlorobutadiene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Hexachloroethane	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Indeno(1,2,3-cd)Pyrene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Isophorone	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Naphthalene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Nitrobenzene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
N-Nitrosodimethylamine	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Pentachlorophenol	ND (1.93)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Phenanthrene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Phenol	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309
Pyrene	ND (0.386)		8270D		1	03/24/22 19:48	D2C0499	DC22309

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*69 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*83 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*78 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-1 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 84
Initial Volume: 15.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/23/22 19:15

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorobiphenyl		*74 %*		*30-130*				
Surrogate: 2-Fluorophenol		*81 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*73 %*		*30-130*				
Surrogate: Phenol-d6		*81 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*89 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-1 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 84

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-01
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**6.52** (N/A)		9045		1	EAM	03/23/22 19:35	S.U.	DC22324
Flashpoint	**> 200** (N/A)		1010A		1	EAM	03/27/22 18:35	°F	DC22448
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	03/24/22 15:39	mg/kg	DC22447
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	03/24/22 15:39	mg/kg	DC22447

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-2 2-5ft
Date Sampled: 03/22/22 00:00
Percent Solids: 73

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-02
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**5.30** (2.67)		6010C		1	KJK	03/24/22 18:38	2.57	100	DC22344
Barium	**51.0** (2.67)		6010C		1	KJK	03/24/22 18:38	2.57	100	DC22344
Cadmium	ND (0.53)		6010C		1	KJK	03/24/22 18:38	2.57	100	DC22344
Chromium	**13.5** (1.07)		6010C		1	KJK	03/24/22 18:38	2.57	100	DC22344
Lead	**147** (5.33)		6010C		1	KJK	03/24/22 18:38	2.57	100	DC22344
Mercury	**0.065** (0.045)		7471B		1	YIV	03/24/22 13:22	0.6	40	DC22418
Selenium	ND (5.33)		6010C		1	KJK	03/24/22 18:38	2.57	100	DC22344
Silver	**EL** ND (1.07)		6010C		2	KJK	03/24/22 20:40	2.57	100	DC22344

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-2 2-5ft
Date Sampled: 03/22/22 00:00
Percent Solids: 73
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JLG
Prepared: 3/23/22 18:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	03/24/22 17:58		DC22304
Aroclor 1221	ND (0.07)		8082A		1	03/24/22 17:58		DC22304
Aroclor 1232	ND (0.07)		8082A		1	03/24/22 17:58		DC22304
Aroclor 1242	ND (0.07)		8082A		1	03/24/22 17:58		DC22304
Aroclor 1248	ND (0.07)		8082A		1	03/24/22 17:58		DC22304
Aroclor 1254	ND (0.07)		8082A		1	03/24/22 17:58		DC22304
Aroclor 1260	ND (0.07)		8082A		1	03/24/22 17:58		DC22304
Aroclor 1262	ND (0.07)		8082A		1	03/24/22 17:58		DC22304
Aroclor 1268	ND (0.07)		8082A		1	03/24/22 17:58		DC22304

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*85 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*74 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*82 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-3 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 89

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-03
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	ND (2.11)		6010C		1	KJK	03/24/22 18:40	2.65	100	DC22344
Barium	**24.4** (2.11)		6010C		1	KJK	03/24/22 18:40	2.65	100	DC22344
Cadmium	ND (0.42)		6010C		1	KJK	03/24/22 18:40	2.65	100	DC22344
Chromium	**7.94** (0.85)		6010C		1	KJK	03/24/22 18:40	2.65	100	DC22344
Lead	ND (4.23)		6010C		1	KJK	03/24/22 18:40	2.65	100	DC22344
Mercury	ND (0.037)		7471B		1	YIV	03/24/22 13:25	0.6	40	DC22418
Selenium	ND (4.23)		6010C		1	KJK	03/24/22 18:40	2.65	100	DC22344
Silver	ND (0.85)		6010C		2	KJK	03/24/22 20:42	2.65	100	DC22344

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-3 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 89
Initial Volume: 44
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
1,1,1-Trichloroethane	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
1,1,2,2-Tetrachloroethane	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
1,1,2-Trichloroethane	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
1,1-Dichloroethane	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
1,1-Dichloroethene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
1,1-Dichloropropene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
1,2,3-Trichlorobenzene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
1,2,3-Trichloropropane	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
1,2,4-Trichlorobenzene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
1,2,4-Trimethylbenzene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
1,2-Dibromo-3-Chloropropane	ND (0.502)		8260B		1	03/24/22 14:23	D2C0492	DC22436
1,2-Dibromoethane	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
1,2-Dichlorobenzene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
1,2-Dichloroethane	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
1,2-Dichloropropane	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
1,3,5-Trimethylbenzene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
1,3-Dichlorobenzene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
1,3-Dichloropropane	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
1,4-Dichlorobenzene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
1,4-Dioxane - Screen	ND (20.1)		8260B		1	03/24/22 14:23	D2C0492	DC22436
2,2-Dichloropropane	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
2-Butanone	ND (0.502)		8260B		1	03/24/22 14:23	D2C0492	DC22436
2-Chlorotoluene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
2-Hexanone	ND (0.502)		8260B		1	03/24/22 14:23	D2C0492	DC22436
4-Chlorotoluene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
4-Isopropyltoluene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
4-Methyl-2-Pentanone	ND (0.502)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Acetone	ND (0.502)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Benzene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Bromobenzene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Bromochloromethane	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-3 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 89
Initial Volume: 44
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Bromoform	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Bromomethane	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Carbon Disulfide	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Carbon Tetrachloride	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Chlorobenzene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Chloroethane	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Chloroform	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Chloromethane	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
cis-1,2-Dichloroethene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
cis-1,3-Dichloropropene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Dibromochloromethane	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Dibromomethane	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Dichlorodifluoromethane	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Diethyl Ether	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Di-isopropyl ether	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Ethyl tertiary-butyl ether	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Ethylbenzene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Hexachlorobutadiene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Isopropylbenzene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Methyl tert-Butyl Ether	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Methylene Chloride	ND (0.201)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Naphthalene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
n-Butylbenzene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
n-Propylbenzene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
sec-Butylbenzene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Styrene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
tert-Butylbenzene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Tertiary-amyl methyl ether	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Tetrachloroethene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Tetrahydrofuran	ND (0.502)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Toluene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-3 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 89
Initial Volume: 44
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
trans-1,3-Dichloropropene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Trichloroethene	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Trichlorofluoromethane	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Vinyl Chloride	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Xylene O	ND (0.100)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Xylene P,M	ND (0.201)		8260B		1	03/24/22 14:23	D2C0492	DC22436
Xylenes (Total)	ND (0.201)		8260B		1	03/24/22 14:23		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*100 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*97 %*		*70-130*
Surrogate: Dibromofluoromethane	*105 %*		*70-130*
Surrogate: Toluene-d8	*100 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-3 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 89
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JLG
Prepared: 3/23/22 18:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	03/24/22 18:17		DC22304
Aroclor 1221	ND (0.06)		8082A		1	03/24/22 18:17		DC22304
Aroclor 1232	ND (0.06)		8082A		1	03/24/22 18:17		DC22304
Aroclor 1242	ND (0.06)		8082A		1	03/24/22 18:17		DC22304
Aroclor 1248	ND (0.06)		8082A		1	03/24/22 18:17		DC22304
Aroclor 1254	ND (0.06)		8082A		1	03/24/22 18:17		DC22304
Aroclor 1260	ND (0.06)		8082A		1	03/24/22 18:17		DC22304
Aroclor 1262	ND (0.06)		8082A		1	03/24/22 18:17		DC22304
Aroclor 1268	ND (0.06)		8082A		1	03/24/22 18:17		DC22304

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*104 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*95 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*95 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*103 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-3 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 89
Initial Volume: 20.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TLW
Prepared: 3/23/22 17:55

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	ND (10.9)		8100M		1	03/24/22 21:06	D2C0505	DC22308

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*83 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-3 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 89
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/23/22 19:15

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1-Biphenyl	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
1,2,4-Trichlorobenzene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
1,2-Dichlorobenzene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
1,3-Dichlorobenzene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
1,4-Dichlorobenzene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
2,4,5-Trichlorophenol	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
2,4,6-Trichlorophenol	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
2,4-Dichlorophenol	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
2,4-Dimethylphenol	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
2,4-Dinitrophenol	ND (1.82)		8270D		1	03/24/22 20:20	D2C0499	DC22309
2,4-Dinitrotoluene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
2,6-Dinitrotoluene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
2-Chloronaphthalene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
2-Chlorophenol	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
2-Methylnaphthalene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
2-Methylphenol	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
2-Nitrophenol	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
3,3′-Dichlorobenzidine	ND (0.728)		8270D		1	03/24/22 20:20	D2C0499	DC22309
3+4-Methylphenol	ND (0.728)		8270D		1	03/24/22 20:20	D2C0499	DC22309
4-Bromophenyl-phenylether	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
4-Chloroaniline	ND (0.728)		8270D		1	03/24/22 20:20	D2C0499	DC22309
4-Nitrophenol	ND (1.82)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Acenaphthene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Acenaphthylene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Acetophenone	ND (0.728)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Aniline	ND (1.82)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Anthracene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Azobenzene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Benzo(a)anthracene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Benzo(a)pyrene	ND (0.182)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Benzo(b)fluoranthene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Benzo(g,h,i)perylene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-3 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 89
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/23/22 19:15

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Benzo(k)fluoranthene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
bis(2-Chloroethoxy)methane	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
bis(2-Chloroethyl)ether	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
bis(2-chloroisopropyl)Ether	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
bis(2-Ethylhexyl)phthalate	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Butylbenzylphthalate	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Chrysene	ND (0.182)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Dibenzo(a,h)Anthracene	ND (0.182)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Dibenzofuran	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Diethylphthalate	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Dimethylphthalate	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Di-n-butylphthalate	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Di-n-octylphthalate	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Fluoranthene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Fluorene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Hexachlorobenzene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Hexachlorobutadiene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Hexachloroethane	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Indeno(1,2,3-cd)Pyrene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Isophorone	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Naphthalene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Nitrobenzene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
N-Nitrosodimethylamine	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Pentachlorophenol	ND (1.82)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Phenanthrene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Phenol	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309
Pyrene	ND (0.363)		8270D		1	03/24/22 20:20	D2C0499	DC22309

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*72 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*84 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*80 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-3 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 89
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/23/22 19:15

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorobiphenyl		*83 %*		*30-130*				
Surrogate: 2-Fluorophenol		*87 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*80 %*		*30-130*				
Surrogate: Phenol-d6		*83 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*101 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-3 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 89

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-03
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**5.49** (N/A)		9045		1	EAM	03/23/22 19:35	S.U.	DC22324
Flashpoint	**> 200** (N/A)		1010A		1	EAM	03/29/22 18:35	°F	DC22448
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	03/24/22 15:39	mg/kg	DC22447
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	03/24/22 15:39	mg/kg	DC22447

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-4 2-5ft
Date Sampled: 03/22/22 00:00
Percent Solids: 81

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-04
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**3.81** (2.35)		6010C		1	KJK	03/24/22 18:41	2.63	100	DC22344
Barium	**28.1** (2.35)		6010C		1	KJK	03/24/22 18:41	2.63	100	DC22344
Cadmium	ND (0.47)		6010C		1	KJK	03/24/22 18:41	2.63	100	DC22344
Chromium	**11.2** (0.94)		6010C		1	KJK	03/24/22 18:41	2.63	100	DC22344
Lead	**9.05** (4.71)		6010C		1	KJK	03/24/22 18:41	2.63	100	DC22344
Mercury	ND (0.041)		7471B		1	YIV	03/24/22 13:27	0.6	40	DC22418
Selenium	ND (4.71)		6010C		1	KJK	03/24/22 18:41	2.63	100	DC22344
Silver	ND (0.94)		6010C		2	KJK	03/24/22 20:44	2.63	100	DC22344

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-4 2-5ft
Date Sampled: 03/22/22 00:00
Percent Solids: 81
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JLG
Prepared: 3/23/22 18:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	03/24/22 18:37		DC22304
Aroclor 1221	ND (0.06)		8082A		1	03/24/22 18:37		DC22304
Aroclor 1232	ND (0.06)		8082A		1	03/24/22 18:37		DC22304
Aroclor 1242	ND (0.06)		8082A		1	03/24/22 18:37		DC22304
Aroclor 1248	ND (0.06)		8082A		1	03/24/22 18:37		DC22304
Aroclor 1254	ND (0.06)		8082A		1	03/24/22 18:37		DC22304
Aroclor 1260	ND (0.06)		8082A		1	03/24/22 18:37		DC22304
Aroclor 1262	ND (0.06)		8082A		1	03/24/22 18:37		DC22304
Aroclor 1268	ND (0.06)		8082A		1	03/24/22 18:37		DC22304

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*95 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*99 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-5 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 89

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-05
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	ND (2.23)		6010C		1	KJK	03/24/22 18:43	2.52	100	DC22344
Barium	**22.5** (2.23)		6010C		1	KJK	03/24/22 18:43	2.52	100	DC22344
Cadmium	ND (0.45)		6010C		1	KJK	03/24/22 18:43	2.52	100	DC22344
Chromium	**8.64** (0.89)		6010C		1	KJK	03/24/22 18:43	2.52	100	DC22344
Lead	ND (4.46)		6010C		1	KJK	03/24/22 18:43	2.52	100	DC22344
Mercury	ND (0.037)		7471B		1	YIV	03/24/22 13:29	0.6	40	DC22418
Selenium	ND (4.46)		6010C		1	KJK	03/24/22 18:43	2.52	100	DC22344
Silver	ND (0.89)		6010C		2	KJK	03/24/22 20:45	2.52	100	DC22344

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-5 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 89
Initial Volume: 34.5
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
1,1,1-Trichloroethane	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
1,1,2,2-Tetrachloroethane	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
1,1,2-Trichloroethane	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
1,1-Dichloroethane	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
1,1-Dichloroethene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
1,1-Dichloropropene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
1,2,3-Trichlorobenzene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
1,2,3-Trichloropropane	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
1,2,4-Trichlorobenzene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
1,2,4-Trimethylbenzene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
1,2-Dibromo-3-Chloropropane	ND (0.614)		8260B		1	03/24/22 14:50	D2C0492	DC22436
1,2-Dibromoethane	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
1,2-Dichlorobenzene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
1,2-Dichloroethane	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
1,2-Dichloropropane	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
1,3,5-Trimethylbenzene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
1,3-Dichlorobenzene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
1,3-Dichloropropane	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
1,4-Dichlorobenzene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
1,4-Dioxane - Screen	ND (24.6)		8260B		1	03/24/22 14:50	D2C0492	DC22436
2,2-Dichloropropane	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
2-Butanone	ND (0.614)		8260B		1	03/24/22 14:50	D2C0492	DC22436
2-Chlorotoluene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
2-Hexanone	ND (0.614)		8260B		1	03/24/22 14:50	D2C0492	DC22436
4-Chlorotoluene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
4-Isopropyltoluene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
4-Methyl-2-Pentanone	ND (0.614)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Acetone	ND (0.614)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Benzene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Bromobenzene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Bromochloromethane	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-5 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 89
Initial Volume: 34.5
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Bromoform	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Bromomethane	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Carbon Disulfide	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Carbon Tetrachloride	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Chlorobenzene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Chloroethane	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Chloroform	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Chloromethane	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
cis-1,2-Dichloroethene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
cis-1,3-Dichloropropene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Dibromochloromethane	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Dibromomethane	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Dichlorodifluoromethane	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Diethyl Ether	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Di-isopropyl ether	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Ethyl tertiary-butyl ether	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Ethylbenzene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Hexachlorobutadiene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Isopropylbenzene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Methyl tert-Butyl Ether	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Methylene Chloride	ND (0.246)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Naphthalene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
n-Butylbenzene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
n-Propylbenzene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
sec-Butylbenzene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Styrene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
tert-Butylbenzene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Tertiary-amyl methyl ether	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Tetrachloroethene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Tetrahydrofuran	ND (0.614)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Toluene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-5 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 89
Initial Volume: 34.5
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
trans-1,3-Dichloropropene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Trichloroethene	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Trichlorofluoromethane	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Vinyl Chloride	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Xylene O	ND (0.123)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Xylene P,M	ND (0.246)		8260B		1	03/24/22 14:50	D2C0492	DC22436
Xylenes (Total)	ND (0.246)		8260B		1	03/24/22 14:50		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*95 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*92 %*		*70-130*
Surrogate: Dibromofluoromethane	*96 %*		*70-130*
Surrogate: Toluene-d8	*95 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-5 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 89
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JLG
Prepared: 3/23/22 18:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	03/24/22 18:57		DC22304
Aroclor 1221	ND (0.05)		8082A		1	03/24/22 18:57		DC22304
Aroclor 1232	ND (0.05)		8082A		1	03/24/22 18:57		DC22304
Aroclor 1242	ND (0.05)		8082A		1	03/24/22 18:57		DC22304
Aroclor 1248	ND (0.05)		8082A		1	03/24/22 18:57		DC22304
Aroclor 1254	ND (0.05)		8082A		1	03/24/22 18:57		DC22304
Aroclor 1260	ND (0.05)		8082A		1	03/24/22 18:57		DC22304
Aroclor 1262	ND (0.05)		8082A		1	03/24/22 18:57		DC22304
Aroclor 1268	ND (0.05)		8082A		1	03/24/22 18:57		DC22304

