



10 June 2025

Mr. Bill Woodruff
Waterbury Public Works Director
28 N Main St #1
Waterbury, VT 05676
bwoodruff@waterburyvt.com

RE: Soil Sampling & Analysis
Randall Meadow Cornfield, Waterbury, VT

Dear Mr. Woodruff:

Ross Environmental Associates Inc. (R.E.A.) collected nine soil samples for laboratory testing from the Randall Meadow Cornfield property which is located between the Winooski River and Randall Street in Waterbury, Vermont (**Figures 1 & 2, Attachment A**). The work was completed as outlined in the work plan dated 21 April 2025. All of the work was completed in accordance with state guidelines following current industry standards. The laboratory results were compared to the Vermont Soil Standards included in Appendix A of the **INVESTIGATION AND REMEDIATION OF CONTAMINATED PROPERTIES RULE**, February 2024

Findings & Conclusions

A summary of the findings from this sampling event are outlined below:

- Benzo(a)pyrene was detected in several soil samples at concentrations above the VT residential soil standard but below the non-residential standard. Low concentrations of several other polycyclic aromatic hydrocarbons (PAHs) were also detected in each sample, but at concentrations below the corresponding residential and non-residential soil standards.
- Perfluorooctane-sulfonic acid (PFOS) was detected in six of the nine samples at concentrations between 0.22 and 0.47 nanograms per kilogram (ng/Kg), which are below the current Vermont soil standard. No other PFAS were detected in any of the soil samples.
- Several of the RCRA 8 metals were detected in the soil samples, but at concentrations below the corresponding residential and non-residential soil standards.

Based on the enclosed test results, the soil in the Randall Meadow Cornfield may need special handling due to the presence of PAHs (specifically benzo(a)pyrene), RCRA 8 metals and PFAS. These constituents are often associated with manure and septic sludge, which have reportedly been applied to the cornfield. Due to the exceedance of the VT residential soil standard for benzo(a)pyrene, the VT DEC should be notified of the findings.

Soil Sampling and Analysis

On 8 May 2025, **R.E.A.** collected nine soil samples from the area of the proposed floodplain restoration in the Randall Meadow Cornfield. The samples were collected approximately six to eight inches below ground surface using a hand trowel. The soil samples were also screened for the possible presence of volatile organic compounds (VOCs) using a PID. PID readings on all of the soil samples were 0.0 parts per million (ppm).

None of the Vermont Soil Standards for PAHs, RCRA 8 metals or PFAS were exceeded in any of the soil samples collected from the area of the proposed floodplain restoration, except for benzo(a)pyrene which was detected above the residential soil standard in the S-1, S-2, S-3, S-4, S-6, and S-7 samples. Low concentrations of several other PAHs were also detected in each sample. PFOS was detected in the S-1, S-3, S-4, S-5, S-6, and S-9 samples at concentrations between 0.22 and 0.47 ng/Kg, which are below the current Vermont soil standard. No other PFAS were detected in any of the soil samples.

Barium, chromium, and lead were detected in all of the soil samples at concentrations between 11 and 54 mg/Kg, which is below the corresponding VT soil standards. Arsenic was detected in all but one of the soil samples at concentrations between 1.7 and 3.9 mg/Kg, which is also below the VT soil standard. Low concentrations of mercury were detected in six of the soil samples at concentrations ranging between 0.05 and 0.48 mg/Kg. Cadmium was detected in four of the nine samples at concentrations between 0.12 and 0.15 mg/Kg. Selenium and silver were not detected above the method detection limits in any of the soil samples. Approximate soil sample locations are shown on **Figure 3**, and the soil analytical results are summarized on **Tables 1, 2, & 3** in **Attachment B** and the laboratory report is included in **Attachment C**.

The soil samples were analyzed for the possible presence of per- and polyfluoroalkyl substances (PFAS - EPA method 1633), Polycyclic aromatic hydrocarbons (PAHs - EPA method 8270), and RCRA 8 metals. The soil samples were transported under chain-of-custody to the respective laboratories. The PAH and RCRA 8 metals samples were transported in an ice filled cooler to Endyne, Inc of Williston, Vermont and the PFAS samples were transported in an ice filled cooler to PACE New England Laboratory in East Longmeadow, Massachusetts.

Please call me if you have any questions or concerns regarding the enclosed information.

Sincerely,

Ross Environmental Associates, Inc.



Robert J. Ross, CGWP
Principal Hydrogeologist

Attachments

ATTACHMENT A

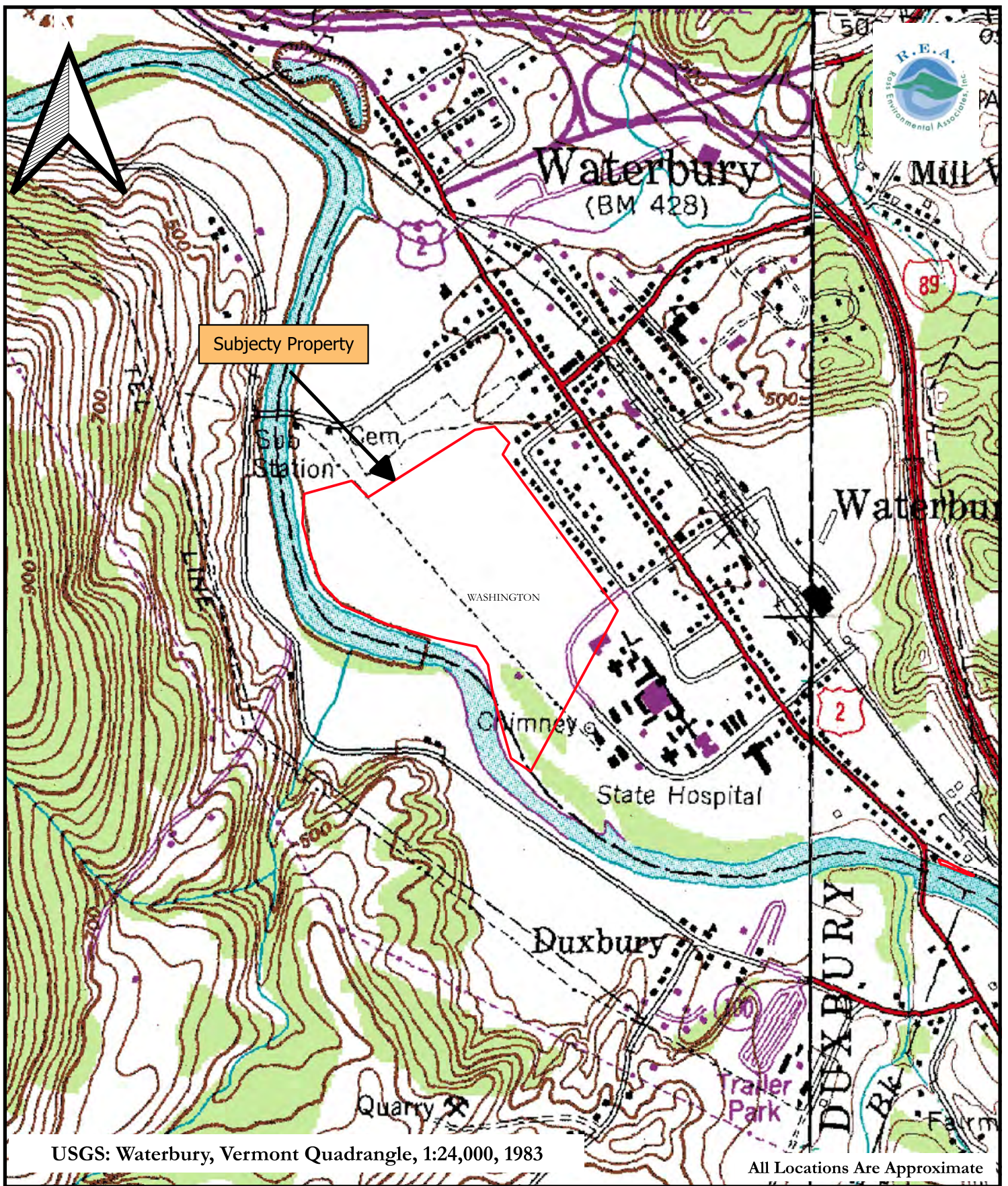


Figure 1
 Site Location Map
 Randall Meadow Cornfield
 Waterbury, Vermont



0 500 1,000 ft

Site Coordinates: N 44° 20' 3.1" W 72° 45' 30.4" (NAD 83)