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*98 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*97 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*105 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-5 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 89
Initial Volume: 20.4
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TLW
Prepared: 3/23/22 17:55

8100M Total Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Total Petroleum Hydrocarbons	ND (11.0)		8100M		1	03/24/22 21:40	D2C0505	DC22308

	%Recovery	Qualifier	Limits
Surrogate: O-Terphenyl	*79 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-5 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 89
Initial Volume: 14.8
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/23/22 19:15

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1-Biphenyl	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
1,2,4-Trichlorobenzene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
1,2-Dichlorobenzene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
1,3-Dichlorobenzene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
1,4-Dichlorobenzene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
2,4,5-Trichlorophenol	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
2,4,6-Trichlorophenol	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
2,4-Dichlorophenol	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
2,4-Dimethylphenol	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
2,4-Dinitrophenol	ND (1.90)		8270D		1	03/24/22 20:52	D2C0499	DC22309
2,4-Dinitrotoluene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
2,6-Dinitrotoluene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
2-Chloronaphthalene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
2-Chlorophenol	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
2-Methylnaphthalene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
2-Methylphenol	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
2-Nitrophenol	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
3,3′-Dichlorobenzidine	ND (0.761)		8270D		1	03/24/22 20:52	D2C0499	DC22309
3+4-Methylphenol	ND (0.761)		8270D		1	03/24/22 20:52	D2C0499	DC22309
4-Bromophenyl-phenylether	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
4-Chloroaniline	ND (0.761)		8270D		1	03/24/22 20:52	D2C0499	DC22309
4-Nitrophenol	ND (1.90)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Acenaphthene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Acenaphthylene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Acetophenone	ND (0.761)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Aniline	ND (1.90)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Anthracene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Azobenzene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Benzo(a)anthracene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Benzo(a)pyrene	ND (0.190)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Benzo(b)fluoranthene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Benzo(g,h,i)perylene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-5 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 89
Initial Volume: 14.8
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/23/22 19:15

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Benzo(k)fluoranthene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
bis(2-Chloroethoxy)methane	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
bis(2-Chloroethyl)ether	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
bis(2-chloroisopropyl)Ether	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
bis(2-Ethylhexyl)phthalate	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Butylbenzylphthalate	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Chrysene	ND (0.190)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Dibenzo(a,h)Anthracene	ND (0.190)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Dibenzofuran	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Diethylphthalate	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Dimethylphthalate	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Di-n-butylphthalate	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Di-n-octylphthalate	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Fluoranthene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Fluorene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Hexachlorobenzene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Hexachlorobutadiene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Hexachloroethane	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Indeno(1,2,3-cd)Pyrene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Isophorone	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Naphthalene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Nitrobenzene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
N-Nitrosodimethylamine	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Pentachlorophenol	ND (1.90)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Phenanthrene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Phenol	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309
Pyrene	ND (0.380)		8270D		1	03/24/22 20:52	D2C0499	DC22309

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*74 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*82 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*82 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-5 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 89
Initial Volume: 14.8
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 3/23/22 19:15

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Surrogate: 2-Fluorobiphenyl		*79 %*		*30-130*				
Surrogate: 2-Fluorophenol		*86 %*		*30-130*				
Surrogate: Nitrobenzene-d5		*77 %*		*30-130*				
Surrogate: Phenol-d6		*84 %*		*30-130*				
Surrogate: p-Terphenyl-d14		*97 %*		*30-130*				

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-5 2-10ft
Date Sampled: 03/22/22 00:00
Percent Solids: 89

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-05
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**5.76** (N/A)		9045		1	EAM	03/23/22 19:35	S.U.	DC22324
Flashpoint	**> 200** (N/A)		1010A		1	EAM	03/30/22 18:35	°F	DC22448
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	03/24/22 15:39	mg/kg	DC22447
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	03/24/22 15:39	mg/kg	DC22447

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-6 2-5ft
Date Sampled: 03/22/22 00:00
Percent Solids: 92

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-06
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**3.15** (2.10)		6010C		1	KJK	03/24/22 18:45	2.58	100	DC22344
Barium	**22.1** (2.10)		6010C		1	KJK	03/24/22 18:45	2.58	100	DC22344
Cadmium	ND (0.42)		6010C		1	KJK	03/24/22 18:45	2.58	100	DC22344
Chromium	**7.80** (0.84)		6010C		1	KJK	03/24/22 18:45	2.58	100	DC22344
Lead	**13.3** (4.20)		6010C		1	KJK	03/24/22 18:45	2.58	100	DC22344
Mercury	ND (0.036)		7471B		1	YIV	03/24/22 13:31	0.6	40	DC22418
Selenium	ND (4.20)		6010C		1	KJK	03/24/22 18:45	2.58	100	DC22344
Silver	ND (0.84)		6010C		2	KJK	03/24/22 20:47	2.58	100	DC22344

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-6 2-5ft
Date Sampled: 03/22/22 00:00
Percent Solids: 92
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JLG
Prepared: 3/23/22 18:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	03/24/22 19:16		DC22304
Aroclor 1221	ND (0.05)		8082A		1	03/24/22 19:16		DC22304
Aroclor 1232	ND (0.05)		8082A		1	03/24/22 19:16		DC22304
Aroclor 1242	ND (0.05)		8082A		1	03/24/22 19:16		DC22304
Aroclor 1248	ND (0.05)		8082A		1	03/24/22 19:16		DC22304
Aroclor 1254	ND (0.05)		8082A		1	03/24/22 19:16		DC22304
Aroclor 1260	ND (0.05)		8082A		1	03/24/22 19:16		DC22304
Aroclor 1262	ND (0.05)		8082A		1	03/24/22 19:16		DC22304
Aroclor 1268	ND (0.05)		8082A		1	03/24/22 19:16		DC22304

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*98 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*97 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*107 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-7 2-5ft
Date Sampled: 03/22/22 00:00
Percent Solids: 80

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-07
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**4.27** (2.65)		6010C		1	KJK	03/24/22 18:53	2.37	100	DC22344
Barium	**29.9** (2.65)		6010C		1	KJK	03/24/22 18:53	2.37	100	DC22344
Cadmium	ND (0.53)		6010C		1	KJK	03/24/22 18:53	2.37	100	DC22344
Chromium	**14.1** (1.06)		6010C		1	KJK	03/24/22 18:53	2.37	100	DC22344
Lead	**49.4** (5.30)		6010C		1	KJK	03/24/22 18:53	2.37	100	DC22344
Mercury	**0.048** (0.041)		7471B		1	YIV	03/24/22 13:34	0.6	40	DC22418
Selenium	ND (5.30)		6010C		1	KJK	03/24/22 18:53	2.37	100	DC22344
Silver	**EL** ND (1.06)		6010C		2	KJK	03/24/22 20:49	2.37	100	DC22344

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-7 2-5ft
Date Sampled: 03/22/22 00:00
Percent Solids: 80
Initial Volume: 20.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 22C0814
ESS Laboratory Sample ID: 22C0814-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JLG
Prepared: 3/23/22 18:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	03/24/22 19:36		DC22304
Aroclor 1221	ND (0.06)		8082A		1	03/24/22 19:36		DC22304
Aroclor 1232	ND (0.06)		8082A		1	03/24/22 19:36		DC22304
Aroclor 1242	ND (0.06)		8082A		1	03/24/22 19:36		DC22304
Aroclor 1248	ND (0.06)		8082A		1	03/24/22 19:36		DC22304
Aroclor 1254	ND (0.06)		8082A		1	03/24/22 19:36		DC22304
Aroclor 1260	ND (0.06)		8082A		1	03/24/22 19:36		DC22304
Aroclor 1262	ND (0.06)		8082A		1	03/24/22 19:36		DC22304
Aroclor 1268	ND (0.06)		8082A		1	03/24/22 19:36		DC22304

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*84 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22C0814

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch DC22344 - 3050B										
Blank										
Arsenic	ND	2.50	mg/kg wet							
Barium	ND	2.50	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Selenium	ND	5.00	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
LCS										
Arsenic	88.3	9.43	mg/kg wet	93.10		95	80-120			
Barium	702	9.43	mg/kg wet	690.0		102	80-120			
Cadmium	291	1.89	mg/kg wet	301.0		97	80-120			
Chromium	317	3.77	mg/kg wet	326.0		97	80-120			
Lead	196	18.9	mg/kg wet	192.0		102	80-120			
Selenium	249	18.9	mg/kg wet	270.0		92	80-120			
Silver	62.9	1.89	mg/kg wet	63.70		99	80-120			
LCS Dup										
Arsenic	90.2	8.93	mg/kg wet	93.10		97	80-120	2	20	
Barium	644	8.93	mg/kg wet	690.0		93	80-120	9	20	
Cadmium	287	1.79	mg/kg wet	301.0		95	80-120	1	20	
Chromium	313	3.57	mg/kg wet	326.0		96	80-120	1	20	
Lead	197	17.9	mg/kg wet	192.0		102	80-120	0.5	20	
Selenium	251	17.9	mg/kg wet	270.0		93	80-120	0.8	20	
Silver	62.0	1.79	mg/kg wet	63.70		97	80-120	1	20	
Batch DC22418 - 3050B										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	9.62	1.52	mg/kg wet	11.00		87	80-120			
LCS Dup										
Mercury	9.47	1.50	mg/kg wet	11.00		86	80-120	2	20	
5035/8260B Volatile Organic Compounds / Methanol										
Batch DC22436 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.200	mg/kg wet							
1,1,1-Trichloroethane	ND	0.200	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.200	mg/kg wet							
1,1,2-Trichloroethane	ND	0.200	mg/kg wet							
1,1-Dichloroethane	ND	0.200	mg/kg wet							
1,1-Dichloroethene	ND	0.200	mg/kg wet							
1,1-Dichloropropene	ND	0.200	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.200	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22C0814

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DC22436 - 5035										
1,2,3-Trichloropropane	ND	0.200	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.200	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.200	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	1.00	mg/kg wet							
1,2-Dibromoethane	ND	0.200	mg/kg wet							
1,2-Dichlorobenzene	ND	0.200	mg/kg wet							
1,2-Dichloroethane	ND	0.200	mg/kg wet							
1,2-Dichloropropane	ND	0.200	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.200	mg/kg wet							
1,3-Dichlorobenzene	ND	0.200	mg/kg wet							
1,3-Dichloropropane	ND	0.200	mg/kg wet							
1,4-Dichlorobenzene	ND	0.200	mg/kg wet							
1,4-Dioxane - Screen	ND	40.0	mg/kg wet							
2,2-Dichloropropane	ND	0.200	mg/kg wet							
2-Butanone	ND	1.00	mg/kg wet							
2-Chlorotoluene	ND	0.200	mg/kg wet							
2-Hexanone	ND	1.00	mg/kg wet							
4-Chlorotoluene	ND	0.200	mg/kg wet							
4-Isopropyltoluene	ND	0.200	mg/kg wet							
4-Methyl-2-Pentanone	ND	1.00	mg/kg wet							
Acetone	ND	1.00	mg/kg wet							
Benzene	ND	0.200	mg/kg wet							
Bromobenzene	ND	0.200	mg/kg wet							
Bromochloromethane	ND	0.200	mg/kg wet							
Bromodichloromethane	ND	0.200	mg/kg wet							
Bromoform	ND	0.200	mg/kg wet							
Bromomethane	ND	0.200	mg/kg wet							
Carbon Disulfide	ND	0.200	mg/kg wet							
Carbon Tetrachloride	ND	0.200	mg/kg wet							
Chlorobenzene	ND	0.200	mg/kg wet							
Chloroethane	ND	0.200	mg/kg wet							
Chloroform	ND	0.200	mg/kg wet							
Chloromethane	ND	0.200	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.200	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.200	mg/kg wet							
Dibromochloromethane	ND	0.200	mg/kg wet							
Dibromomethane	ND	0.200	mg/kg wet							
Dichlorodifluoromethane	ND	0.200	mg/kg wet							
Diethyl Ether	ND	0.200	mg/kg wet							
Di-isopropyl ether	ND	0.200	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.200	mg/kg wet							
Ethylbenzene	ND	0.200	mg/kg wet							
Hexachlorobutadiene	ND	0.200	mg/kg wet							
Isopropylbenzene	ND	0.200	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.200	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22C0814

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DC22436 - 5035										
Methylene Chloride	ND	0.400	mg/kg wet							
Naphthalene	ND	0.200	mg/kg wet							
n-Butylbenzene	ND	0.200	mg/kg wet							
n-Propylbenzene	ND	0.200	mg/kg wet							
sec-Butylbenzene	ND	0.200	mg/kg wet							
Styrene	ND	0.200	mg/kg wet							
tert-Butylbenzene	ND	0.200	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.200	mg/kg wet							
Tetrachloroethene	ND	0.200	mg/kg wet							
Tetrahydrofuran	ND	1.00	mg/kg wet							
Toluene	ND	0.200	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.200	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.200	mg/kg wet							
Trichloroethene	ND	0.200	mg/kg wet							
Trichlorofluoromethane	ND	0.200	mg/kg wet							
Vinyl Chloride	ND	0.200	mg/kg wet							
Xylene O	ND	0.200	mg/kg wet							
Xylene P,M	ND	0.400	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*4.66*		mg/kg wet	*5.000*		*93*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*4.64*		mg/kg wet	*5.000*		*93*	*70-130*			
Surrogate: Dibromofluoromethane	*4.96*		mg/kg wet	*5.000*		*99*	*70-130*			
Surrogate: Toluene-d8	*4.73*		mg/kg wet	*5.000*		*95*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	1.75	0.200	mg/kg wet	2.000		87	70-130			
1,1,1-Trichloroethane	1.74	0.200	mg/kg wet	2.000		87	70-130			
1,1,2,2-Tetrachloroethane	1.97	0.200	mg/kg wet	2.000		98	70-130			
1,1,2-Trichloroethane	1.74	0.200	mg/kg wet	2.000		87	70-130			
1,1-Dichloroethane	1.87	0.200	mg/kg wet	2.000		94	70-130			
1,1-Dichloroethene	2.04	0.200	mg/kg wet	2.000		102	70-130			
1,1-Dichloropropene	1.96	0.200	mg/kg wet	2.000		98	70-130			
1,2,3-Trichlorobenzene	2.00	0.200	mg/kg wet	2.000		100	70-130			
1,2,3-Trichloropropane	1.71	0.200	mg/kg wet	2.000		86	70-130			
1,2,4-Trichlorobenzene	1.85	0.200	mg/kg wet	2.000		92	70-130			
1,2,4-Trimethylbenzene	1.79	0.200	mg/kg wet	2.000		90	70-130			
1,2-Dibromo-3-Chloropropane	1.60	1.00	mg/kg wet	2.000		80	70-130			
1,2-Dibromoethane	1.85	0.200	mg/kg wet	2.000		93	70-130			
1,2-Dichlorobenzene	1.85	0.200	mg/kg wet	2.000		92	70-130			
1,2-Dichloroethane	1.73	0.200	mg/kg wet	2.000		86	70-130			
1,2-Dichloropropane	1.80	0.200	mg/kg wet	2.000		90	70-130			
1,3,5-Trimethylbenzene	1.76	0.200	mg/kg wet	2.000		88	70-130			
1,3-Dichlorobenzene	1.89	0.200	mg/kg wet	2.000		94	70-130			
1,3-Dichloropropane	1.89	0.200	mg/kg wet	2.000		94	70-130			
1,4-Dichlorobenzene	1.82	0.200	mg/kg wet	2.000		91	70-130			
1,4-Dioxane - Screen	41.6	40.0	mg/kg wet	40.00		104	44-241			
2,2-Dichloropropane	1.80	0.200	mg/kg wet	2.000		90	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22C0814