 Subject Property

Figure 2
Site Orthophotograph
Randall Meadow Cornfield
Waterbury, Vermont

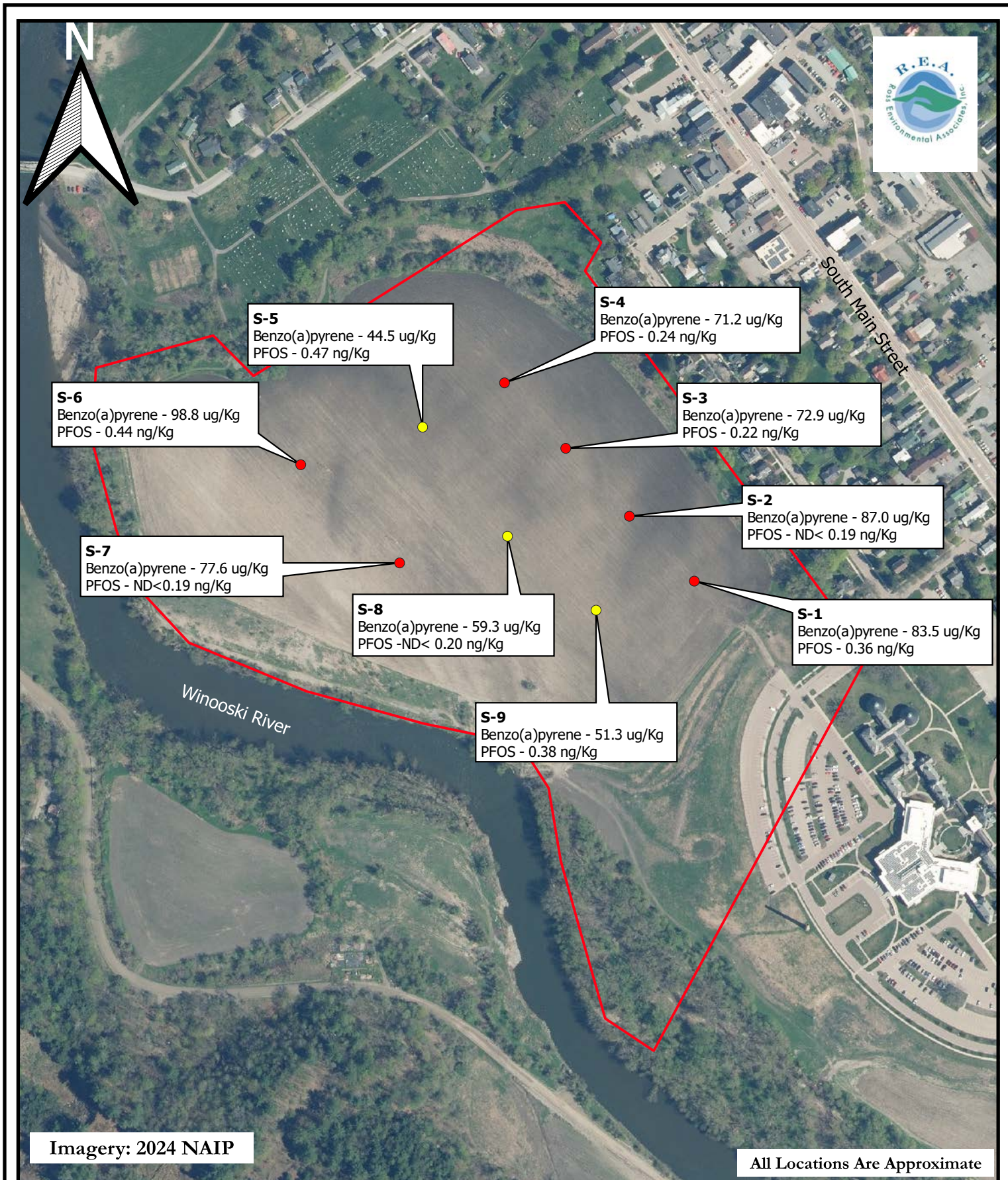


Figure 3
Soil Sample Locations
Sample Date: 8 May 2025
Randall Meadow Cornfield
Waterbury, Vermont

ATTACHMENT B

TABLE 1
SUMMARY OF ANALYTICAL SOIL RESULTS (Metals)

Randall Meadow Cornfield
Waterbury, Vermont

Monitoring Date: 8 May 2025

Metals	Vermont Soil Standards (VSSs)		S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8	S-9
	Residential soil	non-residential Soil									
Arsenic, total*	16	16	3.9	3.0	3.6	2.6	5.2	1.7	1.7	ND< 2.4	1.7
Barium, total	11,247	127,382	54	46	54	44	61	36	28	28	31
Cadmium, total	6.9	87	0.15	ND< 0.11	0.18	ND< 0.10	0.16	0.12	ND< 0.10	ND< 0.098	ND< 0.100
chromium, total	40,223	360,223	25	26	28	25	22	19	18	19	18
lead, total*	41	111	20	17	20	17	19	12	11	14	16
mercury, total	3.1	3.1	0.05	ND< 0.043	0.48	ND< 0.039	ND< 0.04	0.075	0.067	0.064	0.075
selenium, total	366	4,900	ND< 1.0	ND<1.1	ND<1.1	ND<1.1	ND<1.0	ND< 1.0	ND< 1.0	ND< 0.98	ND< 1.0
silver, total	237	2,483	ND < 0.52	ND <0.56	ND <0.55	ND <0.51	ND <0.51	ND < 0.52	ND < 0.50	ND < 0.49	ND < 0.50

Notes:

All soil results reported as milligrams per kilogram (mg/Kg), unless indicated otherwise.

VT Soil Standards (VSSs) - Appendix A - IRule, Feb. 2024.

* Urban and Non-Urban background concentrations

ND: Not detected at indicated detection limit.

Areas shaded are exceedences of the SSV

TABLE 2
SUMMARY OF ANALYTICAL SOIL RESULTS (PAHs)

Randall Meadow Cornfield
Waterbury, Vermont

Monitoring Date: 8 May 2025

Poly-cyclic Aromatic Hydrocarbons (PAH)	Vermont Soil Standards (VSSs)			S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8	S-9
	Residential Soils	non-residential Soils	urban background									
Naphthalene	1,200	7,200	--	ND<25.1	ND<25.4	ND<26.6	ND<24.7	ND<24.2	ND<23.4	ND<23.2	ND<23.2	ND<22.7
2-Methylnaphthalene	--	--	--	ND<25.1	ND<25.4	ND<26.6	ND<24.7	ND<24.2	ND<23.4	ND<23.2	ND<23.2	ND<22.7
1-Methylnaphthalene	--	--	--	ND<25.1	ND<25.4	ND<26.6	ND<24.7	ND<24.2	ND<23.4	ND<23.2	ND<23.2	ND<22.7
Acenaphthylene	--	--	--	ND<25.1	ND<25.4	ND<26.6	ND<24.7	ND<24.2	ND<23.4	ND<23.2	ND<23.2	ND<22.7
Acenaphthene	--	--	--	ND<25.1	ND<25.4	ND<26.6	ND<24.7	ND<24.2	ND<23.4	ND<23.2	ND<23.2	ND<22.7
Fluorene	2,301,000	26,371,000	--	ND<25.1	ND<25.4	ND<26.6	ND<24.7	ND<24.2	ND<23.4	ND<23.2	ND<23.2	ND<22.7
Phenanthrene	--	--	--	39.7	52.8	36.7	44.0	ND<24.2	64.6	67.9	34.3	24.0
Anthracene	--	--	--	ND<25.1	ND<25.4	ND<26.6	ND<24.7	ND<24.2	ND<23.4	ND<23.2	ND<23.2	ND<22.7
Fluoranthene	2,301,000	26,371,000	--	118	132	104	109	55.1	163	152	89.9	70.8
Pyrene	--	--	--	112	124	94.1	108	51.7	149	132	85.2	68.0
Benzo(a)anthracene	--	--	--	59.8	65.7	53.7	56.3	35.3	88.1	65.5	44.9	35.8
Chrysene	--	--	--	72.4	85.0	62.2	70.7	39.6	105	78.1	54.7	46.7
Benzo(b)fluoranthene	--	--	--	103	113	88.8	93.4	59.0	126	97.6	75.0	57.2
Benzo(k)fluoranthene	--	--	--	39.2	39.7	33.0	33.6	ND<24.2	67.9	47.0	32.0	23.1
Benzo(a)pyrene	70	1,540	--	83.5	87.0	72.9	71.2	44.5	98.8	77.6	59.3	51.3
Indeno(1,2,3-cd)pyrene	--	--	--	59.8	64.1	52.1	52.9	42.1	63.2	56.2	42.6	34.5
Dibenzo(a,h)anthracene	--	--	--	17.1	17.3	13.8	15.3	ND<12.1	30.0	17.2	13.0	ND<11.3
Benzo(g,h,i)perylene	--	--	--	55.8	62.6	47.3	54.4	44.0	th	55.3	43.5	33.6
Total PAH	--	--	--	760.3	843.2	658.6	708.8	371.3	955.6	846.4	574.4	445.0
BaP Toxic Equiv. Quotient	580			123	129	107	107	64.4	157	117	88.9	70.0

Notes:

All soil results reported as micrograms per kilogram (ug/Kg), unless indicated otherwise.

VT Soil Standards (VSSs) - Appendix A - IRule, Feb. 2024.

ND: Not detected at indicated detection limit.

Areas shaded are exceedences of the VSSs

TABLE 3
SHALLOW SOIL ANALYTICAL RESULTS - PFAS

Randall Meadow Cornfield
Waterbury, Vermont

8 May 2025

Sample ID	Perfluoro- butanoic acid (PFBA)	Perfluoro- pentanoic acid (PFPeA)	Perfluoro- hexanoic acid (PFHxA)	Perfluoro- heptanoic acid (PFHpA)	Perfluoro- octanoic acid (PFOA)	Perfluoro- nonanoic acid (PFNA)	Perfluoro- decanoic acid (PFDA)	Perfluorobutane- sulfonic acid (PFBS)	Perfluorohexane- sulfonic acid (PFHxS)	Perfluoroheptane- sulfonic acid (PFHpS)	Perfluorooctane- sulfonic acid (PFOS)
Soil Samples (6-8 inches)											
S-1	ND< 0.78	ND< 0.39	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	0.36
S-2	ND< 0.78	ND< 0.39	ND< 0.19	ND< 0.19	ND< 0.19	ND< 0.19	ND< 0.19	ND< 0.19	ND< 0.19	ND< 0.19	ND< 0.19
S-3	ND< 0.79	ND< 0.40	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	0.22
S-4	ND< 0.78	ND< 0.39	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	0.24
S-5	ND< 0.78	ND< 0.39	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	0.47
S-6	ND< 0.79	ND< 0.40	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	0.44
S-7	ND< 0.78	ND< 0.39	ND< 0.19	ND< 0.19	ND< 0.19	ND< 0.19	ND< 0.19	ND< 0.19	ND< 0.19	ND< 0.19	ND< 0.19
S-8	ND< 0.80	ND< 0.40	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20	ND< 0.20
S-9	ND< 0.78	ND< 0.39	ND< 0.19	ND< 0.19	ND< 0.19	ND< 0.19	ND< 0.19	ND< 0.19	ND< 0.19	ND< 0.19	0.38
VT SS	---	---	---	---	180,000	180,000	---	1,800,000	1,200,000	---	120,000
QA/QC Samples											
Field Blank	ND <0.74	ND <0.41	ND <0.26	ND <0.26	ND <0.39	ND <0.61	ND<0.36	ND <0.32	ND <0.58	ND<0.79	ND <0.37
Trip Blank	ND <0.71	ND <0.39	ND <0.25	ND <0.25	ND <0.37	ND <0.58	ND<0.34	ND <0.30	ND <0.55	ND<0.75	ND <0.35

Notes: All results reported as nanograms per liter (ng/Kg). ND: None detected at indicated detection limit.

Shaded values indicate exceedance of Vermont Soil Standards (VSSs).

VT Soil Standards (VSSs) - Appendix A - IRule, Feb. 2024.

See PACE laboratory report for completed summary of all PFAS Results

ATTACHMENT C



Ross Environmental Associates

PO Box 1533

090219

Stowe, VT 05672

Atten: Bob Ross

PROJECT: Waterbury CF

WORK ORDER: **2505-13830**

DATE RECEIVED: May 12, 2025

DATE REPORTED: May 27, 2025

SAMPLER: Bob Ross

Laboratory Report

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. All required method quality control elements including instrument calibration were performed in accordance with method requirements and determined to be acceptable unless otherwise noted.