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DC22436 - 5035										
2-Butanone	9.36	1.00	mg/kg wet	10.00		94	70-130			
2-Chlorotoluene	1.79	0.200	mg/kg wet	2.000		90	70-130			
2-Hexanone	8.88	1.00	mg/kg wet	10.00		89	70-130			
4-Chlorotoluene	1.75	0.200	mg/kg wet	2.000		88	70-130			
4-Isopropyltoluene	1.79	0.200	mg/kg wet	2.000		89	70-130			
4-Methyl-2-Pentanone	8.78	1.00	mg/kg wet	10.00		88	70-130			
Acetone	9.34	1.00	mg/kg wet	10.00		93	70-130			
Benzene	1.89	0.200	mg/kg wet	2.000		95	70-130			
Bromobenzene	1.87	0.200	mg/kg wet	2.000		94	70-130			
Bromochloromethane	1.93	0.200	mg/kg wet	2.000		96	70-130			
Bromodichloromethane	1.77	0.200	mg/kg wet	2.000		88	70-130			
Bromoform	1.60	0.200	mg/kg wet	2.000		80	70-130			
Bromomethane	1.67	0.200	mg/kg wet	2.000		84	70-130			
Carbon Disulfide	2.04	0.200	mg/kg wet	2.000		102	70-130			
Carbon Tetrachloride	1.72	0.200	mg/kg wet	2.000		86	70-130			
Chlorobenzene	1.92	0.200	mg/kg wet	2.000		96	70-130			
Chloroethane	1.96	0.200	mg/kg wet	2.000		98	70-130			
Chloroform	1.85	0.200	mg/kg wet	2.000		92	70-130			
Chloromethane	1.65	0.200	mg/kg wet	2.000		82	70-130			
cis-1,2-Dichloroethene	1.94	0.200	mg/kg wet	2.000		97	70-130			
cis-1,3-Dichloropropene	1.79	0.200	mg/kg wet	2.000		89	70-130			
Dibromochloromethane	1.71	0.200	mg/kg wet	2.000		85	70-130			
Dibromomethane	1.82	0.200	mg/kg wet	2.000		91	70-130			
Dichlorodifluoromethane	1.64	0.200	mg/kg wet	2.000		82	70-130			
Diethyl Ether	1.94	0.200	mg/kg wet	2.000		97	70-130			
Di-isopropyl ether	1.87	0.200	mg/kg wet	2.000		93	70-130			
Ethyl tertiary-butyl ether	1.74	0.200	mg/kg wet	2.000		87	70-130			
Ethylbenzene	1.76	0.200	mg/kg wet	2.000		88	70-130			
Hexachlorobutadiene	2.00	0.200	mg/kg wet	2.000		100	70-130			
Isopropylbenzene	1.81	0.200	mg/kg wet	2.000		90	70-130			
Methyl tert-Butyl Ether	1.96	0.200	mg/kg wet	2.000		98	70-130			
Methylene Chloride	1.96	0.400	mg/kg wet	2.000		98	70-130			
Naphthalene	1.85	0.200	mg/kg wet	2.000		92	70-130			
n-Butylbenzene	1.84	0.200	mg/kg wet	2.000		92	70-130			
n-Propylbenzene	1.79	0.200	mg/kg wet	2.000		89	70-130			
sec-Butylbenzene	1.73	0.200	mg/kg wet	2.000		86	70-130			
Styrene	1.81	0.200	mg/kg wet	2.000		91	70-130			
tert-Butylbenzene	1.82	0.200	mg/kg wet	2.000		91	70-130			
Tertiary-amyl methyl ether	1.76	0.200	mg/kg wet	2.000		88	70-130			
Tetrachloroethene	1.36	0.200	mg/kg wet	2.000		68	70-130			B-
Tetrahydrofuran	1.92	1.00	mg/kg wet	2.000		96	70-130			
Toluene	1.80	0.200	mg/kg wet	2.000		90	70-130			
trans-1,2-Dichloroethene	1.82	0.200	mg/kg wet	2.000		91	70-130			
trans-1,3-Dichloropropene	1.55	0.200	mg/kg wet	2.000		77	70-130			
Trichloroethene	1.65	0.200	mg/kg wet	2.000		82	70-130			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DC22436 - 5035										
Trichlorofluoromethane	2.02	0.200	mg/kg wet	2.000		101	70-130			
Vinyl Chloride	1.96	0.200	mg/kg wet	2.000		98	70-130			
Xylene O	1.86	0.200	mg/kg wet	2.000		93	70-130			
Xylene P,M	3.67	0.400	mg/kg wet	4.000		92	70-130			
Surrogate: 1,2-Dichloroethane-d4	*4.69*		mg/kg wet	*5.000*		*94*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*4.90*		mg/kg wet	*5.000*		*98*	*70-130*			
Surrogate: Dibromofluoromethane	*5.04*		mg/kg wet	*5.000*		*101*	*70-130*			
Surrogate: Toluene-d8	*4.91*		mg/kg wet	*5.000*		*98*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	1.64	0.200	mg/kg wet	2.000		82	70-130	6	20	
1,1,1-Trichloroethane	1.76	0.200	mg/kg wet	2.000		88	70-130	1	20	
1,1,2,2-Tetrachloroethane	1.86	0.200	mg/kg wet	2.000		93	70-130	5	20	
1,1,2-Trichloroethane	1.77	0.200	mg/kg wet	2.000		88	70-130	2	20	
1,1-Dichloroethane	1.87	0.200	mg/kg wet	2.000		94	70-130	0.1	20	
1,1-Dichloroethene	2.13	0.200	mg/kg wet	2.000		106	70-130	4	20	
1,1-Dichloropropene	1.87	0.200	mg/kg wet	2.000		94	70-130	5	20	
1,2,3-Trichlorobenzene	1.86	0.200	mg/kg wet	2.000		93	70-130	7	20	
1,2,3-Trichloropropane	1.63	0.200	mg/kg wet	2.000		82	70-130	5	20	
1,2,4-Trichlorobenzene	1.80	0.200	mg/kg wet	2.000		90	70-130	2	20	
1,2,4-Trimethylbenzene	1.75	0.200	mg/kg wet	2.000		87	70-130	2	20	
1,2-Dibromo-3-Chloropropane	1.53	1.00	mg/kg wet	2.000		76	70-130	5	20	
1,2-Dibromoethane	1.75	0.200	mg/kg wet	2.000		87	70-130	6	20	
1,2-Dichlorobenzene	1.85	0.200	mg/kg wet	2.000		93	70-130	0.3	20	
1,2-Dichloroethane	1.77	0.200	mg/kg wet	2.000		88	70-130	3	20	
1,2-Dichloropropane	1.81	0.200	mg/kg wet	2.000		91	70-130	0.9	20	
1,3,5-Trimethylbenzene	1.73	0.200	mg/kg wet	2.000		86	70-130	1	20	
1,3-Dichlorobenzene	1.83	0.200	mg/kg wet	2.000		92	70-130	3	20	
1,3-Dichloropropane	1.78	0.200	mg/kg wet	2.000		89	70-130	6	20	
1,4-Dichlorobenzene	1.81	0.200	mg/kg wet	2.000		90	70-130	0.6	20	
1,4-Dioxane - Screen	39.3	40.0	mg/kg wet	40.00		98	44-241	6	200	
2,2-Dichloropropane	1.82	0.200	mg/kg wet	2.000		91	70-130	1	20	
2-Butanone	9.55	1.00	mg/kg wet	10.00		95	70-130	2	20	
2-Chlorotoluene	1.75	0.200	mg/kg wet	2.000		87	70-130	3	20	
2-Hexanone	8.89	1.00	mg/kg wet	10.00		89	70-130	0.1	20	
4-Chlorotoluene	1.78	0.200	mg/kg wet	2.000		89	70-130	2	20	
4-Isopropyltoluene	1.72	0.200	mg/kg wet	2.000		86	70-130	4	20	
4-Methyl-2-Pentanone	8.82	1.00	mg/kg wet	10.00		88	70-130	0.5	20	
Acetone	10.3	1.00	mg/kg wet	10.00		103	70-130	10	20	
Benzene	1.89	0.200	mg/kg wet	2.000		94	70-130	0.2	20	
Bromobenzene	1.93	0.200	mg/kg wet	2.000		97	70-130	3	20	
Bromochloromethane	1.97	0.200	mg/kg wet	2.000		99	70-130	2	20	
Bromodichloromethane	1.83	0.200	mg/kg wet	2.000		92	70-130	4	20	
Bromoform	1.48	0.200	mg/kg wet	2.000		74	70-130	8	20	
Bromomethane	1.70	0.200	mg/kg wet	2.000		85	70-130	2	20	
Carbon Disulfide	2.07	0.200	mg/kg wet	2.000		104	70-130	2	20	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch DC22436 - 5035										
Carbon Tetrachloride	1.76	0.200	mg/kg wet	2.000		88	70-130	2	20	
Chlorobenzene	1.85	0.200	mg/kg wet	2.000		92	70-130	4	20	
Chloroethane	1.99	0.200	mg/kg wet	2.000		99	70-130	1	20	
Chloroform	1.88	0.200	mg/kg wet	2.000		94	70-130	2	20	
Chloromethane	1.61	0.200	mg/kg wet	2.000		80	70-130	3	20	
cis-1,2-Dichloroethene	1.99	0.200	mg/kg wet	2.000		99	70-130	2	20	
cis-1,3-Dichloropropene	1.75	0.200	mg/kg wet	2.000		88	70-130	2	20	
Dibromochloromethane	1.65	0.200	mg/kg wet	2.000		82	70-130	4	20	
Dibromomethane	1.85	0.200	mg/kg wet	2.000		92	70-130	2	20	
Dichlorodifluoromethane	1.69	0.200	mg/kg wet	2.000		85	70-130	3	20	
Diethyl Ether	1.97	0.200	mg/kg wet	2.000		98	70-130	1	20	
Di-isopropyl ether	1.87	0.200	mg/kg wet	2.000		94	70-130	0.1	20	
Ethyl tertiary-butyl ether	1.80	0.200	mg/kg wet	2.000		90	70-130	3	20	
Ethylbenzene	1.67	0.200	mg/kg wet	2.000		84	70-130	5	20	
Hexachlorobutadiene	1.95	0.200	mg/kg wet	2.000		98	70-130	3	20	
Isopropylbenzene	1.78	0.200	mg/kg wet	2.000		89	70-130	1	20	
Methyl tert-Butyl Ether	1.94	0.200	mg/kg wet	2.000		97	70-130	1	20	
Methylene Chloride	1.96	0.400	mg/kg wet	2.000		98	70-130	0.2	20	
Naphthalene	1.75	0.200	mg/kg wet	2.000		88	70-130	5	20	
n-Butylbenzene	1.73	0.200	mg/kg wet	2.000		86	70-130	6	20	
n-Propylbenzene	1.75	0.200	mg/kg wet	2.000		88	70-130	2	20	
sec-Butylbenzene	1.68	0.200	mg/kg wet	2.000		84	70-130	3	20	
Styrene	1.74	0.200	mg/kg wet	2.000		87	70-130	4	20	
tert-Butylbenzene	1.74	0.200	mg/kg wet	2.000		87	70-130	5	20	
Tertiary-amyl methyl ether	1.78	0.200	mg/kg wet	2.000		89	70-130	1	20	
Tetrachloroethene	1.26	0.200	mg/kg wet	2.000		63	70-130	8	20	B-
Tetrahydrofuran	1.94	1.00	mg/kg wet	2.000		97	70-130	1	20	
Toluene	1.80	0.200	mg/kg wet	2.000		90	70-130	0.1	20	
trans-1,2-Dichloroethene	1.81	0.200	mg/kg wet	2.000		91	70-130	0.3	20	
trans-1,3-Dichloropropene	1.59	0.200	mg/kg wet	2.000		80	70-130	3	20	
Trichloroethene	1.68	0.200	mg/kg wet	2.000		84	70-130	2	20	
Trichlorofluoromethane	1.99	0.200	mg/kg wet	2.000		100	70-130	1	20	
Vinyl Chloride	2.00	0.200	mg/kg wet	2.000		100	70-130	2	20	
Xylene O	1.71	0.200	mg/kg wet	2.000		85	70-130	9	20	
Xylene P,M	3.47	0.400	mg/kg wet	4.000		87	70-130	6	20	
Surrogate: 1,2-Dichloroethane-d4	*4.73*		mg/kg wet	*5.000*		*95*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*4.75*		mg/kg wet	*5.000*		*95*	*70-130*			
Surrogate: Dibromofluoromethane	*5.02*		mg/kg wet	*5.000*		*100*	*70-130*			
Surrogate: Toluene-d8	*4.74*		mg/kg wet	*5.000*		*95*	*70-130*			
8082A Polychlorinated Biphenyls (PCB)										
Batch DC22304 - 3540C										
Blank										
Aroclor 1016	ND	0.02	mg/kg wet							
Aroclor 1016 [2C]	ND	0.02	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DC22304 - 3540C										
Aroclor 1221	ND	0.02	mg/kg wet							
Aroclor 1221 [2C]	ND	0.02	mg/kg wet							
Aroclor 1232	ND	0.02	mg/kg wet							
Aroclor 1232 [2C]	ND	0.02	mg/kg wet							
Aroclor 1242	ND	0.02	mg/kg wet							
Aroclor 1242 [2C]	ND	0.02	mg/kg wet							
Aroclor 1248	ND	0.02	mg/kg wet							
Aroclor 1248 [2C]	ND	0.02	mg/kg wet							
Aroclor 1254	ND	0.02	mg/kg wet							
Aroclor 1254 [2C]	ND	0.02	mg/kg wet							
Aroclor 1260	ND	0.02	mg/kg wet							
Aroclor 1260 [2C]	ND	0.02	mg/kg wet							
Aroclor 1262	ND	0.02	mg/kg wet							
Aroclor 1262 [2C]	ND	0.02	mg/kg wet							
Aroclor 1268	ND	0.02	mg/kg wet							
Aroclor 1268 [2C]	ND	0.02	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0229*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0213*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0242*		mg/kg wet	*0.02500*		*97*	*30-150*			
LCS										
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000		86	40-140			
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		91	40-140			
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		97	40-140			
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		93	40-140			
Surrogate: Decachlorobiphenyl	*0.0232*		mg/kg wet	*0.02500*		*93*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0225*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0237*		mg/kg wet	*0.02500*		*95*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000		88	40-140	2	30	
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		93	40-140	2	30	
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		98	40-140	1	30	
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		95	40-140	2	30	
Surrogate: Decachlorobiphenyl	*0.0236*		mg/kg wet	*0.02500*		*95*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0229*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0238*		mg/kg wet	*0.02500*		*95*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0242*		mg/kg wet	*0.02500*		*97*	*30-150*			
8100M Total Petroleum Hydrocarbons										
Batch DC22308 - 3546										
Blank										

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8100M Total Petroleum Hydrocarbons

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch DC22308 - 3546										
Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Hexatriacontane (C36)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							
Octadecane (C18)	ND	0.2	mg/kg wet							
Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	10.0	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							
Surrogate: O-Terphenyl	*4.50*		mg/kg wet	*5.000*		*90*	*40-140*			
LCS										
Decane (C10)	1.6	0.2	mg/kg wet	2.500		63	40-140			
Docosane (C22)	2.1	0.2	mg/kg wet	2.500		84	40-140			
Dodecane (C12)	1.8	0.2	mg/kg wet	2.500		73	40-140			
Eicosane (C20)	2.1	0.2	mg/kg wet	2.500		83	40-140			
Hexacosane (C26)	2.1	0.2	mg/kg wet	2.500		84	40-140			
Hexadecane (C16)	1.9	0.2	mg/kg wet	2.500		78	40-140			
Hexatriacontane (C36)	2.1	0.2	mg/kg wet	2.500		83	40-140			
Nonadecane (C19)	2.0	0.2	mg/kg wet	2.500		79	40-140			
Nonane (C9)	1.4	0.2	mg/kg wet	2.500		57	30-140			
Octacosane (C28)	2.0	0.2	mg/kg wet	2.500		81	40-140			
Octadecane (C18)	2.0	0.2	mg/kg wet	2.500		81	40-140			
Tetracosane (C24)	1.9	0.2	mg/kg wet	2.500		76	40-140			
Tetradecane (C14)	1.8	0.2	mg/kg wet	2.500		71	40-140			
Total Petroleum Hydrocarbons	26.8	10.0	mg/kg wet	35.00		77	40-140			
Triacontane (C30)	2.0	0.2	mg/kg wet	2.500		82	40-140			
Surrogate: O-Terphenyl	*4.33*		mg/kg wet	*5.000*		*87*	*40-140*			
LCS Dup										
Decane (C10)	1.7	0.2	mg/kg wet	2.500		69	40-140	9	25	
Docosane (C22)	2.2	0.2	mg/kg wet	2.500		90	40-140	6	25	
Dodecane (C12)	1.9	0.2	mg/kg wet	2.500		78	40-140	7	25	
Eicosane (C20)	2.2	0.2	mg/kg wet	2.500		87	40-140	5	25	
Hexacosane (C26)	2.3	0.2	mg/kg wet	2.500		91	40-140	8	25	
Hexadecane (C16)	2.1	0.2	mg/kg wet	2.500		83	40-140	6	25	
Hexatriacontane (C36)	2.3	0.2	mg/kg wet	2.500		94	40-140	13	25	
Nonadecane (C19)	2.1	0.2	mg/kg wet	2.500		83	40-140	4	25	
Nonane (C9)	1.6	0.2	mg/kg wet	2.500		63	30-140	9	25	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8100M Total Petroleum Hydrocarbons										
Batch DC22308 - 3546										
Octacosane (C28)	2.2	0.2	mg/kg wet	2.500		89	40-140	9	25	
Octadecane (C18)	2.1	0.2	mg/kg wet	2.500		85	40-140	5	25	
Tetracosane (C24)	2.0	0.2	mg/kg wet	2.500		82	40-140	7	25	
Tetradecane (C14)	1.9	0.2	mg/kg wet	2.500		77	40-140	8	25	
Total Petroleum Hydrocarbons	28.7	10.0	mg/kg wet	35.00		82	40-140	7	25	
Triacontane (C30)	2.3	0.2	mg/kg wet	2.500		90	40-140	10	25	
Surrogate: O-Terphenyl	*4.52*		mg/kg wet	*5.000*		*90*	*40-140*			
8270D Semi-Volatile Organic Compounds										
Batch DC22309 - 3546										
Blank										
1,1-Biphenyl	ND	0.333	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.167	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.167	mg/kg wet							
2,4-Dichlorophenol	ND	0.167	mg/kg wet							
2,4-Dimethylphenol	ND	0.167	mg/kg wet							
2,4-Dinitrophenol	ND	0.667	mg/kg wet							
2,4-Dinitrotoluene	ND	0.167	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.167	mg/kg wet							
2-Methylnaphthalene	ND	0.167	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.333	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							
4-Chloroaniline	ND	0.333	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.333	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	1.67	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC22309 - 3546										
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.167	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.167	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.167	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachloroethane	ND	0.167	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	0.667	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Pyridine	ND	1.67	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.11*		mg/kg wet	*3.333*		*63*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.47*		mg/kg wet	*5.000*		*89*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.15*		mg/kg wet	*5.000*		*63*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.16*		mg/kg wet	*3.333*		*65*	*30-130*			
Surrogate: 2-Fluorophenol	*3.21*		mg/kg wet	*5.000*		*64*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.77*		mg/kg wet	*3.333*		*53*	*30-130*			
Surrogate: Phenol-d6	*3.11*		mg/kg wet	*5.000*		*62*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.11*		mg/kg wet	*3.333*		*93*	*30-130*			
LCS										
1,1-Biphenyl	2.03	0.333	mg/kg wet	3.333		61	40-140			
1,2,4-Trichlorobenzene	2.13	0.333	mg/kg wet	3.333		64	40-140			
1,2-Dichlorobenzene	1.97	0.333	mg/kg wet	3.333		59	40-140			
1,3-Dichlorobenzene	1.90	0.333	mg/kg wet	3.333		57	40-140			
1,4-Dichlorobenzene	1.88	0.167	mg/kg wet	3.333		57	40-140			
2,4,5-Trichlorophenol	2.74	0.333	mg/kg wet	3.333		82	30-130			
2,4,6-Trichlorophenol	2.50	0.167	mg/kg wet	3.333		75	30-130			
2,4-Dichlorophenol	2.29	0.167	mg/kg wet	3.333		69	30-130			
2,4-Dimethylphenol	2.14	0.167	mg/kg wet	3.333		64	30-130			

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22C0814

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC22309 - 3546										
2,4-Dinitrophenol	2.31	0.667	mg/kg wet	3.333		69	30-130			
2,4-Dinitrotoluene	2.82	0.167	mg/kg wet	3.333		85	40-140			
2,6-Dinitrotoluene	2.62	0.333	mg/kg wet	3.333		78	40-140			
2-Chloronaphthalene	2.11	0.333	mg/kg wet	3.333		63	40-140			
2-Chlorophenol	1.92	0.167	mg/kg wet	3.333		58	30-130			
2-Methylnaphthalene	2.15	0.167	mg/kg wet	3.333		64	40-140			
2-Methylphenol	1.84	0.333	mg/kg wet	3.333		55	30-130			
2-Nitrophenol	2.01	0.333	mg/kg wet	3.333		60	30-130			
3,3´-Dichlorobenzidine	2.08	0.333	mg/kg wet	3.333		62	40-140			
3+4-Methylphenol	3.87	0.667	mg/kg wet	6.667		58	30-130			
4-Bromophenyl-phenylether	2.83	0.333	mg/kg wet	3.333		85	40-140			
4-Chloroaniline	1.45	0.333	mg/kg wet	3.333		43	40-140			
4-Nitrophenol	2.08	1.67	mg/kg wet	3.333		62	30-130			
Acenaphthene	2.14	0.333	mg/kg wet	3.333		64	40-140			
Acenaphthylene	2.20	0.333	mg/kg wet	3.333		66	40-140			
Acetophenone	1.77	0.667	mg/kg wet	3.333		53	40-140			
Aniline	1.02	1.67	mg/kg wet	3.333		30	40-140			B-
Anthracene	2.49	0.333	mg/kg wet	3.333		75	40-140			
Azobenzene	1.98	0.333	mg/kg wet	3.333		60	40-140			
Benzo(a)anthracene	2.70	0.333	mg/kg wet	3.333		81	40-140			
Benzo(a)pyrene	2.65	0.167	mg/kg wet	3.333		79	40-140			
Benzo(b)fluoranthene	2.54	0.333	mg/kg wet	3.333		76	40-140			
Benzo(g,h,i)perylene	2.73	0.333	mg/kg wet	3.333		82	40-140			
Benzo(k)fluoranthene	2.93	0.333	mg/kg wet	3.333		88	40-140			
bis(2-Chloroethoxy)methane	1.78	0.333	mg/kg wet	3.333		53	40-140			
bis(2-Chloroethyl)ether	1.77	0.167	mg/kg wet	3.333		53	40-140			
bis(2-chloroisopropyl)Ether	1.77	0.167	mg/kg wet	3.333		53	40-140			
bis(2-Ethylhexyl)phthalate	2.59	0.333	mg/kg wet	3.333		78	40-140			
Butylbenzylphthalate	2.48	0.333	mg/kg wet	3.333		74	40-140			
Chrysene	2.79	0.167	mg/kg wet	3.333		84	40-140			
Dibenzo(a,h)Anthracene	2.85	0.167	mg/kg wet	3.333		86	40-140			
Dibenzofuran	2.33	0.333	mg/kg wet	3.333		70	40-140			
Diethylphthalate	2.65	0.333	mg/kg wet	3.333		80	40-140			
Dimethylphthalate	2.60	0.333	mg/kg wet	3.333		78	40-140			
Di-n-butylphthalate	2.67	0.333	mg/kg wet	3.333		80	40-140			
Di-n-octylphthalate	2.52	0.333	mg/kg wet	3.333		76	40-140			
Fluoranthene	2.88	0.333	mg/kg wet	3.333		86	40-140			
Fluorene	2.55	0.333	mg/kg wet	3.333		76	40-140			
Hexachlorobenzene	2.84	0.167	mg/kg wet	3.333		85	40-140			
Hexachlorobutadiene	2.19	0.333	mg/kg wet	3.333		66	40-140			
Hexachloroethane	1.77	0.167	mg/kg wet	3.333		53	40-140			
Indeno(1,2,3-cd)Pyrene	2.72	0.333	mg/kg wet	3.333		82	40-140			
Isophorone	1.68	0.333	mg/kg wet	3.333		50	40-140			
Naphthalene	1.96	0.333	mg/kg wet	3.333		59	40-140			
Nitrobenzene	1.74	0.333	mg/kg wet	3.333		52	40-140			

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22C0814

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC22309 - 3546										
N-Nitrosodimethylamine	1.47	0.333	mg/kg wet	3.333		44	40-140			
Pentachlorophenol	3.13	0.667	mg/kg wet	3.333		94	30-130			
Phenanthrene	2.59	0.333	mg/kg wet	3.333		78	40-140			
Phenol	1.62	0.333	mg/kg wet	3.333		49	30-130			
Pyrene	2.61	0.333	mg/kg wet	3.333		78	40-140			
Pyridine	1.47	1.67	mg/kg wet	3.333		44	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.09*		mg/kg wet	*3.333*		*63*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*5.03*		mg/kg wet	*5.000*		*101*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.10*		mg/kg wet	*5.000*		*62*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.32*		mg/kg wet	*3.333*		*70*	*30-130*			
Surrogate: 2-Fluorophenol	*3.17*		mg/kg wet	*5.000*		*63*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.78*		mg/kg wet	*3.333*		*53*	*30-130*			
Surrogate: Phenol-d6	*3.05*		mg/kg wet	*5.000*		*61*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.95*		mg/kg wet	*3.333*		*89*	*30-130*			
LCS Dup										
1,1-Biphenyl	2.14	0.333	mg/kg wet	3.333		64	40-140	5	30	
1,2,4-Trichlorobenzene	2.34	0.333	mg/kg wet	3.333		70	40-140	10	30	
1,2-Dichlorobenzene	2.15	0.333	mg/kg wet	3.333		65	40-140	9	30	
1,3-Dichlorobenzene	2.09	0.333	mg/kg wet	3.333		63	40-140	10	30	
1,4-Dichlorobenzene	2.07	0.167	mg/kg wet	3.333		62	40-140	9	30	
2,4,5-Trichlorophenol	2.72	0.333	mg/kg wet	3.333		82	30-130	0.7	30	
2,4,6-Trichlorophenol	2.52	0.167	mg/kg wet	3.333		76	30-130	0.9	30	
2,4-Dichlorophenol	2.43	0.167	mg/kg wet	3.333		73	30-130	6	30	
2,4-Dimethylphenol	2.32	0.167	mg/kg wet	3.333		70	30-130	8	30	
2,4-Dinitrophenol	2.51	0.667	mg/kg wet	3.333		75	30-130	8	30	
2,4-Dinitrotoluene	2.83	0.167	mg/kg wet	3.333		85	40-140	0.1	30	
2,6-Dinitrotoluene	2.59	0.333	mg/kg wet	3.333		78	40-140	1	30	
2-Chloronaphthalene	2.26	0.333	mg/kg wet	3.333		68	40-140	7	30	
2-Chlorophenol	2.09	0.167	mg/kg wet	3.333		63	30-130	9	30	
2-Methylnaphthalene	2.32	0.167	mg/kg wet	3.333		70	40-140	8	30	
2-Methylphenol	1.97	0.333	mg/kg wet	3.333		59	30-130	7	30	
2-Nitrophenol	2.23	0.333	mg/kg wet	3.333		67	30-130	10	30	
3,3´-Dichlorobenzidine	2.19	0.333	mg/kg wet	3.333		66	40-140	5	30	
3+4-Methylphenol	4.10	0.667	mg/kg wet	6.667		62	30-130	6	30	
4-Bromophenyl-phenylether	2.76	0.333	mg/kg wet	3.333		83	40-140	3	30	
4-Chloroaniline	1.65	0.333	mg/kg wet	3.333		50	40-140	13	30	
4-Nitrophenol	2.05	1.67	mg/kg wet	3.333		62	30-130	1	30	
Acenaphthene	2.23	0.333	mg/kg wet	3.333		67	40-140	4	30	
Acenaphthylene	2.30	0.333	mg/kg wet	3.333		69	40-140	5	30	
Acetophenone	1.89	0.667	mg/kg wet	3.333		57	40-140	7	30	
Aniline	1.22	1.67	mg/kg wet	3.333		37	40-140	18	30	B-
Anthracene	2.46	0.333	mg/kg wet	3.333		74	40-140	0.9	30	
Azobenzene	1.96	0.333	mg/kg wet	3.333		59	40-140	1	30	
Benzo(a)anthracene	2.66	0.333	mg/kg wet	3.333		80	40-140	1	30	
Benzo(a)pyrene	2.66	0.167	mg/kg wet	3.333		80	40-140	0.5	30	

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22C0814

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch DC22309 - 3546										
Benzo(b)fluoranthene	2.61	0.333	mg/kg wet	3.333		78	40-140	3	30	
Benzo(g,h,i)perylene	2.76	0.333	mg/kg wet	3.333		83	40-140	1	30	
Benzo(k)fluoranthene	2.90	0.333	mg/kg wet	3.333		87	40-140	1	30	
bis(2-Chloroethoxy)methane	1.95	0.333	mg/kg wet	3.333		59	40-140	9	30	
bis(2-Chloroethyl)ether	1.86	0.167	mg/kg wet	3.333		56	40-140	5	30	
bis(2-chloroisopropyl)Ether	1.98	0.167	mg/kg wet	3.333		59	40-140	11	30	
bis(2-Ethylhexyl)phthalate	2.56	0.333	mg/kg wet	3.333		77	40-140	1	30	
Butylbenzylphthalate	2.44	0.333	mg/kg wet	3.333		73	40-140	1	30	
Chrysene	2.74	0.167	mg/kg wet	3.333		82	40-140	2	30	
Dibenzo(a,h)Anthracene	2.65	0.167	mg/kg wet	3.333		80	40-140	7	30	
Dibenzofuran	2.41	0.333	mg/kg wet	3.333		72	40-140	3	30	
Diethylphthalate	2.62	0.333	mg/kg wet	3.333		79	40-140	1	30	
Dimethylphthalate	2.57	0.333	mg/kg wet	3.333		77	40-140	1	30	
Di-n-butylphthalate	2.64	0.333	mg/kg wet	3.333		79	40-140	1	30	
Di-n-octylphthalate	2.55	0.333	mg/kg wet	3.333		77	40-140	1	30	
Fluoranthene	2.84	0.333	mg/kg wet	3.333		85	40-140	1	30	
Fluorene	2.55	0.333	mg/kg wet	3.333		76	40-140	0.07	30	
Hexachlorobenzene	2.83	0.167	mg/kg wet	3.333		85	40-140	0.4	30	
Hexachlorobutadiene	2.36	0.333	mg/kg wet	3.333		71	40-140	8	30	
Hexachloroethane	2.00	0.167	mg/kg wet	3.333		60	40-140	12	30	
Indeno(1,2,3-cd)Pyrene	2.79	0.333	mg/kg wet	3.333		84	40-140	2	30	
Isophorone	1.79	0.333	mg/kg wet	3.333		54	40-140	7	30	
Naphthalene	2.14	0.333	mg/kg wet	3.333		64	40-140	9	30	
Nitrobenzene	1.88	0.333	mg/kg wet	3.333		56	40-140	8	30	
N-Nitrosodimethylamine	1.52	0.333	mg/kg wet	3.333		46	40-140	4	30	
Pentachlorophenol	3.01	0.667	mg/kg wet	3.333		90	30-130	4	30	
Phenanthrene	2.54	0.333	mg/kg wet	3.333		76	40-140	2	30	
Phenol	1.80	0.333	mg/kg wet	3.333		54	30-130	11	30	
Pyrene	2.59	0.333	mg/kg wet	3.333		78	40-140	0.6	30	
Pyridine	1.62	1.67	mg/kg wet	3.333		49	40-140	9	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.29*		mg/kg wet	*3.333*		*69*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.95*		mg/kg wet	*5.000*		*99*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.43*		mg/kg wet	*5.000*		*69*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.45*		mg/kg wet	*3.333*		*73*	*30-130*			
Surrogate: 2-Fluorophenol	*3.50*		mg/kg wet	*5.000*		*70*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.98*		mg/kg wet	*3.333*		*59*	*30-130*			
Surrogate: Phenol-d6	*3.30*		mg/kg wet	*5.000*		*66*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.96*		mg/kg wet	*3.333*		*89*	*30-130*			
Classical Chemistry										
Batch DC22447 - General Preparation										
Blank										
Reactive Cyanide	ND	2.0	mg/kg							
Reactive Sulfide	ND	2.0	mg/kg							
LCS										