The column labeled Lab/Tech in the accompanying report denotes the laboratory facility where the testing was performed and the technician who conducted the assay. A "W" designates the Williston, VT lab under NELAC certification ELAP 11263; "R" designates the Lebanon, NH facility under certification NH 2037 and "N" the Plattsburgh, NY lab under certification ELAP 11892. "Sub" indicates the testing was performed by a subcontracted laboratory. The accreditation status of the subcontracted lab is referenced in the corresponding NELAC and Qual fields. The Williston, VT facility is also ISO/IEC 17025:2017 accredited for Total Coliform and E coli by SM9223B.

The NELAC column also denotes the accreditation status of each laboratory for each reported parameter. "A" indicates the referenced laboratory is NELAC accredited for the parameter reported. "N" indicates the laboratory is not accredited. "U" indicates that NELAC does not offer accreditation for that parameter in that specific matrix. Test results denoted with an "A" meet all National Environmental Laboratory Accreditation Program requirements except where denoted by pertinent data qualifiers. Test results are representative of the samples as they were received at the laboratory.

Endyne, Inc. warrants, to the best of its knowledge and belief, the accuracy of the analytical test results contained in this report, but makes no other warranty, expressed or implied, especially no warranties of merchantability or fitness for a particular purpose.

Reviewed by:

Harry B. Locker, Ph.D.
Laboratory Director

www.endynelabs.com

160 James Brown Dr., Williston, VT 05495
Ph 802-879-4333 Fax 802-879-7103

56 Etna Road, Lebanon, NH 03766
Ph 603-678-4891 Fax 603-678-4893



Laboratory Report

DATE REPORTED: 05/27/2025

CLIENT: Ross Environmental Associates
PROJECT: Waterbury CF

WORK ORDER: 2505-13830
DATE RECEIVED: 05/12/2025

001 Site: S-1 Date Sampled: 5/8/25 Time: 9:15

Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
Mercury Digestion	Digested		EPA 7471B	5/21/25	W RSB	A	
Metals Solids Digestion	Digested		EPA 3050B	5/20/25	W MLR	A	
Arsenic, Total	3.9	mg/Kg Dry	EPA 6010C	5/21/25 13:03	W MLR	A	
Barium, Total	54	mg/Kg Dry	EPA 6010C	5/21/25 12:57	W MLR	A	
Cadmium, Total	0.15	mg/Kg Dry	EPA 6010C	5/21/25 13:20	W MLR	A	
Chromium, Total	25	mg/Kg Dry	EPA 6010C	5/21/25 12:57	W MLR	A	
Lead, Total	20	mg/Kg Dry	EPA 6010C	5/21/25 12:57	W MLR	A	
Mercury, Total	0.050	mg/Kg, dry	EPA 7471B	5/21/25	W RSB	A	
Selenium, Total	< 1.0	mg/Kg Dry	EPA 6010C	5/21/25 13:20	W MLR	A	
Silver, Total	< 0.52	mg/Kg Dry	EPA 6010C	5/21/25 13:20	W MLR	A	
Poly-Aromatic Hydrocarbons							
Extraction	Completed		EPA 3550C	5/19/25	W JCM	A	
Naphthalene	< 25.1	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
2-Methylnaphthalene	< 25.1	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
1-Methylnaphthalene	< 25.1	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	U	
Acenaphthylene	< 25.1	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Acenaphthene	< 25.1	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Fluorene	< 25.1	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Phenanthrene	39.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Anthracene	< 25.1	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Fluoranthene	118	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Pyrene	112	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(a)anthracene	59.8	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Chrysene	72.4	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(b)fluoranthene	103	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(k)fluoranthene	39.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(a)pyrene	83.5	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Indeno(1,2,3-cd)pyrene	59.8	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Dibenzo(a,h)anthracene	17.1	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(g,h,i)perylene	55.8	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
BaP Toxic Equiv. Quotient	123	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.1 Nitrobenzene-d5	59	%	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.2 2-Fluorobiphenyl	70	%	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.3 Terphenyl-d14	86	%	EPA 8270D	5/22/25	W EEP	U	
Unidentified Peaks	>10		EPA 8270D	5/22/25	W EEP	U	

002 Site: S-2 Date Sampled: 5/8/25 Time: 9:25

Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
Mercury Digestion	Digested		EPA 7471B	5/21/25	W RSB	A	
Metals Solids Digestion	Digested		EPA 3050B	5/20/25	W MLR	A	
Arsenic, Total	3.0	mg/Kg Dry	EPA 6010C	5/21/25 14:40	W MLR	A	
Barium, Total	46	mg/Kg Dry	EPA 6010C	5/21/25 14:35	W MLR	A	
Cadmium, Total	< 0.11	mg/Kg Dry	EPA 6010C	5/21/25 14:46	W MLR	A	
Chromium, Total	26	mg/Kg Dry	EPA 6010C	5/21/25 14:35	W MLR	A	
Lead, Total	17	mg/Kg Dry	EPA 6010C	5/21/25 14:35	W MLR	A	

Laboratory Report

DATE REPORTED: 05/27/2025

CLIENT: Ross Environmental Associates
PROJECT: Waterbury CF

WORK ORDER: 2505-13830
DATE RECEIVED: 05/12/2025

002	Site: S-2			Date Sampled: 5/8/25		Time: 9:25	
Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
Mercury, Total	< 0.043	mg/Kg, dry	EPA 7471B	5/21/25	W RSB	A	
Selenium, Total	< 1.1	mg/Kg Dry	EPA 6010C	5/21/25 14:46	W MLR	A	
Silver, Total	< 0.56	mg/Kg Dry	EPA 6010C	5/21/25 14:46	W MLR	A	
Poly-Aromatic Hydrocarbons							
Extraction	Completed		EPA 3550C	5/19/25	W JCM	A	
Naphthalene	< 25.4	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	M-
2-Methylnaphthalene	< 25.4	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	RPD
1-Methylnaphthalene	< 25.4	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	U	RPD
Acenaphthylene	< 25.4	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	RPD
Acenaphthene	< 25.4	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Fluorene	< 25.4	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Phenanthrene	52.9	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Anthracene	< 25.4	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Fluoranthene	132	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Pyrene	124	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(a)anthracene	65.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Chrysene	85.0	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(b)fluoranthene	113	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(k)fluoranthene	39.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(a)pyrene	87.0	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Indeno(1,2,3-cd)pyrene	64.1	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Dibenzo(a,h)anthracene	17.3	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(g,h,i)perylene	62.6	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
BaP Toxic Equiv. Quotient	129	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.1 Nitrobenzene-d5	70	%	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.2 2-Fluorobiphenyl	80	%	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.3 Terphenyl-d14	83	%	EPA 8270D	5/22/25	W EEP	U	
Unidentified Peaks	>10		EPA 8270D	5/22/25	W EEP	U	

003	Site: S-3			Date Sampled: 5/8/25		Time: 9:32	
Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
Mercury Digestion	Digested		EPA 7471B	5/21/25	W RSB	A	
Metals Solids Digestion	Digested		EPA 3050B	5/20/25	W MLR	A	
Arsenic, Total	3.6	mg/Kg Dry	EPA 6010C	5/21/25 14:58	W MLR	A	
Barium, Total	54	mg/Kg Dry	EPA 6010C	5/21/25 14:52	W MLR	A	
Cadmium, Total	0.18	mg/Kg Dry	EPA 6010C	5/21/25 15:41	W MLR	A	
Chromium, Total	28	mg/Kg Dry	EPA 6010C	5/21/25 14:52	W MLR	A	
Lead, Total	20	mg/Kg Dry	EPA 6010C	5/21/25 14:52	W MLR	A	
Mercury, Total	0.048	mg/Kg, dry	EPA 7471B	5/21/25	W RSB	A	
Selenium, Total	< 1.1	mg/Kg Dry	EPA 6010C	5/21/25 15:41	W MLR	A	
Silver, Total	< 0.55	mg/Kg Dry	EPA 6010C	5/21/25 15:41	W MLR	A	
Poly-Aromatic Hydrocarbons							
Extraction	Completed		EPA 3550C	5/19/25	W JCM	A	
Naphthalene	< 26.6	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
2-Methylnaphthalene	< 26.6	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	

**ENDYNE Inc.**

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Laboratory Report

DATE REPORTED: 05/27/2025

CLIENT: Ross Environmental Associates
PROJECT: Waterbury CF

WORK ORDER: 2505-13830
DATE RECEIVED: 05/12/2025

003	Site: S-3		Date Sampled: 5/8/25		Time: 9:32		
<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Method</u>	<u>Analysis Date/Time</u>	<u>Lab/Tech</u>	<u>NELAC</u>	<u>Qual.</u>
1-Methylnaphthalene	< 26.6	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	U	
Acenaphthylene	< 26.6	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Acenaphthene	< 26.6	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Fluorene	< 26.6	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Phenanthrene	36.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Anthracene	< 26.6	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Fluoranthene	104	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Pyrene	94.1	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(a)anthracene	53.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Chrysene	62.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(b)fluoranthene	88.8	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(k)fluoranthene	33.0	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(a)pyrene	72.9	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Indeno(1,2,3-cd)pyrene	52.1	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Dibenzo(a,h)anthracene	13.8	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(g,h,i)perylene	47.3	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
BaP Toxic Equiv. Quotient	107	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.1 Nitrobenzene-d5	58	%	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.2 2-Fluorobiphenyl	68	%	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.3 Terphenyl-d14	74	%	EPA 8270D	5/22/25	W EEP	U	
Unidentified Peaks	>10		EPA 8270D	5/22/25	W EEP	U	

004	Site: S-4		Date Sampled: 5/8/25		Time: 9:42		
<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Method</u>	<u>Analysis Date/Time</u>	<u>Lab/Tech</u>	<u>NELAC</u>	<u>Qual.</u>
Mercury Digestion	Digested		EPA 7471B	5/21/25	W RSB	A	
Metals Solids Digestion	Digested		EPA 3050B	5/20/25	W MLR	A	
Arsenic, Total	2.6	mg/Kg Dry	EPA 6010C	5/21/25 15:52	W MLR	A	
Barium, Total	44	mg/Kg Dry	EPA 6010C	5/21/25 15:47	W MLR	A	
Cadmium, Total	< 0.10	mg/Kg Dry	EPA 6010C	5/21/25 15:58	W MLR	A	
Chromium, Total	25	mg/Kg Dry	EPA 6010C	5/21/25 15:47	W MLR	A	
Lead, Total	17	mg/Kg Dry	EPA 6010C	5/21/25 15:47	W MLR	A	
Mercury, Total	< 0.039	mg/Kg, dry	EPA 7471B	5/21/25	W RSB	A	
Selenium, Total	< 1.0	mg/Kg Dry	EPA 6010C	5/21/25 15:58	W MLR	A	
Silver, Total	< 0.51	mg/Kg Dry	EPA 6010C	5/21/25 15:58	W MLR	A	
Poly-Aromatic Hydrocarbons							
Extraction	Completed		EPA 3550C	5/19/25	W JCM	A	
Naphthalene	< 24.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
2-Methylnaphthalene	< 24.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
1-Methylnaphthalene	< 24.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	U	
Acenaphthylene	< 24.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Acenaphthene	< 24.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Fluorene	< 24.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Phenanthrene	44.0	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Anthracene	< 24.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Fluoranthene	109	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	