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22C0814

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Classical Chemistry										
Batch DC22447 - General Preparation										
Reactive Cyanide	4.1	2.0	mg/kg	100.3		4	0.68-5.41			
Reactive Sulfide	ND	2.0	mg/kg	10.00		0	0-44			
Batch DC22448 - General Preparation										
Reference										
Flashpoint	82		°F	81.00		101	97.9-102.1			

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22C0814

Notes and Definitions

U	Analyte included in the analysis, but not detected
Q	Calibration required quadratic regression (Q).
ICV-	Initial Calibration Verification recovery is below lower control limit (ICV-).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
D	Diluted.
CD-	Continuing Calibration %Diff/Drift is below control limit (CD-).
B-	Blank Spike recovery is below lower control limit (B-).
>	Greater than.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probable Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22C0814

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Campbell Environmental - TB

Shipped/Delivered Via: ESS Courier

ESS Project ID: 22C0814
Date Received: 3/23/2022
Project Due Date: 3/30/2022
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 0 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** (Yes) / No / NA
10. Were any analyses received outside of hold time? Yes / (No)

11. Any Subcontracting needed? Yes (No)
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? (Yes) / No
    a. Air bubbles in aqueous VOAs? Yes / (No)
    b. Does methanol cover soil completely? (Yes) / No / NA

3/23/22

13. Are the samples properly preserved? (Yes) / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: ~~3/23/22~~ Time: By:
    m 3/23/22

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / (No)
    a. Was there a need to contact the client? Yes / (No)
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	269725	Yes	N/A	Yes	8 oz jar	NP	
1	269732	Yes	N/A	Yes	8 oz jar	NP	
1	269741	Yes	N/A	Yes	VOA Vial	MeOH	
2	269726	Yes	N/A	Yes	8 oz jar	NP	
3	269727	Yes	N/A	Yes	8 oz jar	NP	
3	269733	Yes	N/A	Yes	8 oz jar	NP	
3	269742	Yes	N/A	Yes	VOA Vial	MeOH	
4	269728	Yes	N/A	Yes	8 oz jar	NP	
5	269729	Yes	N/A	Yes	8 oz jar	NP	
5	269734	Yes	N/A	Yes	8 oz jar	NP	
5	269743	Yes	N/A	Yes	VOA Vial	MeOH	
6	269730	Yes	N/A	Yes	8 oz jar	NP	
7	269731	Yes	N/A	Yes	8 oz jar	NP	

2nd Review
Were all containers scanned into storage/lab? Initials

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Campbell Environmental - TB

ESS Project ID: 22C0814
Date Received: 3/23/2022

Are barcode labels on correct containers?	~~Yes~~ / No
Are all Flashpoint stickers attached/container ID # circled?	Yes / No / NA
Are all Hex Chrome stickers attached?	Yes / No / NA
Are all QC stickers attached?	Yes / No / NA
Are VOA stickers attached if bubbles noted?	Yes / No / NA

Completed By: Taylor Davis Date & Time: 3/23/22 1610

Reviewed By: Date & Time: 3/23/22 1629

CHAIN OF CUSTODY

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

ESS Lab # 22C0814 | Page of

Turn Time: ☒ 5 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: MCP - MA **Criteria:** RCS-1 - S-1/GW-2 - S-1/GW-3

Is this project for any of the following?: hdm 3/29/22

☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☒ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CAMPBELL ENV. INC.
Address: 38 Sunset
Northboro MA 01532
Phone:
Email Distribution List:
campbellenvinc@gmail.com

PROJECT INFORMATION

Project Name: 10-50 MAIN Ashland
Project Location: 10-50 MAIN Ashland
Project Number:
Project Manager:
Bill to:
PO#:
Quote#: TIM

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	Soil disposal	Suite	RCRA 8 metals	PCBs	Soil disposal parameters	VOCs, SVOCs	TPH	PCBs	RCRA 8 metals	Reactivity	Flash pt	Total Number of Bottles
1	3-22-22		Comp.	Soil	C-1 2-10'	X											3
2			Comp.	Soil	C-2 2-5'			X	X								1
3			Comp.	Soil	C-3 2-10'	X											3
4			Comp.	Soil	C-4 2-5'			X	X								1
5			Comp.	Soil	C-5 2-10'	X											3
6			Comp.	Soil	C-6 2-5'			X	X								1
7	V		Comp.	Soil	C-7 2-5'			X	X								1

Container Type: AC-Air Cassette, AG-Amber Glass, B-BOD Bottle, C-Cubitainer, J-Jar, O-Other, P-Poly, S-Sterile, V-Vial

Container Volume: 1-100 mL, 2-2.5 gal, 3-250 mL, 4-300 mL, 5-500 mL, 6-1L, 7-VOA, 8-2 oz, 9-4 oz, 10-8 oz, 11-Other*

Preservation Code: 1-Non Preserved, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-Methanol, 7-Na2S2O3, 8-ZnAce, NaOH, 9-NH4Cl, 10-DI H2O, 11-Other*

Chain needs to be filled out neatly and completely for on time delivery.

Sampled by: GC

Laboratory Use Only
Cooler Temperature (°C): 0.0 Tmp

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
GC	3-23-22		3/23/22 14:01	3/23/22		15:45	Payton Davis

CERTIFICATE OF ANALYSIS

George Campbell
Campbell Environmental
38 Sunset Drive
Northboro, MA 01532

RE: 10-50 Main Ashland MA (N/A)
ESS Laboratory Work Order Number: 22I0681

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 1:58 pm, Sep 26, 2022

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22I0681

SAMPLE RECEIPT

The following samples were received on September 19, 2022 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
22I0681-01	MW-10	Aqueous	8260B
22I0681-02	MW-2	Aqueous	8260B

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22I0681

PROJECT NARRATIVE

8260B Volatile Organic Compounds
D2I0347-CCV1 **Continuing Calibration %Diff/Drift is below control limit (CD-).**
Bromomethane (39% @ 20%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22I0681

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22I0681

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **22I0681-01 through 22I0681-02**

Matrices: ( ) Ground Water/Surface Water ( ) Soil/Sediment ( ) Drinking Water ( ) Air (x) Other: Aqueous

CAM Protocol (check all that apply below):

(x) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	( ) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (x) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (x) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (x) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (x) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (x) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (x) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (x)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (x) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard Date: September 26, 2022

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: MW-10
Date Sampled: 09/17/22 13:46
Percent Solids: N/A
Initial Volume: 5ml
Final Volume: 5ml
Extraction Method: 5030B

ESS Laboratory Work Order: 22I0681
ESS Laboratory Sample ID: 22I0681-01
Sample Matrix: Aqueous
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
1,1,1-Trichloroethane	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
1,1,2,2-Tetrachloroethane	ND (0.5)		8260B		1	09/20/22 15:55	D2I0347	DI22025
1,1,2-Trichloroethane	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
1,1-Dichloroethane	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
1,1-Dichloroethene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
1,1-Dichloropropene	ND (2.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
1,2,3-Trichlorobenzene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
1,2,3-Trichloropropane	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
1,2,4-Trichlorobenzene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
1,2,4-Trimethylbenzene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
1,2-Dibromo-3-Chloropropane	ND (5.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
1,2-Dibromoethane	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
1,2-Dichlorobenzene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
1,2-Dichloroethane	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
1,2-Dichloropropane	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
1,3,5-Trimethylbenzene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
1,3-Dichlorobenzene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
1,3-Dichloropropane	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
1,4-Dichlorobenzene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
1,4-Dioxane - Screen	ND (500)		8260B		1	09/20/22 15:55	D2I0347	DI22025
2,2-Dichloropropane	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
2-Butanone	ND (10.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
2-Chlorotoluene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
2-Hexanone	ND (10.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
4-Chlorotoluene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
4-Isopropyltoluene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
4-Methyl-2-Pentanone	ND (10.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Acetone	ND (10.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Benzene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Bromobenzene	ND (2.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Bromochloromethane	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: MW-10
Date Sampled: 09/17/22 13:46
Percent Solids: N/A
Initial Volume: 5ml
Final Volume: 5ml
Extraction Method: 5030B

ESS Laboratory Work Order: 22I0681
ESS Laboratory Sample ID: 22I0681-01
Sample Matrix: Aqueous
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.6)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Bromoform	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Bromomethane	ND (2.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Carbon Disulfide	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Carbon Tetrachloride	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Chlorobenzene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Chloroethane	ND (2.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Chloroform	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Chloromethane	ND (2.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
cis-1,2-Dichloroethene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
cis-1,3-Dichloropropene	ND (0.4)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Dibromochloromethane	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Dibromomethane	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Dichlorodifluoromethane	ND (2.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Diethyl Ether	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Di-isopropyl ether	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Ethyl tertiary-butyl ether	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Ethylbenzene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Hexachlorobutadiene	ND (0.6)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Hexachloroethane	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Isopropylbenzene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Methyl tert-Butyl Ether	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Methylene Chloride	ND (2.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Naphthalene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
n-Butylbenzene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
n-Propylbenzene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
sec-Butylbenzene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Styrene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
tert-Butylbenzene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Tertiary-amyl methyl ether	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Tetrachloroethene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Tetrahydrofuran	ND (5.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: MW-10
Date Sampled: 09/17/22 13:46
Percent Solids: N/A
Initial Volume: 5ml
Final Volume: 5ml
Extraction Method: 5030B

ESS Laboratory Work Order: 22I0681
ESS Laboratory Sample ID: 22I0681-01
Sample Matrix: Aqueous
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
trans-1,2-Dichloroethene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
trans-1,3-Dichloropropene	ND (0.4)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Trichloroethene	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Trichlorofluoromethane	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Vinyl Chloride	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Xylene O	ND (1.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Xylene P,M	ND (2.0)		8260B		1	09/20/22 15:55	D2I0347	DI22025
Xylenes (Total)	ND (2.00)		8260B		1	09/20/22 15:55		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*112 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*93 %*		*70-130*
Surrogate: Dibromofluoromethane	*100 %*		*70-130*
Surrogate: Toluene-d8	*101 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: MW-2
Date Sampled: 09/17/22 14:38
Percent Solids: N/A
Initial Volume: 5ml
Final Volume: 5ml
Extraction Method: 5030B

ESS Laboratory Work Order: 22I0681
ESS Laboratory Sample ID: 22I0681-02
Sample Matrix: Aqueous
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
1,1,1-Trichloroethane	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
1,1,2,2-Tetrachloroethane	ND (0.5)		8260B		1	09/20/22 16:21	D2I0347	DI22025
1,1,2-Trichloroethane	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
1,1-Dichloroethane	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
1,1-Dichloroethene	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
1,1-Dichloropropene	ND (2.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
1,2,3-Trichlorobenzene	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
1,2,3-Trichloropropane	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
1,2,4-Trichlorobenzene	**2.6** (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
1,2,4-Trimethylbenzene	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
1,2-Dibromo-3-Chloropropane	ND (5.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
1,2-Dibromoethane	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
1,2-Dichlorobenzene	**22.8** (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
1,2-Dichloroethane	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
1,2-Dichloropropane	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
1,3,5-Trimethylbenzene	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
1,3-Dichlorobenzene	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
1,3-Dichloropropane	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
1,4-Dichlorobenzene	**5.9** (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
1,4-Dioxane - Screen	ND (500)		8260B		1	09/20/22 16:21	D2I0347	DI22025
2,2-Dichloropropane	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
2-Butanone	ND (10.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
2-Chlorotoluene	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
2-Hexanone	ND (10.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
4-Chlorotoluene	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
4-Isopropyltoluene	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
4-Methyl-2-Pentanone	ND (10.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Acetone	ND (10.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Benzene	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Bromobenzene	ND (2.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Bromochloromethane	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: MW-2
Date Sampled: 09/17/22 14:38
Percent Solids: N/A
Initial Volume: 5ml
Final Volume: 5ml
Extraction Method: 5030B

ESS Laboratory Work Order: 22I0681
ESS Laboratory Sample ID: 22I0681-02
Sample Matrix: Aqueous
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.6)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Bromoform	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Bromomethane	ND (2.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Carbon Disulfide	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Carbon Tetrachloride	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Chlorobenzene	**29.0** (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Chloroethane	ND (2.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Chloroform	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Chloromethane	ND (2.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
cis-1,2-Dichloroethene	**73.6** (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
cis-1,3-Dichloropropene	ND (0.4)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Dibromochloromethane	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Dibromomethane	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Dichlorodifluoromethane	ND (2.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Diethyl Ether	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Di-isopropyl ether	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Ethyl tertiary-butyl ether	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Ethylbenzene	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Hexachlorobutadiene	ND (0.6)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Hexachloroethane	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Isopropylbenzene	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Methyl tert-Butyl Ether	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Methylene Chloride	ND (2.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Naphthalene	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
n-Butylbenzene	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
n-Propylbenzene	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
sec-Butylbenzene	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Styrene	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
tert-Butylbenzene	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Tertiary-amyl methyl ether	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Tetrachloroethene	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Tetrahydrofuran	ND (5.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: MW-2
Date Sampled: 09/17/22 14:38
Percent Solids: N/A
Initial Volume: 5ml
Final Volume: 5ml
Extraction Method: 5030B

ESS Laboratory Work Order: 22I0681
ESS Laboratory Sample ID: 22I0681-02
Sample Matrix: Aqueous
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
trans-1,2-Dichloroethene	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
trans-1,3-Dichloropropene	ND (0.4)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Trichloroethene	**1.4** (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Trichlorofluoromethane	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Vinyl Chloride	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Xylene O	ND (1.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Xylene P,M	ND (2.0)		8260B		1	09/20/22 16:21	D2I0347	DI22025
Xylenes (Total)	ND (2.00)		8260B		1	09/20/22 16:21		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*110 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*94 %*		*70-130*
Surrogate: Dibromofluoromethane	*101 %*		*70-130*
Surrogate: Toluene-d8	*100 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22I0681

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DI22025 - 5030B										
Blank										
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L							
1,1,1-Trichloroethane	ND	1.0	ug/L							
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L							
1,1,2-Trichloroethane	ND	1.0	ug/L							
1,1-Dichloroethane	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloropropene	ND	2.0	ug/L							
1,2,3-Trichlorobenzene	ND	1.0	ug/L							
1,2,3-Trichloropropane	ND	1.0	ug/L							
1,2,4-Trichlorobenzene	ND	1.0	ug/L							
1,2,4-Trimethylbenzene	ND	1.0	ug/L							
1,2-Dibromo-3-Chloropropane	ND	5.0	ug/L							
1,2-Dibromoethane	ND	1.0	ug/L							
1,2-Dichlorobenzene	ND	1.0	ug/L							
1,2-Dichloroethane	ND	1.0	ug/L							
1,2-Dichloropropane	ND	1.0	ug/L							
1,3,5-Trimethylbenzene	ND	1.0	ug/L							
1,3-Dichlorobenzene	ND	1.0	ug/L							
1,3-Dichloropropane	ND	1.0	ug/L							
1,4-Dichlorobenzene	ND	1.0	ug/L							
1,4-Dioxane - Screen	ND	500	ug/L							
2,2-Dichloropropane	ND	1.0	ug/L							
2-Butanone	ND	10.0	ug/L							
2-Chlorotoluene	ND	1.0	ug/L							
2-Hexanone	ND	10.0	ug/L							
4-Chlorotoluene	ND	1.0	ug/L							
4-Isopropyltoluene	ND	1.0	ug/L							
4-Methyl-2-Pentanone	ND	10.0	ug/L							
Acetone	ND	10.0	ug/L							
Benzene	ND	1.0	ug/L							
Bromobenzene	ND	2.0	ug/L							
Bromochloromethane	ND	1.0	ug/L							
Bromodichloromethane	ND	0.6	ug/L							
Bromoform	ND	1.0	ug/L							
Bromomethane	ND	2.0	ug/L							
Carbon Disulfide	ND	1.0	ug/L							
Carbon Tetrachloride	ND	1.0	ug/L							
Chlorobenzene	ND	1.0	ug/L							
Chloroethane	ND	2.0	ug/L							
Chloroform	ND	1.0	ug/L							
Chloromethane	ND	2.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
cis-1,3-Dichloropropene	ND	0.4	ug/L							
Dibromochloromethane	ND	1.0	ug/L							