Laboratory Report

DATE REPORTED: 05/27/2025

CLIENT: Ross Environmental Associates
PROJECT: Waterbury CF

WORK ORDER: 2505-13830
DATE RECEIVED: 05/12/2025

004

Site: S-4

Date Sampled: 5/8/25

Time: 9:42

Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
Pyrene	108	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(a)anthracene	56.3	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Chrysene	70.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(b)fluoranthene	93.4	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(k)fluoranthene	33.6	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(a)pyrene	71.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Indeno(1,2,3-cd)pyrene	52.9	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Dibenzo(a,h)anthracene	15.3	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(g,h,i)perylene	54.4	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
BaP Toxic Equiv. Quotient	107	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.1 Nitrobenzene-d5	64	%	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.2 2-Fluorobiphenyl	70	%	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.3 Terphenyl-d14	89	%	EPA 8270D	5/22/25	W EEP	U	
Unidentified Peaks	>10		EPA 8270D	5/22/25	W EEP	U	

005

Site: S-5

Date Sampled: 5/8/25

Time: 9:46

Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
Mercury Digestion	Digested		EPA 7471B	5/21/25	W RSB	A	
Metals Solids Digestion	Digested		EPA 3050B	5/20/25	W MLR	A	
Arsenic, Total	5.2	mg/Kg Dry	EPA 6010C	5/21/25 16:09	W MLR	A	
Barium, Total	61	mg/Kg Dry	EPA 6010C	5/21/25 16:04	W MLR	A	
Cadmium, Total	0.16	mg/Kg Dry	EPA 6010C	5/21/25 16:15	W MLR	A	
Chromium, Total	22	mg/Kg Dry	EPA 6010C	5/21/25 16:04	W MLR	A	
Lead, Total	19	mg/Kg Dry	EPA 6010C	5/21/25 16:04	W MLR	A	
Mercury, Total	< 0.04	mg/Kg, dry	EPA 7471B	5/21/25	W RSB	A	
Selenium, Total	< 1.0	mg/Kg Dry	EPA 6010C	5/21/25 16:15	W MLR	A	
Silver, Total	< 0.51	mg/Kg Dry	EPA 6010C	5/21/25 16:15	W MLR	A	
Poly-Aromatic Hydrocarbons							
Extraction	Completed		EPA 3550C	5/19/25	W JCM	A	
Naphthalene	< 24.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
2-Methylnaphthalene	< 24.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
1-Methylnaphthalene	< 24.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	U	
Acenaphthylene	< 24.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Acenaphthene	< 24.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Fluorene	< 24.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Phenanthrene	< 24.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Anthracene	< 24.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Fluoranthene	55.1	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Pyrene	51.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(a)anthracene	35.3	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Chrysene	39.6	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(b)fluoranthene	59.0	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(k)fluoranthene	< 24.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(a)pyrene	44.5	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Indeno(1,2,3-cd)pyrene	42.1	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	

Laboratory Report

DATE REPORTED: 05/27/2025

CLIENT: Ross Environmental Associates
PROJECT: Waterbury CF

WORK ORDER: 2505-13830
DATE RECEIVED: 05/12/2025

005 Site: S-5 Date Sampled: 5/8/25 Time: 9:46

Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
Dibenzo(a,h)anthracene	< 12.1	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(g,h,i)perylene	44.0	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
BaP Toxic Equiv. Quotient	64.4	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.1 Nitrobenzene-d5	65	%	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.2 2-Fluorobiphenyl	78	%	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.3 Terphenyl-d14	89	%	EPA 8270D	5/22/25	W EEP	U	
Unidentified Peaks	>10		EPA 8270D	5/22/25	W EEP	U	

006 Site: S-6 Date Sampled: 5/8/25 Time: 9:55

Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
Mercury Digestion	Digested		EPA 7471B	5/21/25	W RSB	A	
Metals Solids Digestion	Digested		EPA 3050B	5/20/25	W MLR	A	
Arsenic, Total	1.7	mg/Kg Dry	EPA 6010C	5/21/25 16:32	W MLR	A	
Barium, Total	36	mg/Kg Dry	EPA 6010C	5/21/25 16:21	W MLR	A	
Cadmium, Total	0.12	mg/Kg Dry	EPA 6010C	5/21/25 16:32	W MLR	A	
Chromium, Total	19	mg/Kg Dry	EPA 6010C	5/21/25 16:21	W MLR	A	
Lead, Total	12	mg/Kg Dry	EPA 6010C	5/21/25 16:27	W MLR	A	
Mercury, Total	0.075	mg/Kg, dry	EPA 7471B	5/21/25	W RSB	A	
Selenium, Total	< 1.0	mg/Kg Dry	EPA 6010C	5/21/25 16:32	W MLR	A	
Silver, Total	< 0.52	mg/Kg Dry	EPA 6010C	5/21/25 16:32	W MLR	A	
Poly-Aromatic Hydrocarbons							
Extraction	Completed		EPA 3550C	5/19/25	W JCM	A	
Naphthalene	< 23.4	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
2-Methylnaphthalene	< 23.4	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
1-Methylnaphthalene	< 23.4	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	U	
Acenaphthylene	< 23.4	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Acenaphthene	< 23.4	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Fluorene	< 23.4	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Phenanthrene	64.6	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Anthracene	< 23.4	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Fluoranthene	163	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Pyrene	149	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(a)anthracene	88.1	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Chrysene	105	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(b)fluoranthene	126	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(k)fluoranthene	67.9	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(a)pyrene	98.8	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Indeno(1,2,3-cd)pyrene	63.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Dibenzo(a,h)anthracene	30.0	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(g,h,i)perylene	64.6	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
BaP Toxic Equiv. Quotient	157	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.1 Nitrobenzene-d5	35	%	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.2 2-Fluorobiphenyl	37	%	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.3 Terphenyl-d14	77	%	EPA 8270D	5/22/25	W EEP	U	
Unidentified Peaks	>10		EPA 8270D	5/22/25	W EEP	U	

Laboratory Report

DATE REPORTED: 05/27/2025

CLIENT: Ross Environmental Associates
PROJECT: Waterbury CF

WORK ORDER: 2505-13830
DATE RECEIVED: 05/12/2025

007

Site: S-7

Date Sampled: 5/8/25

Time: 10:03

Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
Mercury Digestion	Digested		EPA 7471B	5/21/25	W RSB	A	
Metals Solids Digestion	Digested		EPA 3050B	5/20/25	W MLR	A	
Arsenic, Total	1.7	mg/Kg Dry	EPA 6010C	5/21/25 17:26	W MLR	A	
Barium, Total	28	mg/Kg Dry	EPA 6010C	5/21/25 17:15	W MLR	A	
Cadmium, Total	< 0.100	mg/Kg Dry	EPA 6010C	5/21/25 17:26	W MLR	A	
Chromium, Total	18	mg/Kg Dry	EPA 6010C	5/21/25 17:15	W MLR	A	
Lead, Total	11	mg/Kg Dry	EPA 6010C	5/21/25 17:20	W MLR	A	
Mercury, Total	0.067	mg/Kg, dry	EPA 7471B	5/21/25	W RSB	A	
Selenium, Total	< 1.00	mg/Kg Dry	EPA 6010C	5/21/25 17:26	W MLR	A	
Silver, Total	< 0.50	mg/Kg Dry	EPA 6010C	5/21/25 17:26	W MLR	A	
Poly-Aromatic Hydrocarbons							
Extraction	Completed		EPA 3550C	5/19/25	W JCM	A	
Naphthalene	< 23.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
2-Methylnaphthalene	< 23.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
1-Methylnaphthalene	< 23.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	U	
Acenaphthylene	< 23.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Acenaphthene	< 23.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Fluorene	< 23.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Phenanthrene	67.9	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Anthracene	< 23.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Fluoranthene	152	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Pyrene	132	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(a)anthracene	65.5	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Chrysene	78.1	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(b)fluoranthene	97.6	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(k)fluoranthene	47.0	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(a)pyrene	77.6	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Indeno(1,2,3-cd)pyrene	56.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Dibenzo(a,h)anthracene	17.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(g,h,i)perylene	55.3	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
BaP Toxic Equiv. Quotient	117	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.1 Nitrobenzene-d5	67	%	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.2 2-Fluorobiphenyl	82	%	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.3 Terphenyl-d14	90	%	EPA 8270D	5/22/25	W EEP	U	
Unidentified Peaks	>10		EPA 8270D	5/22/25	W EEP	U	

008

Site: S-8

Date Sampled: 5/8/25

Time: 10:10

Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
Mercury Digestion	Digested		EPA 7471B	5/21/25	W RSB	A	
Metals Solids Digestion	Digested		EPA 3050B	5/20/25	W MLR	A	
Arsenic, Total	< 2.4	mg/Kg Dry	EPA 6010C	5/21/25 17:38	W MLR	A	
Barium, Total	28	mg/Kg Dry	EPA 6010C	5/21/25 17:32	W MLR	A	
Cadmium, Total	< 0.098	mg/Kg Dry	EPA 6010C	5/21/25 17:43	W MLR	A	
Chromium, Total	19	mg/Kg Dry	EPA 6010C	5/21/25 17:32	W MLR	A	

Laboratory Report

DATE REPORTED: 05/27/2025

CLIENT: Ross Environmental Associates
PROJECT: Waterbury CF

WORK ORDER: 2505-13830
DATE RECEIVED: 05/12/2025

008	Site: S-8			Date Sampled: 5/8/25		Time: 10:10	
Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
Lead, Total	14	mg/Kg Dry	EPA 6010C	5/21/25 17:32	W MLR	A	
Mercury, Total	0.064	mg/Kg, dry	EPA 7471B	5/21/25	W RSB	A	
Selenium, Total	< 0.98	mg/Kg Dry	EPA 6010C	5/21/25 17:43	W MLR	A	
Silver, Total	< 0.49	mg/Kg Dry	EPA 6010C	5/21/25 17:43	W MLR	A	
Poly-Aromatic Hydrocarbons							
Extraction	Completed		EPA 3550C	5/19/25	W JCM	A	
Naphthalene	< 23.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
2-Methylnaphthalene	< 23.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
1-Methylnaphthalene	< 23.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	U	
Acenaphthylene	< 23.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Acenaphthene	< 23.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Fluorene	< 23.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Phenanthrene	34.3	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Anthracene	< 23.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Fluoranthene	89.9	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Pyrene	85.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(a)anthracene	44.9	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Chrysene	54.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(b)fluoranthene	75.0	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(k)fluoranthene	32.0	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(a)pyrene	59.3	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Indeno(1,2,3-cd)pyrene	42.6	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Dibenzo(a,h)anthracene	13.0	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(g,h,i)perylene	43.5	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
BaP Toxic Equiv. Quotient	88.9	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.1 Nitrobenzene-d5	40	%	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.2 2-Fluorobiphenyl	52	%	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.3 Terphenyl-d14	91	%	EPA 8270D	5/22/25	W EEP	U	
Unidentified Peaks	>10		EPA 8270D	5/22/25	W EEP	U	

009	Site: S-9			Date Sampled: 5/8/25		Time: 10:18	
Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
Mercury Digestion	Digested		EPA 7471B	5/21/25	W RSB	A	
Metals Solids Digestion	Digested		EPA 3050B	5/20/25	W MLR	A	
Arsenic, Total	1.7	mg/Kg Dry	EPA 6010C	5/21/25 18:01	W MLR	A	
Barium, Total	31	mg/Kg Dry	EPA 6010C	5/21/25 17:50	W MLR	A	
Cadmium, Total	< 0.100	mg/Kg Dry	EPA 6010C	5/21/25 18:01	W MLR	A	
Chromium, Total	18	mg/Kg Dry	EPA 6010C	5/21/25 17:50	W MLR	A	
Lead, Total	16	mg/Kg Dry	EPA 6010C	5/21/25 17:50	W MLR	A	
Mercury, Total	0.075	mg/Kg, dry	EPA 7471B	5/21/25	W RSB	A	
Selenium, Total	< 1.00	mg/Kg Dry	EPA 6010C	5/21/25 18:01	W MLR	A	
Silver, Total	< 0.50	mg/Kg Dry	EPA 6010C	5/21/25 18:01	W MLR	A	
Poly-Aromatic Hydrocarbons							
Extraction	Completed		EPA 3550C	5/19/25	W JCM	A	
Naphthalene	< 22.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	

Laboratory Report

DATE REPORTED: 05/27/2025

CLIENT: Ross Environmental Associates
PROJECT: Waterbury CF

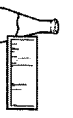
WORK ORDER: 2505-13830
DATE RECEIVED: 05/12/2025

009	Site: S-9		Date Sampled: 5/8/25		Time: 10:18		
Parameter	Result	Units	Method	Analysis Date/Time	Lab/Tech	NELAC	Qual.
2-Methylnaphthalene	< 22.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
1-Methylnaphthalene	< 22.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	U	
Acenaphthylene	< 22.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Acenaphthene	< 22.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Fluorene	< 22.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Phenanthrene	24.0	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Anthracene	< 22.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Fluoranthene	70.8	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Pyrene	68.0	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(a)anthracene	35.8	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Chrysene	46.7	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(b)fluoranthene	57.2	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(k)fluoranthene	23.1	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(a)pyrene	51.3	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Indeno(1,2,3-cd)pyrene	34.5	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Dibenzo(a,h)anthracene	< 11.3	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
Benzo(g,h,i)perylene	33.6	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	A	
BaP Toxic Equiv. Quotient	70.0	ug/Kg, dry	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.1 Nitrobenzene-d5	55	%	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.2 2-Fluorobiphenyl	68	%	EPA 8270D	5/22/25	W EEP	U	
B/N Surr.3 Terphenyl-d14	83	%	EPA 8270D	5/22/25	W EEP	U	
Unidentified Peaks	>10		EPA 8270D	5/22/25	W EEP	U	

Report Summary of Qualifiers and Notes

M-: The Laboratory Fortified Matrix (LFM) analysis had a recovery lower than defined acceptance limits. This indicates a potential negative bias in the reported value or a difficult sample matrix that resulted in poor reproducibility between sample aliquots selected for analysis.

RPD: Variability observed. The Relative Percent Difference of the Matrix Spike Duplicate was above method acceptance limits.



CHAIN-OF-CUSTODY-RECORD

ENDYNE, INC.
160 James Brown Drive
Williston, Vermont 05495
(802) 879-4333

Special Reporting Instructions/PO#:
2025-014

Project Name: <u>Waterbury CF</u>		Client/Contact Name: <u>RET B. Ross</u>		Sampler Name: <u>B. Ross</u>	
State of Origin: <u>VT</u> <u>NY</u> <u>NH</u> <u>Other</u>		Phone #: <u>(802) 253-4280</u>		Phone #: <u>(802) 271-5258</u>	
Endyne WO # <u> </u>		Mailing Address: <u>Po Box 1533</u>		Billing Address: <u> </u>	

Sample Location	Matrix	Date/Time Sampled	Sample Containers		Sample Preservation	Analysis Required	Field Results/Remarks	Due Date
			No.	Type/Size				
S-1	Soil	0915	2	50/600	None	26/30		
S-2		0925						
S-3		0932						
S-4		0942						
S-5		0946						
S-6		0955						
S-7		1003						
S-8		1010						
S-9		1018						

2505-13830



2505-13830

Ross Environmental Associates
Waterbury CT

Relinquished by: <u> </u>	Date/Time: <u>5/12/25 1400</u>	Received by: <u> </u>	Date/Time: <u> </u>	Received by: <u> </u>	Date/Time: <u> </u>
--	--------------------------------	--	--	--	--

1	pH	6	TKN	11	Total Solids	16	Sulfate	21	1664 TPH/FOG	26	8270 PAH Only
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	8015 GRO	27	8081 Pest
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	8015 DRO	28	8082 PCB
4	Nitrite N	9	BOD	14	Turbidity	19	VT PCF	24	8260B	29	PP13 Metals
5	Nitrate N	10	Alkalinity	15	Conductivity	20	VOC Halocarbons	25	8270 B/N or Acid	30	Total RCRA8
31	Metals (Total, Diss.) Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Tl, U, V, Zn										
32	TCLP (volatiles, semi-volatiles, metals, pesticides, herbicides)										
34	Corrosivity	35	Ignitability	36	Reactivity	37	Other				
38	Other										

LAB USE ONLY

Delivery: GMM

Temp: 8.3

Comment:



June 2, 2025

Bob Ross
Ross Environmental Associates
638 South Main Street, Suite 1B
Stowe, VT 05672

Project Location: Waterbury, VT
Client Job Number:
Project Number: 2025-014
Laboratory Work Order Number: 25E0950

Enclosed are results of analyses for samples as received by the laboratory on May 12, 2025. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kristi L. Gosselin
Project Manager

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Pace Analytical Services, LLC - East Longmeadow, Ma

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

Ross Environmental Associates
638 South Main Street, Suite 1B
Stowe, VT 05672
ATTN: Bob Ross

REPORT DATE: 6/2/2025

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 2025-014

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 25E0950

The results of analyses performed on the following samples submitted to Pace Analytical Services, LLC - East Longmeadow, Ma, are found in this report.

PROJECT LOCATION: Waterbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
S-1	25E0950-01	Soil		EPA 1633 SM 2540G	
S-2	25E0950-02	Soil		EPA 1633 SM 2540G	
S-3	25E0950-03	Soil		EPA 1633 SM 2540G	
S-4	25E0950-04	Soil		EPA 1633 SM 2540G	
S-5	25E0950-05	Soil		EPA 1633 SM 2540G	
S-6	25E0950-06	Soil		EPA 1633 SM 2540G	
S-7	25E0950-07	Soil		EPA 1633 SM 2540G	
S-8	25E0950-08	Soil		EPA 1633 SM 2540G	
S-9	25E0950-09	Soil		EPA 1633 SM 2540G	

CASE NARRATIVE SUMMARY

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

EPA 1633

Qualifications:

L-03

Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTC)^A

25E0950-01[S-1], 25E0950-02[S-2], 25E0950-03[S-3], 25E0950-04[S-4], 25E0950-05[S-5], 25E0950-06[S-6], 25E0950-07[S-7], 25E0950-08[S-8], 25E0950-09[S-9], B405176-BLK1, B405176-BS1, B405176-MRL1

N-MeFOSAA (NMeFOSAA)

25E0950-01[S-1], 25E0950-02[S-2], 25E0950-03[S-3], 25E0950-04[S-4], 25E0950-05[S-5], 25E0950-06[S-6], 25E0950-07[S-7], 25E0950-08[S-8], 25E0950-09[S-9], B405176-BLK1, B405176-MRL1

PF-17

Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.