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22I0681

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DI22025 - 5030B										
Dibromomethane	ND	1.0	ug/L							
Dichlorodifluoromethane	ND	2.0	ug/L							
Diethyl Ether	ND	1.0	ug/L							
Di-isopropyl ether	ND	1.0	ug/L							
Ethyl tertiary-butyl ether	ND	1.0	ug/L							
Ethylbenzene	ND	1.0	ug/L							
Hexachlorobutadiene	ND	0.6	ug/L							
Hexachloroethane	ND	1.0	ug/L							
Isopropylbenzene	ND	1.0	ug/L							
Methyl tert-Butyl Ether	ND	1.0	ug/L							
Methylene Chloride	ND	2.0	ug/L							
Naphthalene	ND	1.0	ug/L							
n-Butylbenzene	ND	1.0	ug/L							
n-Propylbenzene	ND	1.0	ug/L							
sec-Butylbenzene	ND	1.0	ug/L							
Styrene	ND	1.0	ug/L							
tert-Butylbenzene	ND	1.0	ug/L							
Tertiary-amyl methyl ether	ND	1.0	ug/L							
Tetrachloroethene	ND	1.0	ug/L							
Tetrahydrofuran	ND	5.0	ug/L							
Toluene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,3-Dichloropropene	ND	0.4	ug/L							
Trichloroethene	ND	1.0	ug/L							
Trichlorofluoromethane	ND	1.0	ug/L							
Vinyl Chloride	ND	1.0	ug/L							
Xylene O	ND	1.0	ug/L							
Xylene P,M	ND	2.0	ug/L							
Surrogate: 1,2-Dichloroethane-d4	*27.9*		ug/L	*25.00*		*111*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*22.8*		ug/L	*25.00*		*91*	*70-130*			
Surrogate: Dibromofluoromethane	*25.2*		ug/L	*25.00*		*101*	*70-130*			
Surrogate: Toluene-d8	*25.3*		ug/L	*25.00*		*101*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	9.2	1.0	ug/L	10.00		92	70-130			
1,1,1-Trichloroethane	10.0	1.0	ug/L	10.00		100	70-130			
1,1,2,2-Tetrachloroethane	10.2	0.5	ug/L	10.00		102	70-130			
1,1,2-Trichloroethane	10.4	1.0	ug/L	10.00		104	70-130			
1,1-Dichloroethane	10.5	1.0	ug/L	10.00		105	70-130			
1,1-Dichloroethene	11.8	1.0	ug/L	10.00		118	70-130			
1,1-Dichloropropene	10.3	2.0	ug/L	10.00		103	70-130			
1,2,3-Trichlorobenzene	10.4	1.0	ug/L	10.00		104	70-130			
1,2,3-Trichloropropane	9.4	1.0	ug/L	10.00		94	70-130			
1,2,4-Trichlorobenzene	10.2	1.0	ug/L	10.00		102	70-130			
1,2,4-Trimethylbenzene	10.2	1.0	ug/L	10.00		102	70-130			
1,2-Dibromo-3-Chloropropane	7.5	5.0	ug/L	10.00		75	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22I0681

Quality Control Data

8260B Volatile Organic Compounds

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch DI22025 - 5030B										
1,2-Dibromoethane	9.6	1.0	ug/L	10.00		96	70-130			
1,2-Dichlorobenzene	9.7	1.0	ug/L	10.00		97	70-130			
1,2-Dichloroethane	10.6	1.0	ug/L	10.00		106	70-130			
1,2-Dichloropropane	10.2	1.0	ug/L	10.00		102	70-130			
1,3,5-Trimethylbenzene	10.7	1.0	ug/L	10.00		107	70-130			
1,3-Dichlorobenzene	10.1	1.0	ug/L	10.00		101	70-130			
1,3-Dichloropropane	10.2	1.0	ug/L	10.00		102	70-130			
1,4-Dichlorobenzene	10.3	1.0	ug/L	10.00		103	70-130			
1,4-Dioxane - Screen	198	500	ug/L	200.0		99	0-332			
2,2-Dichloropropane	10.2	1.0	ug/L	10.00		102	70-130			
2-Butanone	57.6	10.0	ug/L	50.00		115	70-130			
2-Chlorotoluene	9.9	1.0	ug/L	10.00		99	70-130			
2-Hexanone	52.8	10.0	ug/L	50.00		106	70-130			
4-Chlorotoluene	10.0	1.0	ug/L	10.00		100	70-130			
4-Isopropyltoluene	10.8	1.0	ug/L	10.00		108	70-130			
4-Methyl-2-Pentanone	52.8	10.0	ug/L	50.00		106	70-130			
Acetone	62.3	10.0	ug/L	50.00		125	70-130			
Benzene	10.5	1.0	ug/L	10.00		105	70-130			
Bromobenzene	9.4	2.0	ug/L	10.00		94	70-130			
Bromochloromethane	10.6	1.0	ug/L	10.00		106	70-130			
Bromodichloromethane	10.5	0.6	ug/L	10.00		105	70-130			
Bromoform	8.0	1.0	ug/L	10.00		80	70-130			
Bromomethane	7.8	2.0	ug/L	10.00		78	70-130			
Carbon Disulfide	9.8	1.0	ug/L	10.00		98	70-130			
Carbon Tetrachloride	9.9	1.0	ug/L	10.00		99	70-130			
Chlorobenzene	9.6	1.0	ug/L	10.00		96	70-130			
Chloroethane	11.7	2.0	ug/L	10.00		117	70-130			
Chloroform	10.5	1.0	ug/L	10.00		105	70-130			
Chloromethane	9.2	2.0	ug/L	10.00		92	70-130			
cis-1,2-Dichloroethene	11.0	1.0	ug/L	10.00		110	70-130			
cis-1,3-Dichloropropene	9.6	0.4	ug/L	10.00		96	70-130			
Dibromochloromethane	9.1	1.0	ug/L	10.00		91	70-130			
Dibromomethane	10.2	1.0	ug/L	10.00		102	70-130			
Dichlorodifluoromethane	9.4	2.0	ug/L	10.00		94	70-130			
Diethyl Ether	9.7	1.0	ug/L	10.00		97	70-130			
Di-isopropyl ether	10.7	1.0	ug/L	10.00		107	70-130			
Ethyl tertiary-butyl ether	9.9	1.0	ug/L	10.00		99	70-130			
Ethylbenzene	9.4	1.0	ug/L	10.00		94	70-130			
Hexachlorobutadiene	10.5	0.6	ug/L	10.00		105	70-130			
Hexachloroethane	9.8	1.0	ug/L	10.00		98	70-130			
Isopropylbenzene	9.9	1.0	ug/L	10.00		99	70-130			
Methyl tert-Butyl Ether	9.5	1.0	ug/L	10.00		95	70-130			
Methylene Chloride	11.9	2.0	ug/L	10.00		119	70-130			
Naphthalene	9.1	1.0	ug/L	10.00		91	70-130			
n-Butylbenzene	11.1	1.0	ug/L	10.00		111	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22I0681

Quality Control Data

8260B Volatile Organic Compounds

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch DI22025 - 5030B										
n-Propylbenzene	10.2	1.0	ug/L	10.00		102	70-130			
sec-Butylbenzene	10.6	1.0	ug/L	10.00		106	70-130			
Styrene	8.8	1.0	ug/L	10.00		88	70-130			
tert-Butylbenzene	10.2	1.0	ug/L	10.00		102	70-130			
Tertiary-amyl methyl ether	9.1	1.0	ug/L	10.00		91	70-130			
Tetrachloroethene	9.4	1.0	ug/L	10.00		94	70-130			
Tetrahydrofuran	10.8	5.0	ug/L	10.00		108	70-130			
Toluene	10.1	1.0	ug/L	10.00		101	70-130			
trans-1,2-Dichloroethene	10.8	1.0	ug/L	10.00		108	70-130			
trans-1,3-Dichloropropene	8.4	0.4	ug/L	10.00		84	70-130			
Trichloroethene	10.2	1.0	ug/L	10.00		102	70-130			
Trichlorofluoromethane	10.3	1.0	ug/L	10.00		103	70-130			
Vinyl Chloride	11.1	1.0	ug/L	10.00		111	70-130			
Xylene O	9.8	1.0	ug/L	10.00		98	70-130			
Xylene P,M	19.6	2.0	ug/L	20.00		98	70-130			
Surrogate: 1,2-Dichloroethane-d4	*27.6*		ug/L	*25.00*		*111*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*24.8*		ug/L	*25.00*		*99*	*70-130*			
Surrogate: Dibromofluoromethane	*26.4*		ug/L	*25.00*		*106*	*70-130*			
Surrogate: Toluene-d8	*24.8*		ug/L	*25.00*		*99*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	9.6	1.0	ug/L	10.00		96	70-130	4	20	
1,1,1-Trichloroethane	10.1	1.0	ug/L	10.00		101	70-130	1	20	
1,1,2,2-Tetrachloroethane	10.2	0.5	ug/L	10.00		102	70-130	0.5	20	
1,1,2-Trichloroethane	10.4	1.0	ug/L	10.00		104	70-130	0.6	20	
1,1-Dichloroethane	11.0	1.0	ug/L	10.00		110	70-130	5	20	
1,1-Dichloroethene	12.3	1.0	ug/L	10.00		123	70-130	4	20	
1,1-Dichloropropene	10.5	2.0	ug/L	10.00		105	70-130	2	20	
1,2,3-Trichlorobenzene	10.0	1.0	ug/L	10.00		100	70-130	4	20	
1,2,3-Trichloropropane	9.3	1.0	ug/L	10.00		93	70-130	0.4	20	
1,2,4-Trichlorobenzene	10.0	1.0	ug/L	10.00		100	70-130	1	20	
1,2,4-Trimethylbenzene	10.3	1.0	ug/L	10.00		103	70-130	1	20	
1,2-Dibromo-3-Chloropropane	7.4	5.0	ug/L	10.00		74	70-130	2	20	
1,2-Dibromoethane	9.6	1.0	ug/L	10.00		96	70-130	0.4	20	
1,2-Dichlorobenzene	9.9	1.0	ug/L	10.00		99	70-130	1	20	
1,2-Dichloroethane	10.8	1.0	ug/L	10.00		108	70-130	1	20	
1,2-Dichloropropane	10.6	1.0	ug/L	10.00		106	70-130	4	20	
1,3,5-Trimethylbenzene	10.9	1.0	ug/L	10.00		109	70-130	2	20	
1,3-Dichlorobenzene	10.2	1.0	ug/L	10.00		102	70-130	0.9	20	
1,3-Dichloropropane	10.4	1.0	ug/L	10.00		104	70-130	2	20	
1,4-Dichlorobenzene	10.3	1.0	ug/L	10.00		103	70-130	0.3	20	
1,4-Dioxane - Screen	ND	500	ug/L	200.0		0	0-332	200	200	
2,2-Dichloropropane	10.2	1.0	ug/L	10.00		102	70-130	0.3	20	
2-Butanone	56.2	10.0	ug/L	50.00		112	70-130	2	20	
2-Chlorotoluene	10.1	1.0	ug/L	10.00		101	70-130	2	20	
2-Hexanone	51.1	10.0	ug/L	50.00		102	70-130	3	20	

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22I0681

Quality Control Data

8260B Volatile Organic Compounds

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch DI22025 - 5030B										
4-Chlorotoluene	10.2	1.0	ug/L	10.00		102	70-130	2	20	
4-Isopropyltoluene	10.8	1.0	ug/L	10.00		108	70-130	0.09	20	
4-Methyl-2-Pentanone	50.8	10.0	ug/L	50.00		102	70-130	4	20	
Acetone	60.4	10.0	ug/L	50.00		121	70-130	3	20	
Benzene	10.8	1.0	ug/L	10.00		108	70-130	2	20	
Bromobenzene	9.6	2.0	ug/L	10.00		96	70-130	2	20	
Bromochloromethane	10.9	1.0	ug/L	10.00		109	70-130	4	20	
Bromodichloromethane	10.3	0.6	ug/L	10.00		103	70-130	3	20	
Bromoform	8.0	1.0	ug/L	10.00		80	70-130	0.1	20	
Bromomethane	7.8	2.0	ug/L	10.00		78	70-130	0.6	20	
Carbon Disulfide	9.7	1.0	ug/L	10.00		97	70-130	0.8	20	
Carbon Tetrachloride	10.2	1.0	ug/L	10.00		102	70-130	3	20	
Chlorobenzene	9.8	1.0	ug/L	10.00		98	70-130	2	20	
Chloroethane	12.1	2.0	ug/L	10.00		121	70-130	4	20	
Chloroform	10.7	1.0	ug/L	10.00		107	70-130	2	20	
Chloromethane	9.2	2.0	ug/L	10.00		92	70-130	0	20	
cis-1,2-Dichloroethene	11.0	1.0	ug/L	10.00		110	70-130	0.4	20	
cis-1,3-Dichloropropene	9.8	0.4	ug/L	10.00		98	70-130	1	20	
Dibromochloromethane	9.1	1.0	ug/L	10.00		91	70-130	0.5	20	
Dibromomethane	10.3	1.0	ug/L	10.00		103	70-130	0.9	20	
Dichlorodifluoromethane	9.4	2.0	ug/L	10.00		94	70-130	0.4	20	
Diethyl Ether	10.0	1.0	ug/L	10.00		100	70-130	4	20	
Di-isopropyl ether	10.9	1.0	ug/L	10.00		109	70-130	3	20	
Ethyl tertiary-butyl ether	10.1	1.0	ug/L	10.00		101	70-130	1	20	
Ethylbenzene	9.6	1.0	ug/L	10.00		96	70-130	2	20	
Hexachlorobutadiene	10.2	0.6	ug/L	10.00		102	70-130	4	20	
Hexachloroethane	9.7	1.0	ug/L	10.00		97	70-130	0.9	20	
Isopropylbenzene	10.1	1.0	ug/L	10.00		101	70-130	2	20	
Methyl tert-Butyl Ether	9.6	1.0	ug/L	10.00		96	70-130	1	20	
Methylene Chloride	12.0	2.0	ug/L	10.00		120	70-130	0.5	20	
Naphthalene	8.7	1.0	ug/L	10.00		87	70-130	5	20	
n-Butylbenzene	11.1	1.0	ug/L	10.00		111	70-130	0.2	20	
n-Propylbenzene	10.4	1.0	ug/L	10.00		104	70-130	2	20	
sec-Butylbenzene	10.7	1.0	ug/L	10.00		107	70-130	0.7	20	
Styrene	8.9	1.0	ug/L	10.00		89	70-130	1	20	
tert-Butylbenzene	10.4	1.0	ug/L	10.00		104	70-130	2	20	
Tertiary-amyl methyl ether	9.2	1.0	ug/L	10.00		92	70-130	2	20	
Tetrachloroethene	9.7	1.0	ug/L	10.00		97	70-130	3	20	
Tetrahydrofuran	10.9	5.0	ug/L	10.00		109	70-130	1	20	
Toluene	10.3	1.0	ug/L	10.00		103	70-130	2	20	
trans-1,2-Dichloroethene	11.3	1.0	ug/L	10.00		113	70-130	5	20	
trans-1,3-Dichloropropene	8.4	0.4	ug/L	10.00		84	70-130	0.5	20	
Trichloroethene	10.3	1.0	ug/L	10.00		103	70-130	0.9	20	
Trichlorofluoromethane	11.4	1.0	ug/L	10.00		114	70-130	10	20	
Vinyl Chloride	11.1	1.0	ug/L	10.00		111	70-130	0.4	20	

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22I0681

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DI22025 - 5030B										
Xylene O	9.9	1.0	ug/L	10.00		99	70-130	0.7	20	
Xylene P,M	19.8	2.0	ug/L	20.00		99	70-130	1	20	
Surrogate: 1,2-Dichloroethane-d4	*27.6*		ug/L	*25.00*		*110*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*24.5*		ug/L	*25.00*		*98*	*70-130*			
Surrogate: Dibromofluoromethane	*26.2*		ug/L	*25.00*		*105*	*70-130*			
Surrogate: Toluene-d8	*24.7*		ug/L	*25.00*		*99*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22I0681

Notes and Definitions

U	Analyte included in the analysis, but not detected
CD-	Continuing Calibration %Diff/Drift is below control limit (CD-).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probable Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22I0681

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Campbell Environmental - TB

Shipped/Delivered Via: ESS Courier

ESS Project ID: 22I0681
Date Received: 9/19/2022
Project Due Date: 9/26/2022
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.9 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / NA
10. Were any analyses received outside of hold time? Yes / No

11. Any Subcontracting needed? Yes / No
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA
13. Are the samples properly preserved? Yes / No
    a. If metals preserved upon receipt: Date: Time: By/Acid Lot#:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Resolution:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	340511	Yes	No	Yes	VOA Vial	HCl	
1	340512	Yes	No	Yes	VOA Vial	HCl	
1	340513	Yes	No	Yes	VOA Vial	HCl	
2	340514	Yes	No	Yes	VOA Vial	HCl	
2	340515	Yes	No	Yes	VOA Vial	HCl	
2	340516	Yes	No	Yes	VOA Vial	HCl	

2nd Review
Were all containers scanned into storage/lab? Initials
Are barcode labels on correct containers? Yes / No
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By:
Reviewed
Date & Time: 9/19/22 17:02

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Campbell Environmental - TB

By: Taylor Davies

Date & Time: 9/19/22 1728.