Analyte & Samples(s) Qualified:

D3-NMeFOSAA

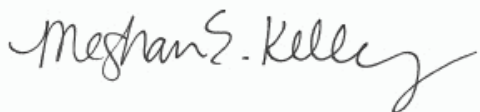
25E0950-02[S-2]

N-MeFOSAA (NMeFOSAA)

25E0950-02[S-2]

The results of analyses reported only relate to samples submitted to Pace Analytical Services, LLC - East Longmeadow, Ma, for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-1

Sampled: 5/8/2025 09:15

Sample ID: 25E0950-01

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Perfluorooctanesulfonic acid (PFOS)	0.36	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
N-methyl perfluorooctanesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1	L-03	EPA 1633	5/27/25	5/28/25 19:11	CML
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	ND	2.0	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
9Cl-PF3ONS (F53B Minor)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
11Cl-PF3OUdS (F53B Major)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	0.98	µg/kg dry	1	L-03	EPA 1633	5/27/25	5/28/25 19:11	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	4.9	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	4.9	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-1

Sampled: 5/8/2025 09:15

Sample ID: 25E0950-01

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:11	CML
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
13C4-PFBA	88.2	8-130						5/28/25 19:11	
13C5-PFPeA	86.7	35-130						5/28/25 19:11	
13C5-PFHxA	91.5	40-130						5/28/25 19:11	
13C4-PFHpA	83.4	40-130						5/28/25 19:11	
13C8-PFOA	89.1	40-130						5/28/25 19:11	
13C9-PFNA	90.2	40-130						5/28/25 19:11	
13C6-PFDA	93.5	40-130						5/28/25 19:11	
13C7-PFUnA	103	40-130						5/28/25 19:11	
13C2-PFDoA	101	40-130						5/28/25 19:11	
13C2-PFTeDA	101	20-130						5/28/25 19:11	
13C3-PFBS	82.3	40-135						5/28/25 19:11	
13C3-PFHxS	91.9	40-130						5/28/25 19:11	
13C8-PFOS	97.9	40-130						5/28/25 19:11	
13C2-4:2FTS	105	40-165						5/28/25 19:11	
13C2-6:2FTS	116	40-215						5/28/25 19:11	
13C2-8:2FTS	209	40-275						5/28/25 19:11	
13C8-PFOSA	117	40-130						5/28/25 19:11	
D3-NMeFOSA	69.3	10-130						5/28/25 19:11	
D5-NEtFOSA	64.9	10-130						5/28/25 19:11	
D3-NMeFOSAA	135	40-135						5/28/25 19:11	
D5-NEtFOSAA	146	40-150						5/28/25 19:11	
D7-NMeFOSE	103	20-130						5/28/25 19:11	
D9-NEtFOSE	94.1	15-130						5/28/25 19:11	
13C3-HFPO-DA	85.3	40-130						5/28/25 19:11	



Pace Analytical Services, LLC - East Longmeadow, Ma

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-1

Sampled: 5/8/2025 09:15

Sample ID: 25E0950-01

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	78.0		% Wt	1		SM 2540G	5/12/25	5/12/25 20:02	DMB

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-2

Sampled: 5/8/2025 09:25

Sample ID: 25E0950-02

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Perfluorohexanoic acid (PFHxA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Perfluoroheptanoic acid (PFHpA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Perfluorooctanoic acid (PFOA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Perfluorononanoic acid (PFNA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Perfluorodecanoic acid (PFDA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Perfluoroundecanoic acid (PFUnA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Perfluorododecanoic acid (PFDoA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Perfluorotridecanoic acid (PFTrDA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Perfluorobutanesulfonic acid (PFBS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Perfluorooctanesulfonic acid (PFOS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Perfluorononanesulfonic acid (PFNS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Perfluorodecanesulfonic acid (PFDS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Perfluorooctanesulfonamide (PFOSA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
N-methyl perfluorooctanesulfonamide (NMeFOSA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
N-MeFOSAA (NMeFOSAA)	ND	0.19	µg/kg dry	1	L-03, PF-17	EPA 1633	5/27/25	5/28/25 19:20	CML
N-EtFOSAA (NEtFOSAA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	ND	1.9	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	1.9	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
9Cl-PF3ONS (F53B Minor)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
11Cl-PF3OUs (F53B Major)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	0.97	µg/kg dry	1	L-03	EPA 1633	5/27/25	5/28/25 19:20	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	4.9	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
3-Perfluoroheptyl propanoic acid (FHPrPA) (7:3FTCA)	ND	4.9	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-2

Sampled: 5/8/2025 09:25

Sample ID: 25E0950-02

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:20	CML
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
13C4-PFBA	87.5	8-130						5/28/25 19:20	
13C5-PFPeA	85.9	35-130						5/28/25 19:20	
13C5-PFHxA	90.1	40-130						5/28/25 19:20	
13C4-PFHpA	82.9	40-130						5/28/25 19:20	
13C8-PFOA	88.3	40-130						5/28/25 19:20	
13C9-PFNA	82.6	40-130						5/28/25 19:20	
13C6-PFDA	91.0	40-130						5/28/25 19:20	
13C7-PFUnA	101	40-130						5/28/25 19:20	
13C2-PFDoA	92.8	40-130						5/28/25 19:20	
13C2-PFTeDA	100	20-130						5/28/25 19:20	
13C3-PFBS	81.8	40-135						5/28/25 19:20	
13C3-PFHxS	96.3	40-130						5/28/25 19:20	
13C8-PFOS	96.2	40-130						5/28/25 19:20	
13C2-4:2FTS	96.5	40-165						5/28/25 19:20	
13C2-6:2FTS	114	40-215						5/28/25 19:20	
13C2-8:2FTS	200	40-275						5/28/25 19:20	
13C8-PFOSA	111	40-130						5/28/25 19:20	
D3-NMeFOSA	72.5	10-130						5/28/25 19:20	
D5-NEtFOSA	71.4	10-130						5/28/25 19:20	
D3-NMeFOSAA	141	*	40-135		PF-17			5/28/25 19:20	
D5-NEtFOSAA	148	40-150						5/28/25 19:20	
D7-NMeFOSE	116	20-130						5/28/25 19:20	
D9-NEtFOSE	112	15-130						5/28/25 19:20	
13C3-HFPO-DA	86.8	40-130						5/28/25 19:20	



Pace Analytical Services, LLC - East Longmeadow, Ma

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-2

Sampled: 5/8/2025 09:25

Sample ID: 25E0950-02

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	77.4		% Wt	1		SM 2540G	5/12/25	5/12/25 20:02	DMB

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-3

Sampled: 5/8/2025 09:32

Sample ID: 25E0950-03

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.79	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Perfluorooctanesulfonic acid (PFOS)	0.22	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.79	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.79	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.79	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
N-methyl perfluorooctanesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1	L-03	EPA 1633	5/27/25	5/28/25 19:29	CML
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	ND	2.0	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.79	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.79	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
9Cl-PF3ONS (F53B Minor)	ND	0.79	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
11Cl-PF3OUs (F53B Major)	ND	0.79	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	0.99	µg/kg dry	1	L-03	EPA 1633	5/27/25	5/28/25 19:29	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	5.0	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
3-Perfluoroheptyl propanoic acid (FHPrPA) (7:3FTCA)	ND	5.0	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-3

Sampled: 5/8/2025 09:32

Sample ID: 25E0950-03

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:29	CML
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
13C4-PFBA	90.2	8-130						5/28/25 19:29	
13C5-PFPeA	86.2	35-130						5/28/25 19:29	
13C5-PFHxA	92.3	40-130						5/28/25 19:29	
13C4-PFHpA	82.6	40-130						5/28/25 19:29	
13C8-PFOA	89.9	40-130						5/28/25 19:29	
13C9-PFNA	86.5	40-130						5/28/25 19:29	
13C6-PFDA	91.2	40-130						5/28/25 19:29	
13C7-PFUnA	96.1	40-130						5/28/25 19:29	
13C2-PFDoA	92.0	40-130						5/28/25 19:29	
13C2-PFTeDA	108	20-130						5/28/25 19:29	
13C3-PFBS	82.4	40-135						5/28/25 19:29	
13C3-PFHxS	95.8	40-130						5/28/25 19:29	
13C8-PFOS	96.1	40-130						5/28/25 19:29	
13C2-4:2FTS	90.6	40-165						5/28/25 19:29	
13C2-6:2FTS	98.6	40-215						5/28/25 19:29	
13C2-8:2FTS	111	40-275						5/28/25 19:29	
13C8-PFOSA	80.2	40-130						5/28/25 19:29	
D3-NMeFOSA	88.1	10-130						5/28/25 19:29	
D5-NEtFOSA	82.9	10-130						5/28/25 19:29	
D3-NMeFOSAA	113	40-135						5/28/25 19:29	
D5-NEtFOSAA	122	40-150						5/28/25 19:29	
D7-NMeFOSE	106	20-130						5/28/25 19:29	
D9-NEtFOSE	109	15-130						5/28/25 19:29	
13C3-HFPO-DA	86.7	40-130						5/28/25 19:29	



Pace Analytical Services, LLC - East Longmeadow, Ma

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-3

Sampled: 5/8/2025 09:32

Sample ID: 25E0950-03

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	73.0		% Wt	1		SM 2540G	5/12/25	5/12/25 20:02	DMB

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-4

Sampled: 5/8/2025 09:42

Sample ID: 25E0950-04

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Perfluorooctanesulfonic acid (PFOS)	0.24	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
N-methyl perfluorooctanesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1	L-03	EPA 1633	5/27/25	5/28/25 19:39	CML
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	ND	2.0	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
9Cl-PF3ONS (F53B Minor)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
11Cl-PF3OUdS (F53B Major)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	0.98	µg/kg dry	1	L-03	EPA 1633	5/27/25	5/28/25 19:39	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	4.9	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
3-Perfluoroheptyl propanoic acid (FHPrPA) (7:3FTCA)	ND	4.9	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-4

Sampled: 5/8/2025 09:42

Sample ID: 25E0950-04

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:39	CML
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
13C4-PFBA	84.1	8-130						5/28/25 19:39	
13C5-PFPeA	86.1	35-130						5/28/25 19:39	
13C5-PFHxA	87.1	40-130						5/28/25 19:39	
13C4-PFHpA	83.0	40-130						5/28/25 19:39	
13C8-PFOA	93.1	40-130						5/28/25 19:39	
13C9-PFNA	89.9	40-130						5/28/25 19:39	
13C6-PFDA	90.7	40-130						5/28/25 19:39	
13C7-PFUnA	94.4	40-130						5/28/25 19:39	
13C2-PFDoA	87.8	40-130						5/28/25 19:39	
13C2-PFTeDA	99.4	20-130						5/28/25 19:39	
13C3-PFBS	82.2	40-135						5/28/25 19:39	
13C3-PFHxS	89.9	40-130						5/28/25 19:39	
13C8-PFOS	95.8	40-130						5/28/25 19:39	
13C2-4:2FTS	80.6	40-165						5/28/25 19:39	
13C2-6:2FTS	85.6	40-215						5/28/25 19:39	
13C2-8:2FTS	89.1	40-275						5/28/25 19:39	
13C8-PFOSA	77.5	40-130						5/28/25 19:39	
D3-NMeFOSA	92.5	10-130						5/28/25 19:39	
D5-NEtFOSA	93.0	10-130						5/28/25 19:39	
D3-NMeFOSAA	108	40-135						5/28/25 19:39	
D5-NEtFOSAA	107	40-150						5/28/25 19:39	
D7-NMeFOSE	97.7	20-130						5/28/25 19:39	
D9-NEtFOSE	108	15-130						5/28/25 19:39	
13C3-HFPO-DA	85.4	40-130						5/28/25 19:39	



Pace Analytical Services, LLC - East Longmeadow, Ma

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-4

Sampled: 5/8/2025 09:42

Sample ID: 25E0950-04

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	79.2		% Wt	1		SM 2540G	5/12/25	5/12/25 20:02	DMB