ESS Project ID: 2210681

Date Received: 9/19/2022

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02910
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 2210681 | Page 1 of 1

Turn Time (Days): ☒ ≥ 5 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)
☒ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CAMPBELL
Address: ENVIRONMENTAL INC
Phone:
Email Distribution List:

PROJECT INFORMATION

Project Name: 10-50 Main
Project Location: Ashland MA
Project Number:
Project Manager:
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	8260 VOCs	Total Number of Bottles
1	9/17/22	146	grab		MW-10 Well B-5	X	3
2	9/17/22	238	grab		MW-2	X	3

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial*
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*
Preservation Code: 1-Non Preserved 2-HCl* 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*
Sampled by :

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 2.9 / 1C

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
	9/19/22	10:00			9/19/22	16:27	
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CERTIFICATE OF ANALYSIS

George Campbell
Campbell Environmental
38 Sunset Drive
Northboro, MA 01532

RE: 10-50 Main Ashland MA (N/A)
ESS Laboratory Work Order Number: 22J0842

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 2:31 pm, Oct 31, 2022

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22J0842

SAMPLE RECEIPT

The following samples were received on October 24, 2022 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
22J0842-01	C-1/MW-1	Ground Water	8260B
22J0842-02	C-3/MW-3	Ground Water	8260B

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22J0842

PROJECT NARRATIVE

8260B Volatile Organic Compounds

D2J0452-CCV1 **Calibration required quadratic regression (Q).**
Bromoform (96% @ 80-120%)

D2J0452-CCV1 **Continuing Calibration %Diff/Drift is below control limit (CD-).**
Tetrachloroethene (23% @ 20%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22J0842

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22J0842

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **22J0842-01 through 22J0842-02**

Matrices: (x) Ground Water/Surface Water ( ) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

(x) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	( ) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (x) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (x) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (x) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (x) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (x) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (x) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (x)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (x) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Date: October 31, 2022

Printed Name: Laurel Stoddard

Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-1
Date Sampled: 10/20/22 08:54
Percent Solids: N/A
Initial Volume: 5ml
Final Volume: 5ml
Extraction Method: 5030B

ESS Laboratory Work Order: 22J0842
ESS Laboratory Sample ID: 22J0842-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
1,1,1-Trichloroethane	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
1,1,2,2-Tetrachloroethane	ND (0.5)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
1,1,2-Trichloroethane	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
1,1-Dichloroethane	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
1,1-Dichloroethene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
1,1-Dichloropropene	ND (2.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
1,2,3-Trichlorobenzene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
1,2,3-Trichloropropane	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
1,2,4-Trichlorobenzene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
1,2,4-Trimethylbenzene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
1,2-Dibromo-3-Chloropropane	ND (5.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
1,2-Dibromoethane	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
1,2-Dichlorobenzene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
1,2-Dichloroethane	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
1,2-Dichloropropane	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
1,3,5-Trimethylbenzene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
1,3-Dichlorobenzene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
1,3-Dichloropropane	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
1,4-Dichlorobenzene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
1,4-Dioxane - Screen	ND (500)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
2,2-Dichloropropane	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
2-Butanone	ND (10.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
2-Chlorotoluene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
2-Hexanone	ND (10.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
4-Chlorotoluene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
4-Isopropyltoluene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
4-Methyl-2-Pentanone	ND (10.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Acetone	ND (10.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Benzene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Bromobenzene	ND (2.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Bromochloromethane	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-1
Date Sampled: 10/20/22 08:54
Percent Solids: N/A
Initial Volume: 5ml
Final Volume: 5ml
Extraction Method: 5030B

ESS Laboratory Work Order: 22J0842
ESS Laboratory Sample ID: 22J0842-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.6)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Bromoform	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Bromomethane	ND (2.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Carbon Disulfide	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Carbon Tetrachloride	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Chlorobenzene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Chloroethane	ND (2.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Chloroform	**2.4** (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Chloromethane	ND (2.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
cis-1,2-Dichloroethene	**12.0** (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
cis-1,3-Dichloropropene	ND (0.4)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Dibromochloromethane	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Dibromomethane	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Dichlorodifluoromethane	ND (2.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Diethyl Ether	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Di-isopropyl ether	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Ethyl tertiary-butyl ether	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Ethylbenzene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Hexachlorobutadiene	ND (0.6)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Hexachloroethane	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Isopropylbenzene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Methyl tert-Butyl Ether	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Methylene Chloride	ND (2.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Naphthalene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
n-Butylbenzene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
n-Propylbenzene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
sec-Butylbenzene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Styrene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
tert-Butylbenzene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Tertiary-amyl methyl ether	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Tetrachloroethene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Tetrahydrofuran	ND (5.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-1
Date Sampled: 10/20/22 08:54
Percent Solids: N/A
Initial Volume: 5ml
Final Volume: 5ml
Extraction Method: 5030B

ESS Laboratory Work Order: 22J0842
ESS Laboratory Sample ID: 22J0842-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
trans-1,2-Dichloroethene	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
trans-1,3-Dichloropropene	ND (0.4)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Trichloroethene	**7.7** (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Trichlorofluoromethane	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Vinyl Chloride	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Xylene O	ND (1.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Xylene P,M	ND (2.0)		8260B		1	10/25/22 12:54	D2J0452	DJ22512
Xylenes (Total)	ND (2.00)		8260B		1	10/25/22 12:54		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*104 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*98 %*		*70-130*
Surrogate: Dibromofluoromethane	*100 %*		*70-130*
Surrogate: Toluene-d8	*100 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-3
Date Sampled: 10/20/22 10:03
Percent Solids: N/A
Initial Volume: 5ml
Final Volume: 5ml
Extraction Method: 5030B

ESS Laboratory Work Order: 22J0842
ESS Laboratory Sample ID: 22J0842-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
1,1,1-Trichloroethane	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
1,1,2,2-Tetrachloroethane	ND (0.5)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
1,1,2-Trichloroethane	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
1,1-Dichloroethane	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
1,1-Dichloroethene	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
1,1-Dichloropropene	ND (2.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
1,2,3-Trichlorobenzene	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
1,2,3-Trichloropropane	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
1,2,4-Trichlorobenzene	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
1,2,4-Trimethylbenzene	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
1,2-Dibromo-3-Chloropropane	ND (5.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
1,2-Dibromoethane	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
1,2-Dichlorobenzene	**13.1** (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
1,2-Dichloroethane	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
1,2-Dichloropropane	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
1,3,5-Trimethylbenzene	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
1,3-Dichlorobenzene	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
1,3-Dichloropropane	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
1,4-Dichlorobenzene	**2.6** (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
1,4-Dioxane - Screen	ND (500)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
2,2-Dichloropropane	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
2-Butanone	ND (10.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
2-Chlorotoluene	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
2-Hexanone	ND (10.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
4-Chlorotoluene	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
4-Isopropyltoluene	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
4-Methyl-2-Pentanone	ND (10.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Acetone	ND (10.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Benzene	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Bromobenzene	ND (2.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Bromochloromethane	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-3
Date Sampled: 10/20/22 10:03
Percent Solids: N/A
Initial Volume: 5ml
Final Volume: 5ml
Extraction Method: 5030B

ESS Laboratory Work Order: 22J0842
ESS Laboratory Sample ID: 22J0842-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.6)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Bromoform	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Bromomethane	ND (2.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Carbon Disulfide	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Carbon Tetrachloride	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Chlorobenzene	**24.8** (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Chloroethane	ND (2.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Chloroform	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Chloromethane	ND (2.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
cis-1,2-Dichloroethene	**2.9** (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
cis-1,3-Dichloropropene	ND (0.4)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Dibromochloromethane	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Dibromomethane	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Dichlorodifluoromethane	ND (2.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Diethyl Ether	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Di-isopropyl ether	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Ethyl tertiary-butyl ether	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Ethylbenzene	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Hexachlorobutadiene	ND (0.6)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Hexachloroethane	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Isopropylbenzene	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Methyl tert-Butyl Ether	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Methylene Chloride	ND (2.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Naphthalene	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
n-Butylbenzene	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
n-Propylbenzene	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
sec-Butylbenzene	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Styrene	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
tert-Butylbenzene	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Tertiary-amyl methyl ether	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Tetrachloroethene	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Tetrahydrofuran	ND (5.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA
Client Sample ID: C-3
Date Sampled: 10/20/22 10:03
Percent Solids: N/A
Initial Volume: 5ml
Final Volume: 5ml
Extraction Method: 5030B

ESS Laboratory Work Order: 22J0842
ESS Laboratory Sample ID: 22J0842-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

8260B Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Toluene	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
trans-1,2-Dichloroethene	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
trans-1,3-Dichloropropene	ND (0.4)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Trichloroethene	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Trichlorofluoromethane	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Vinyl Chloride	**1.1** (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Xylene O	ND (1.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Xylene P,M	ND (2.0)		8260B		1	10/25/22 13:20	D2J0452	DJ22512
Xylenes (Total)	ND (2.00)		8260B		1	10/25/22 13:20		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*104 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*98 %*		*70-130*
Surrogate: Dibromofluoromethane	*101 %*		*70-130*
Surrogate: Toluene-d8	*101 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22J0842

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DJ22512 - 5030B										
Blank										
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L							
1,1,1-Trichloroethane	ND	1.0	ug/L							
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L							
1,1,2-Trichloroethane	ND	1.0	ug/L							
1,1-Dichloroethane	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloropropene	ND	2.0	ug/L							
1,2,3-Trichlorobenzene	ND	1.0	ug/L							
1,2,3-Trichloropropane	ND	1.0	ug/L							
1,2,4-Trichlorobenzene	ND	1.0	ug/L							
1,2,4-Trimethylbenzene	ND	1.0	ug/L							
1,2-Dibromo-3-Chloropropane	ND	5.0	ug/L							
1,2-Dibromoethane	ND	1.0	ug/L							
1,2-Dichlorobenzene	ND	1.0	ug/L							
1,2-Dichloroethane	ND	1.0	ug/L							
1,2-Dichloropropane	ND	1.0	ug/L							
1,3,5-Trimethylbenzene	ND	1.0	ug/L							
1,3-Dichlorobenzene	ND	1.0	ug/L							
1,3-Dichloropropane	ND	1.0	ug/L							
1,4-Dichlorobenzene	ND	1.0	ug/L							
1,4-Dioxane - Screen	ND	500	ug/L							
2,2-Dichloropropane	ND	1.0	ug/L							
2-Butanone	ND	10.0	ug/L							
2-Chlorotoluene	ND	1.0	ug/L							
2-Hexanone	ND	10.0	ug/L							
4-Chlorotoluene	ND	1.0	ug/L							
4-Isopropyltoluene	ND	1.0	ug/L							
4-Methyl-2-Pentanone	ND	10.0	ug/L							
Acetone	ND	10.0	ug/L							
Benzene	ND	1.0	ug/L							
Bromobenzene	ND	2.0	ug/L							
Bromochloromethane	ND	1.0	ug/L							
Bromodichloromethane	ND	0.6	ug/L							
Bromoform	ND	1.0	ug/L							
Bromomethane	ND	2.0	ug/L							
Carbon Disulfide	ND	1.0	ug/L							
Carbon Tetrachloride	ND	1.0	ug/L							
Chlorobenzene	ND	1.0	ug/L							
Chloroethane	ND	2.0	ug/L							
Chloroform	ND	1.0	ug/L							
Chloromethane	ND	2.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
cis-1,3-Dichloropropene	ND	0.4	ug/L							
Dibromochloromethane	ND	1.0	ug/L							

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22J0842

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DJ22512 - 5030B										
Dibromomethane	ND	1.0	ug/L							
Dichlorodifluoromethane	ND	2.0	ug/L							
Diethyl Ether	ND	1.0	ug/L							
Di-isopropyl ether	ND	1.0	ug/L							
Ethyl tertiary-butyl ether	ND	1.0	ug/L							
Ethylbenzene	ND	1.0	ug/L							
Hexachlorobutadiene	ND	0.6	ug/L							
Hexachloroethane	ND	1.0	ug/L							
Isopropylbenzene	ND	1.0	ug/L							
Methyl tert-Butyl Ether	ND	1.0	ug/L							
Methylene Chloride	ND	2.0	ug/L							
Naphthalene	ND	1.0	ug/L							
n-Butylbenzene	ND	1.0	ug/L							
n-Propylbenzene	ND	1.0	ug/L							
sec-Butylbenzene	ND	1.0	ug/L							
Styrene	ND	1.0	ug/L							
tert-Butylbenzene	ND	1.0	ug/L							
Tertiary-amyl methyl ether	ND	1.0	ug/L							
Tetrachloroethene	ND	1.0	ug/L							
Tetrahydrofuran	ND	5.0	ug/L							
Toluene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,3-Dichloropropene	ND	0.4	ug/L							
Trichloroethene	ND	1.0	ug/L							
Trichlorofluoromethane	ND	1.0	ug/L							
Vinyl Chloride	ND	1.0	ug/L							
Xylene O	ND	1.0	ug/L							
Xylene P,M	ND	2.0	ug/L							
Surrogate: 1,2-Dichloroethane-d4	*25.7*		ug/L	*25.00*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*24.4*		ug/L	*25.00*		*98*	*70-130*			
Surrogate: Dibromofluoromethane	*24.7*		ug/L	*25.00*		*99*	*70-130*			
Surrogate: Toluene-d8	*25.2*		ug/L	*25.00*		*101*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	10.2	1.0	ug/L	10.00		102	70-130			
1,1,1-Trichloroethane	10.3	1.0	ug/L	10.00		103	70-130			
1,1,2,2-Tetrachloroethane	9.8	0.5	ug/L	10.00		98	70-130			
1,1,2-Trichloroethane	9.5	1.0	ug/L	10.00		95	70-130			
1,1-Dichloroethane	10.0	1.0	ug/L	10.00		100	70-130			
1,1-Dichloroethene	10.8	1.0	ug/L	10.00		108	70-130			
1,1-Dichloropropene	9.6	2.0	ug/L	10.00		96	70-130			
1,2,3-Trichlorobenzene	9.9	1.0	ug/L	10.00		99	70-130			
1,2,3-Trichloropropane	9.2	1.0	ug/L	10.00		92	70-130			
1,2,4-Trichlorobenzene	9.6	1.0	ug/L	10.00		96	70-130			
1,2,4-Trimethylbenzene	9.8	1.0	ug/L	10.00		98	70-130			
1,2-Dibromo-3-Chloropropane	8.5	5.0	ug/L	10.00		85	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22J0842