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-5

Sampled: 5/8/2025 09:46

Sample ID: 25E0950-05

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Perfluorooctanesulfonic acid (PFOS)	0.47	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
N-methyl perfluorooctanesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1	L-03	EPA 1633	5/27/25	5/28/25 19:48	CML
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	ND	2.0	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
9Cl-PF3ONS (F53B Minor)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
11Cl-PF3OUdS (F53B Major)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	0.98	µg/kg dry	1	L-03	EPA 1633	5/27/25	5/28/25 19:48	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	4.9	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
3-Perfluoroheptyl propanoic acid (FHPrPA) (7:3FTCA)	ND	4.9	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML



Pace Analytical Services, LLC - East Longmeadow, Ma

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-5

Sampled: 5/8/2025 09:46

Sample ID: 25E0950-05

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:48	CML
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
13C4-PFBA	85.1	8-130						5/28/25 19:48	
13C5-PFPeA	86.0	35-130						5/28/25 19:48	
13C5-PFHxA	89.6	40-130						5/28/25 19:48	
13C4-PFHpA	81.1	40-130						5/28/25 19:48	
13C8-PFOA	86.5	40-130						5/28/25 19:48	
13C9-PFNA	86.5	40-130						5/28/25 19:48	
13C6-PFDA	95.0	40-130						5/28/25 19:48	
13C7-PFUnA	96.0	40-130						5/28/25 19:48	
13C2-PFDoA	84.7	40-130						5/28/25 19:48	
13C2-PFTeDA	95.4	20-130						5/28/25 19:48	
13C3-PFBS	77.4	40-135						5/28/25 19:48	
13C3-PFHxS	92.5	40-130						5/28/25 19:48	
13C8-PFOS	94.0	40-130						5/28/25 19:48	
13C2-4:2FTS	80.1	40-165						5/28/25 19:48	
13C2-6:2FTS	84.7	40-215						5/28/25 19:48	
13C2-8:2FTS	84.1	40-275						5/28/25 19:48	
13C8-PFOSA	81.1	40-130						5/28/25 19:48	
D3-NMeFOSA	91.0	10-130						5/28/25 19:48	
D5-NEtFOSA	96.1	10-130						5/28/25 19:48	
D3-NMeFOSAA	113	40-135						5/28/25 19:48	
D5-NEtFOSAA	105	40-150						5/28/25 19:48	
D7-NMeFOSE	93.8	20-130						5/28/25 19:48	
D9-NEtFOSE	108	15-130						5/28/25 19:48	
13C3-HFPO-DA	87.2	40-130						5/28/25 19:48	



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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-5

Sampled: 5/8/2025 09:46

Sample ID: 25E0950-05

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	80.7		% Wt	1		SM 2540G	5/12/25	5/12/25 20:02	DMB

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-6

Sampled: 5/8/2025 09:55

Sample ID: 25E0950-06

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.79	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Perfluorooctanesulfonic acid (PFOS)	0.44	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.79	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.79	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.79	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
N-methyl perfluorooctanesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1	L-03	EPA 1633	5/27/25	5/28/25 19:57	CML
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	ND	2.0	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.79	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.79	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
9Cl-PF3ONS (F53B Minor)	ND	0.79	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
11Cl-PF3OUdS (F53B Major)	ND	0.79	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	0.99	µg/kg dry	1	L-03	EPA 1633	5/27/25	5/28/25 19:57	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	4.9	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
3-Perfluoroheptyl propanoic acid (FHPrPA) (7:3FTCA)	ND	4.9	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-6

Sampled: 5/8/2025 09:55

Sample ID: 25E0950-06

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 19:57	CML
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
13C4-PFBA	90.7	8-130						5/28/25 19:57	
13C5-PFPeA	94.1	35-130						5/28/25 19:57	
13C5-PFHxA	99.0	40-130						5/28/25 19:57	
13C4-PFHpA	87.1	40-130						5/28/25 19:57	
13C8-PFOA	95.2	40-130						5/28/25 19:57	
13C9-PFNA	95.3	40-130						5/28/25 19:57	
13C6-PFDA	105	40-130						5/28/25 19:57	
13C7-PFUnA	97.7	40-130						5/28/25 19:57	
13C2-PFDoA	87.8	40-130						5/28/25 19:57	
13C2-PFTeDA	101	20-130						5/28/25 19:57	
13C3-PFBS	94.0	40-135						5/28/25 19:57	
13C3-PFHxS	104	40-130						5/28/25 19:57	
13C8-PFOS	98.9	40-130						5/28/25 19:57	
13C2-4:2FTS	94.2	40-165						5/28/25 19:57	
13C2-6:2FTS	95.7	40-215						5/28/25 19:57	
13C2-8:2FTS	98.9	40-275						5/28/25 19:57	
13C8-PFOSA	84.7	40-130						5/28/25 19:57	
D3-NMeFOSA	96.1	10-130						5/28/25 19:57	
D5-NEtFOSA	97.7	10-130						5/28/25 19:57	
D3-NMeFOSAA	124	40-135						5/28/25 19:57	
D5-NEtFOSAA	114	40-150						5/28/25 19:57	
D7-NMeFOSE	94.4	20-130						5/28/25 19:57	
D9-NEtFOSE	106	15-130						5/28/25 19:57	
13C3-HFPO-DA	93.4	40-130						5/28/25 19:57	



Pace Analytical Services, LLC - East Longmeadow, Ma

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-6

Sampled: 5/8/2025 09:55

Sample ID: 25E0950-06

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	83.4		% Wt	1		SM 2540G	5/12/25	5/12/25 20:02	DMB

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-7

Sampled: 5/8/2025 10:03

Sample ID: 25E0950-07

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Perfluorohexanoic acid (PFHxA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Perfluoroheptanoic acid (PFHpA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Perfluorooctanoic acid (PFOA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Perfluorononanoic acid (PFNA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Perfluorodecanoic acid (PFDA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Perfluoroundecanoic acid (PFUnA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Perfluorododecanoic acid (PFDoA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Perfluorotridecanoic acid (PFTrDA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Perfluorobutanesulfonic acid (PFBS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Perfluorooctanesulfonic acid (PFOS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Perfluorononanesulfonic acid (PFNS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Perfluorodecanesulfonic acid (PFDS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Perfluorooctanesulfonamide (PFOSA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
N-methyl perfluorooctanesulfonamide (NMeFOSA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
N-MeFOSAA (NMeFOSAA)	ND	0.19	µg/kg dry	1	L-03	EPA 1633	5/27/25	5/28/25 20:06	CML
N-EtFOSAA (NEtFOSAA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	ND	1.9	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	1.9	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
9Cl-PF3ONS (F53B Minor)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
11Cl-PF3OUdS (F53B Major)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	0.97	µg/kg dry	1	L-03	EPA 1633	5/27/25	5/28/25 20:06	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	4.9	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
3-Perfluoroheptyl propanoic acid (FHPrPA) (7:3FTCA)	ND	4.9	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-7

Sampled: 5/8/2025 10:03

Sample ID: 25E0950-07

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:06	CML
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
13C4-PFBA	84.1	8-130						5/28/25 20:06	
13C5-PFPeA	84.9	35-130						5/28/25 20:06	
13C5-PFHxA	87.3	40-130						5/28/25 20:06	
13C4-PFHpA	78.1	40-130						5/28/25 20:06	
13C8-PFOA	92.5	40-130						5/28/25 20:06	
13C9-PFNA	89.6	40-130						5/28/25 20:06	
13C6-PFDA	92.8	40-130						5/28/25 20:06	
13C7-PFUnA	93.4	40-130						5/28/25 20:06	
13C2-PFDoA	88.3	40-130						5/28/25 20:06	
13C2-PFTeDA	90.3	20-130						5/28/25 20:06	
13C3-PFBS	89.1	40-135						5/28/25 20:06	
13C3-PFHxS	99.2	40-130						5/28/25 20:06	
13C8-PFOS	100	40-130						5/28/25 20:06	
13C2-4:2FTS	78.9	40-165						5/28/25 20:06	
13C2-6:2FTS	89.3	40-215						5/28/25 20:06	
13C2-8:2FTS	81.1	40-275						5/28/25 20:06	
13C8-PFOSA	84.2	40-130						5/28/25 20:06	
D3-NMeFOSA	89.4	10-130						5/28/25 20:06	
D5-NEtFOSA	92.9	10-130						5/28/25 20:06	
D3-NMeFOSAA	113	40-135						5/28/25 20:06	
D5-NEtFOSAA	118	40-150						5/28/25 20:06	
D7-NMeFOSE	87.8	20-130						5/28/25 20:06	
D9-NEtFOSE	99.4	15-130						5/28/25 20:06	
13C3-HFPO-DA	84.9	40-130						5/28/25 20:06	



Pace Analytical Services, LLC - East Longmeadow, Ma

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-7

Sampled: 5/8/2025 10:03

Sample ID: 25E0950-07

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	83.0		% Wt	1		SM 2540G	5/12/25	5/12/25 20:02	DMB

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-8

Sampled: 5/8/2025 10:10

Sample ID: 25E0950-08

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.80	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Perfluoropentanoic acid (PFPeA)	ND	0.40	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Perfluorohexanoic acid (PFHxA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Perfluoroheptanoic acid (PFHpA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Perfluorooctanoic acid (PFOA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Perfluorononanoic acid (PFNA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Perfluorodecanoic acid (PFDA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Perfluoroundecanoic acid (PFUnA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Perfluorododecanoic acid (PFDoA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Perfluorotridecanoic acid (PFTrDA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Perfluorobutanesulfonic acid (PFBS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Perfluorooctanesulfonic acid (PFOS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Perfluorononanesulfonic acid (PFNS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Perfluorodecanesulfonic acid (PFDS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.80	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.80	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.80	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Perfluorooctanesulfonamide (PFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
N-methyl perfluorooctanesulfonamide (NMeFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
N-MeFOSAA (NMeFOSAA)	ND	0.20	µg/kg dry	1	L-03	EPA 1633	5/27/25	5/28/25 20:16	CML
N-EtFOSAA (NEtFOSAA)	ND	0.20	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	ND	2.0	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	2.0	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.80	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.80	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
9Cl-PF3ONS (F53B Minor)	ND	0.80	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
11Cl-PF3OUdS (F53B Major)	ND	0.80	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	1.0	µg/kg dry	1	L-03	EPA 1633	5/27/25	5/28/25 20:16	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	5.0	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
3-Perfluoroheptyl propanoic acid (FHPrPA) (7:3FTCA)	ND	5.0	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.40	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.40	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-8