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DJ22512 - 5030B										
1,2-Dibromoethane	9.8	1.0	ug/L	10.00		98	70-130			
1,2-Dichlorobenzene	9.7	1.0	ug/L	10.00		97	70-130			
1,2-Dichloroethane	9.8	1.0	ug/L	10.00		98	70-130			
1,2-Dichloropropane	9.4	1.0	ug/L	10.00		94	70-130			
1,3,5-Trimethylbenzene	10.2	1.0	ug/L	10.00		102	70-130			
1,3-Dichlorobenzene	9.8	1.0	ug/L	10.00		98	70-130			
1,3-Dichloropropane	9.9	1.0	ug/L	10.00		99	70-130			
1,4-Dichlorobenzene	9.8	1.0	ug/L	10.00		98	70-130			
1,4-Dioxane - Screen	ND	500	ug/L	200.0		0	0-332			
2,2-Dichloropropane	10.6	1.0	ug/L	10.00		106	70-130			
2-Butanone	49.3	10.0	ug/L	50.00		99	70-130			
2-Chlorotoluene	10.0	1.0	ug/L	10.00		100	70-130			
2-Hexanone	48.6	10.0	ug/L	50.00		97	70-130			
4-Chlorotoluene	9.9	1.0	ug/L	10.00		99	70-130			
4-Isopropyltoluene	9.9	1.0	ug/L	10.00		99	70-130			
4-Methyl-2-Pentanone	48.0	10.0	ug/L	50.00		96	70-130			
Acetone	52.2	10.0	ug/L	50.00		104	70-130			
Benzene	9.6	1.0	ug/L	10.00		96	70-130			
Bromobenzene	9.9	2.0	ug/L	10.00		99	70-130			
Bromochloromethane	10.2	1.0	ug/L	10.00		102	70-130			
Bromodichloromethane	10.2	0.6	ug/L	10.00		102	70-130			
Bromoform	9.1	1.0	ug/L	10.00		91	70-130			
Bromomethane	10.4	2.0	ug/L	10.00		104	70-130			
Carbon Disulfide	10.4	1.0	ug/L	10.00		104	70-130			
Carbon Tetrachloride	10.2	1.0	ug/L	10.00		102	70-130			
Chlorobenzene	9.5	1.0	ug/L	10.00		95	70-130			
Chloroethane	9.8	2.0	ug/L	10.00		98	70-130			
Chloroform	9.8	1.0	ug/L	10.00		98	70-130			
Chloromethane	8.4	2.0	ug/L	10.00		84	70-130			
cis-1,2-Dichloroethene	9.8	1.0	ug/L	10.00		98	70-130			
cis-1,3-Dichloropropene	9.8	0.4	ug/L	10.00		98	70-130			
Dibromochloromethane	9.0	1.0	ug/L	10.00		90	70-130			
Dibromomethane	9.6	1.0	ug/L	10.00		96	70-130			
Dichlorodifluoromethane	9.3	2.0	ug/L	10.00		93	70-130			
Diethyl Ether	9.5	1.0	ug/L	10.00		95	70-130			
Di-isopropyl ether	9.9	1.0	ug/L	10.00		99	70-130			
Ethyl tertiary-butyl ether	10.0	1.0	ug/L	10.00		100	70-130			
Ethylbenzene	9.6	1.0	ug/L	10.00		96	70-130			
Hexachlorobutadiene	10.5	0.6	ug/L	10.00		105	70-130			
Hexachloroethane	9.3	1.0	ug/L	10.00		93	70-130			
Isopropylbenzene	10.1	1.0	ug/L	10.00		101	70-130			
Methyl tert-Butyl Ether	9.5	1.0	ug/L	10.00		95	70-130			
Methylene Chloride	10.4	2.0	ug/L	10.00		104	70-130			
Naphthalene	8.4	1.0	ug/L	10.00		84	70-130			
n-Butylbenzene	10.0	1.0	ug/L	10.00		100	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22J0842

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DJ22512 - 5030B										
n-Propylbenzene	9.9	1.0	ug/L	10.00		99	70-130			
sec-Butylbenzene	9.9	1.0	ug/L	10.00		99	70-130			
Styrene	9.7	1.0	ug/L	10.00		97	70-130			
tert-Butylbenzene	10.1	1.0	ug/L	10.00		101	70-130			
Tertiary-amyl methyl ether	9.4	1.0	ug/L	10.00		94	70-130			
Tetrachloroethene	8.4	1.0	ug/L	10.00		84	70-130			
Tetrahydrofuran	9.5	5.0	ug/L	10.00		95	70-130			
Toluene	9.7	1.0	ug/L	10.00		97	70-130			
trans-1,2-Dichloroethene	10.8	1.0	ug/L	10.00		108	70-130			
trans-1,3-Dichloropropene	7.8	0.4	ug/L	10.00		78	70-130			
Trichloroethene	9.2	1.0	ug/L	10.00		92	70-130			
Trichlorofluoromethane	10.0	1.0	ug/L	10.00		100	70-130			
Vinyl Chloride	11.3	1.0	ug/L	10.00		113	70-130			
Xylene O	9.9	1.0	ug/L	10.00		99	70-130			
Xylene P,M	20.0	2.0	ug/L	20.00		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	*25.6*		ug/L	*25.00*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*25.3*		ug/L	*25.00*		*101*	*70-130*			
Surrogate: Dibromofluoromethane	*25.2*		ug/L	*25.00*		*101*	*70-130*			
Surrogate: Toluene-d8	*24.8*		ug/L	*25.00*		*99*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	10.4	1.0	ug/L	10.00		104	70-130	2	20	
1,1,1-Trichloroethane	10.3	1.0	ug/L	10.00		103	70-130	0.7	20	
1,1,2,2-Tetrachloroethane	10.0	0.5	ug/L	10.00		100	70-130	3	20	
1,1,2-Trichloroethane	9.6	1.0	ug/L	10.00		96	70-130	1	20	
1,1-Dichloroethane	10.3	1.0	ug/L	10.00		103	70-130	3	20	
1,1-Dichloroethene	11.4	1.0	ug/L	10.00		114	70-130	5	20	
1,1-Dichloropropene	10.0	2.0	ug/L	10.00		100	70-130	4	20	
1,2,3-Trichlorobenzene	9.4	1.0	ug/L	10.00		94	70-130	4	20	
1,2,3-Trichloropropane	9.2	1.0	ug/L	10.00		92	70-130	0	20	
1,2,4-Trichlorobenzene	9.6	1.0	ug/L	10.00		96	70-130	0.7	20	
1,2,4-Trimethylbenzene	9.7	1.0	ug/L	10.00		97	70-130	0.5	20	
1,2-Dibromo-3-Chloropropane	8.7	5.0	ug/L	10.00		87	70-130	2	20	
1,2-Dibromoethane	9.8	1.0	ug/L	10.00		98	70-130	0.2	20	
1,2-Dichlorobenzene	9.8	1.0	ug/L	10.00		98	70-130	1	20	
1,2-Dichloroethane	9.7	1.0	ug/L	10.00		97	70-130	1	20	
1,2-Dichloropropane	9.8	1.0	ug/L	10.00		98	70-130	4	20	
1,3,5-Trimethylbenzene	10.3	1.0	ug/L	10.00		103	70-130	0.6	20	
1,3-Dichlorobenzene	9.8	1.0	ug/L	10.00		98	70-130	0.4	20	
1,3-Dichloropropane	10.1	1.0	ug/L	10.00		101	70-130	1	20	
1,4-Dichlorobenzene	9.8	1.0	ug/L	10.00		98	70-130	0.9	20	
1,4-Dioxane - Screen	ND	500	ug/L	200.0		0	0-332	200	200	
2,2-Dichloropropane	10.9	1.0	ug/L	10.00		109	70-130	3	20	
2-Butanone	49.7	10.0	ug/L	50.00		99	70-130	0.7	20	
2-Chlorotoluene	10.0	1.0	ug/L	10.00		100	70-130	0.2	20	
2-Hexanone	48.6	10.0	ug/L	50.00		97	70-130	0.08	20	

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22J0842

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DJ22512 - 5030B										
4-Chlorotoluene	10.0	1.0	ug/L	10.00		100	70-130	0.6	20	
4-Isopropyltoluene	9.8	1.0	ug/L	10.00		98	70-130	2	20	
4-Methyl-2-Pentanone	48.6	10.0	ug/L	50.00		97	70-130	1	20	
Acetone	51.9	10.0	ug/L	50.00		104	70-130	0.5	20	
Benzene	9.9	1.0	ug/L	10.00		99	70-130	3	20	
Bromobenzene	9.9	2.0	ug/L	10.00		99	70-130	0.6	20	
Bromochloromethane	10.1	1.0	ug/L	10.00		101	70-130	1	20	
Bromodichloromethane	10.4	0.6	ug/L	10.00		104	70-130	1	20	
Bromoform	9.2	1.0	ug/L	10.00		92	70-130	1	20	
Bromomethane	10.3	2.0	ug/L	10.00		103	70-130	2	20	
Carbon Disulfide	10.6	1.0	ug/L	10.00		106	70-130	1	20	
Carbon Tetrachloride	10.5	1.0	ug/L	10.00		105	70-130	3	20	
Chlorobenzene	9.8	1.0	ug/L	10.00		98	70-130	3	20	
Chloroethane	10.0	2.0	ug/L	10.00		100	70-130	2	20	
Chloroform	10.1	1.0	ug/L	10.00		101	70-130	4	20	
Chloromethane	9.1	2.0	ug/L	10.00		91	70-130	8	20	
cis-1,2-Dichloroethene	10.3	1.0	ug/L	10.00		103	70-130	5	20	
cis-1,3-Dichloropropene	9.9	0.4	ug/L	10.00		99	70-130	0.9	20	
Dibromochloromethane	9.1	1.0	ug/L	10.00		91	70-130	2	20	
Dibromomethane	9.8	1.0	ug/L	10.00		98	70-130	1	20	
Dichlorodifluoromethane	9.5	2.0	ug/L	10.00		95	70-130	2	20	
Diethyl Ether	10.0	1.0	ug/L	10.00		100	70-130	5	20	
Di-isopropyl ether	10.0	1.0	ug/L	10.00		100	70-130	0.9	20	
Ethyl tertiary-butyl ether	10.3	1.0	ug/L	10.00		103	70-130	2	20	
Ethylbenzene	9.9	1.0	ug/L	10.00		99	70-130	3	20	
Hexachlorobutadiene	10.0	0.6	ug/L	10.00		100	70-130	5	20	
Hexachloroethane	9.2	1.0	ug/L	10.00		92	70-130	2	20	
Isopropylbenzene	10.3	1.0	ug/L	10.00		103	70-130	2	20	
Methyl tert-Butyl Ether	9.8	1.0	ug/L	10.00		98	70-130	3	20	
Methylene Chloride	10.6	2.0	ug/L	10.00		106	70-130	2	20	
Naphthalene	8.3	1.0	ug/L	10.00		83	70-130	2	20	
n-Butylbenzene	9.8	1.0	ug/L	10.00		98	70-130	2	20	
n-Propylbenzene	9.9	1.0	ug/L	10.00		99	70-130	0.1	20	
sec-Butylbenzene	9.8	1.0	ug/L	10.00		98	70-130	2	20	
Styrene	9.7	1.0	ug/L	10.00		97	70-130	0.7	20	
tert-Butylbenzene	10.0	1.0	ug/L	10.00		100	70-130	0.4	20	
Tertiary-amyl methyl ether	9.7	1.0	ug/L	10.00		97	70-130	3	20	
Tetrachloroethene	8.6	1.0	ug/L	10.00		86	70-130	3	20	
Tetrahydrofuran	9.2	5.0	ug/L	10.00		92	70-130	4	20	
Toluene	9.9	1.0	ug/L	10.00		99	70-130	2	20	
trans-1,2-Dichloroethene	10.7	1.0	ug/L	10.00		107	70-130	1	20	
trans-1,3-Dichloropropene	8.0	0.4	ug/L	10.00		80	70-130	2	20	
Trichloroethene	9.4	1.0	ug/L	10.00		94	70-130	3	20	
Trichlorofluoromethane	10.8	1.0	ug/L	10.00		108	70-130	8	20	
Vinyl Chloride	11.9	1.0	ug/L	10.00		119	70-130	5	20	

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22J0842

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8260B Volatile Organic Compounds										
Batch DJ22512 - 5030B										
Xylene O	10.0	1.0	ug/L	10.00		100	70-130	1	20	
Xylene P,M	20.0	2.0	ug/L	20.00		100	70-130	0.1	20	
Surrogate: 1,2-Dichloroethane-d4	*26.0*		ug/L	*25.00*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*25.3*		ug/L	*25.00*		*101*	*70-130*			
Surrogate: Dibromofluoromethane	*25.6*		ug/L	*25.00*		*103*	*70-130*			
Surrogate: Toluene-d8	*25.1*		ug/L	*25.00*		*100*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22J0842

Notes and Definitions

U	Analyte included in the analysis, but not detected
Q	Calibration required quadratic regression (Q).
CD-	Continuing Calibration %Diff/Drift is below control limit (CD-).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probable Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: Campbell Environmental
Client Project ID: 10-50 Main Ashland MA

ESS Laboratory Work Order: 22J0842

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Campbell Environmental - TB

Shipped/Delivered Via: ESS Courier

ESS Project ID: 22J0842
Date Received: 10/24/2022
Project Due Date: 10/31/2022
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 4.7 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / NA
10. Were any analyses received outside of hold time? Yes / No

11. Any Subcontracting needed? Yes / No
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA
13. Are the samples properly preserved? Yes / No
    a. If metals preserved upon receipt: Date: Time: By/Acid Lot#:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Resolution:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	356414	Yes	No	Yes	VOA Vial	HCl	
1	356415	Yes	No	Yes	VOA Vial	HCl	
1	356416	Yes	No	Yes	VOA Vial	HCl	
2	356417	Yes	No	Yes	VOA Vial	HCl	
2	356418	Yes	No	Yes	VOA Vial	HCl	
2	356419	Yes	No	Yes	VOA Vial	HCl	

2nd Review
Were all containers scanned into storage/lab? Initials TD
Are barcode labels on correct containers? Yes / No
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: Taylor Davis Date & Time: 1640 10/24/22
Reviewed

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Campbell Environmental - TB

ESS Project ID: 22J0842

Date Received: 10/24/2022

By: MKen

Date & Time: 10/24/22 1778

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02910
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 22J0842 | Page 1 of 1

Turn Time (Days): ☑ > 5 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: MA MCP Criteria: GW-2

Is this project for any of the following?:
☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)
☑ Limit Checker ☐ State Forms ☐ EQuIS
☑ Excel ☐ State Upload ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CAMPBELL
Address: ENVIRONMENTAL INC
38 Sunset Drive
Phone: Northboro MA
Email Distribution List:

PROJECT INFORMATION

Project Name: 10-50 main street
Project Location: Ashland MA
Project Number:
Project Manager:
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID		VOCs 8260	Total Number of Bottles
1	10-20-22	854	grab	GW	C [illegible]-1	MW-1	X	
2	10-20-22	1003	grab	GW	C [illegible]-3	MW-3	X	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by :

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 4.7 / ice

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration
☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
GA	10-24-22	10:05			10/24/22	16:20	[illegible]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

LIMITATIONS

The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No warranty, expressed or implied, is made. These services were performed consistent with our agreement with our client, Ashland Properties, LLC. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, nor the use of segregated portions of this report.

The purpose of the environmental assessment is to reasonably evaluate the potential for or actual impact of past practices on a given site area. In performing an environmental assessment, it is understood that a balance must be struck between a reasonable inquiry into the environmental issues and an exhaustive analysis of each conceivable issue of potential concern. The following paragraphs discuss the assumptions and parameters under which such an opinion is rendered.

No investigation is thorough enough to exclude the presence of all hazardous materials at a given site. If hazardous conditions have not been identified during the assessment, such a finding should not therefore be construed as a guarantee of the absence of such materials on the site, but rather as the result of the services performed within the scope, limitations, and cost of the work performed.

This report makes no representations concerning soil and groundwater quality except as described therein. Environmental conditions may exist that were not identified by visual observation or laboratory testing.

Except where there is express concern of our client, or where specific environmental contaminants have been previously reported, naturally occurring toxic of hazardous substances, or contaminant concentrations that are not of current concern are not reflected in this document.

Hazardous materials not described in this report, other oil and hazardous materials including (but not limited to), asbestos containing material (ACM), metals, mold, radon and lead based paint are not part of this assessment. As indicated, this assessment is only applicable to the disposal site described herein.