Sampled: 5/8/2025 10:10

Sample ID: 25E0950-08

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.40	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.40	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:16	CML
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
13C4-PFBA	79.8	8-130						5/28/25 20:16	
13C5-PFPeA	87.6	35-130						5/28/25 20:16	
13C5-PFHxA	91.7	40-130						5/28/25 20:16	
13C4-PFHpA	82.0	40-130						5/28/25 20:16	
13C8-PFOA	89.0	40-130						5/28/25 20:16	
13C9-PFNA	88.1	40-130						5/28/25 20:16	
13C6-PFDA	91.5	40-130						5/28/25 20:16	
13C7-PFUnA	93.3	40-130						5/28/25 20:16	
13C2-PFDoA	83.4	40-130						5/28/25 20:16	
13C2-PFTeDA	91.5	20-130						5/28/25 20:16	
13C3-PFBS	86.7	40-135						5/28/25 20:16	
13C3-PFHxS	98.9	40-130						5/28/25 20:16	
13C8-PFOS	97.2	40-130						5/28/25 20:16	
13C2-4:2FTS	82.4	40-165						5/28/25 20:16	
13C2-6:2FTS	91.7	40-215						5/28/25 20:16	
13C2-8:2FTS	83.9	40-275						5/28/25 20:16	
13C8-PFOSA	78.7	40-130						5/28/25 20:16	
D3-NMeFOSA	86.8	10-130						5/28/25 20:16	
D5-NEtFOSA	90.1	10-130						5/28/25 20:16	
D3-NMeFOSAA	112	40-135						5/28/25 20:16	
D5-NEtFOSAA	110	40-150						5/28/25 20:16	
D7-NMeFOSE	85.3	20-130						5/28/25 20:16	
D9-NEtFOSE	91.5	15-130						5/28/25 20:16	
13C3-HFPO-DA	85.9	40-130						5/28/25 20:16	



Pace Analytical Services, LLC - East Longmeadow, Ma

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-8

Sampled: 5/8/2025 10:10

Sample ID: 25E0950-08

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.4		% Wt	1		SM 2540G	5/12/25	5/12/25 20:02	DMB

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

Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-9

Sampled: 5/8/2025 10:18

Sample ID: 25E0950-09

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Perfluorohexanoic acid (PFHxA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Perfluoroheptanoic acid (PFHpA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Perfluorooctanoic acid (PFOA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Perfluorononanoic acid (PFNA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Perfluorodecanoic acid (PFDA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Perfluoroundecanoic acid (PFUnA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Perfluorododecanoic acid (PFDoA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Perfluorotridecanoic acid (PFTrDA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Perfluorotetradecanoic acid (PFTeDA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Perfluorobutanesulfonic acid (PFBS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Perfluoropentanesulfonic acid (PFPeS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Perfluorohexanesulfonic acid (PFHxS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Perfluorooctanesulfonic acid (PFOS)	0.38	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Perfluorononanesulfonic acid (PFNS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Perfluorodecanesulfonic acid (PFDS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Perfluorododecanesulfonic acid (PFDoS)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Perfluorooctanesulfonamide (PFOSA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
N-methyl perfluorooctanesulfonamide (NMeFOSA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
N-MeFOSAA (NMeFOSAA)	ND	0.19	µg/kg dry	1	L-03	EPA 1633	5/27/25	5/28/25 20:25	CML
N-EtFOSAA (NEtFOSAA)	ND	0.19	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	ND	1.9	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	1.9	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
9Cl-PF3ONS (F53B Minor)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
11Cl-PF3OUs (F53B Major)	ND	0.78	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	0.97	µg/kg dry	1	L-03	EPA 1633	5/27/25	5/28/25 20:25	CML
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	4.9	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
3-Perfluoroheptyl propanoic acid (FHPrPA) (7:3FTCA)	ND	4.9	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML

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Project Location: Waterbury, VT

Sample Description:

Work Order: 25E0950

Date Received: 5/12/2025

Field Sample #: S-9

Sampled: 5/8/2025 10:18

Sample ID: 25E0950-09

Sample Matrix: Soil

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg dry	1		EPA 1633	5/27/25	5/28/25 20:25	CML
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
13C4-PFBA	83.0	8-130						5/28/25 20:25	
13C5-PFPeA	86.4	35-130						5/28/25 20:25	
13C5-PFHxA	91.1	40-130						5/28/25 20:25	
13C4-PFHpA	79.7	40-130						5/28/25 20:25	
13C8-PFOA	84.7	40-130						5/28/25 20:25	
13C9-PFNA	87.9	40-130						5/28/25 20:25	
13C6-PFDA	95.2	40-130						5/28/25 20:25	
13C7-PFUnA	101	40-130						5/28/25 20:25	
13C2-PFDoA	85.4	40-130						5/28/25 20:25	
13C2-PFTeDA	86.1	20-130						5/28/25 20:25	
13C3-PFBS	83.4	40-135						5/28/25 20:25	
13C3-PFHxS	92.6	40-130						5/28/25 20:25	
13C8-PFOS	95.0	40-130						5/28/25 20:25	
13C2-4:2FTS	74.9	40-165						5/28/25 20:25	
13C2-6:2FTS	83.2	40-215						5/28/25 20:25	
13C2-8:2FTS	76.3	40-275						5/28/25 20:25	
13C8-PFOSA	78.8	40-130						5/28/25 20:25	
D3-NMeFOSA	89.7	10-130						5/28/25 20:25	
D5-NEtFOSA	92.1	10-130						5/28/25 20:25	
D3-NMeFOSAA	112	40-135						5/28/25 20:25	
D5-NEtFOSAA	108	40-150						5/28/25 20:25	
D7-NMeFOSE	87.5	20-130						5/28/25 20:25	
D9-NEtFOSE	99.8	15-130						5/28/25 20:25	
13C3-HFPO-DA	82.9	40-130						5/28/25 20:25	



Pace Analytical Services, LLC - East Longmeadow, Ma

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332		
Project Location: Waterbury, VT	Sample Description:	Work Order: 25E0950
Date Received: 5/12/2025		
Field Sample #: S-9	Sampled: 5/8/2025 10:18	
Sample ID: 25E0950-09		
Sample Matrix: Soil		

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.2		% Wt	1		SM 2540G	5/12/25	5/12/25 20:02	DMB

**Sample Extraction Data****Prep Method:**EPA 1633 **Analytical Method:**EPA 1633

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
25E0950-01 [S-1]	B405176	6.55	4.00	05/27/25
25E0950-02 [S-2]	B405176	6.66	4.00	05/27/25
25E0950-03 [S-3]	B405176	6.90	4.00	05/27/25
25E0950-04 [S-4]	B405176	6.45	4.00	05/27/25
25E0950-05 [S-5]	B405176	6.34	4.00	05/27/25
25E0950-06 [S-6]	B405176	6.06	4.00	05/27/25
25E0950-07 [S-7]	B405176	6.20	4.00	05/27/25
25E0950-08 [S-8]	B405176	5.86	4.00	05/27/25
25E0950-09 [S-9]	B405176	5.97	4.00	05/27/25

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

Lab Number [Field ID]	Batch	Date
25E0950-01 [S-1]	B404940	05/12/25
25E0950-02 [S-2]	B404940	05/12/25
25E0950-03 [S-3]	B404940	05/12/25
25E0950-04 [S-4]	B404940	05/12/25
25E0950-05 [S-5]	B404940	05/12/25
25E0950-06 [S-6]	B404940	05/12/25
25E0950-07 [S-7]	B404940	05/12/25
25E0950-08 [S-8]	B404940	05/12/25
25E0950-09 [S-9]	B404940	05/12/25

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B405176 - EPA 1633										
Blank (B405176-BLK1)										
Prepared: 05/27/25 Analyzed: 05/28/25										
Perfluorobutanoic acid (PFBA)	ND	0.78	µg/kg wet							
Perfluoropentanoic acid (PFPeA)	ND	0.39	µg/kg wet							
Perfluorohexanoic acid (PFHxA)	ND	0.19	µg/kg wet							
Perfluoroheptanoic acid (PFHpA)	ND	0.19	µg/kg wet							
Perfluorooctanoic acid (PFOA)	ND	0.19	µg/kg wet							
Perfluorononanoic acid (PFNA)	ND	0.19	µg/kg wet							
Perfluorodecanoic acid (PFDA)	ND	0.19	µg/kg wet							
Perfluoroundecanoic acid (PFUnA)	ND	0.19	µg/kg wet							
Perfluorododecanoic acid (PFDoA)	ND	0.19	µg/kg wet							
Perfluorotridecanoic acid (PFTrDA)	ND	0.19	µg/kg wet							
Perfluorotetradecanoic acid (PFTeDA)	ND	0.19	µg/kg wet							
Perfluorobutanesulfonic acid (PFBS)	ND	0.19	µg/kg wet							
Perfluoropentanesulfonic acid (PFPeS)	ND	0.19	µg/kg wet							
Perfluorohexanesulfonic acid (PFHxS)	ND	0.19	µg/kg wet							
Perfluoroheptanesulfonic acid (PFHpS)	ND	0.19	µg/kg wet							
Perfluorooctanesulfonic acid (PFOS)	ND	0.19	µg/kg wet							
Perfluorononanesulfonic acid (PFNS)	ND	0.19	µg/kg wet							
Perfluorodecanesulfonic acid (PFDS)	ND	0.19	µg/kg wet							
Perfluorododecanesulfonic acid (PFDoS)	ND	0.19	µg/kg wet							
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	ND	0.78	µg/kg wet							
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	ND	0.78	µg/kg wet							
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	ND	0.78	µg/kg wet							
Perfluorooctanesulfonamide (PFOSA)	ND	0.19	µg/kg wet							
N-methyl perfluorooctanesulfonamide (NMeFOSA)	ND	0.19	µg/kg wet							
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	ND	0.19	µg/kg wet							
N-MeFOSAA (NMeFOSAA)	ND	0.19	µg/kg wet							L-03
N-EtFOSAA (NEtFOSAA)	ND	0.19	µg/kg wet							
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	ND	1.9	µg/kg wet							
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	ND	1.9	µg/kg wet							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	0.78	µg/kg wet							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	0.78	µg/kg wet							
9Cl-PF3ONS (F53B Minor)	ND	0.78	µg/kg wet							
11Cl-PF3OUdS (F53B Major)	ND	0.78	µg/kg wet							
3-Perfluoropropyl propanoic acid (FPrPA) (3:3FTCA)	ND	0.97	µg/kg wet							L-03
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	ND	4.8	µg/kg wet							
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	ND	4.8	µg/kg wet							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	ND	0.39	µg/kg wet							
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	0.39	µg/kg wet							
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	0.39	µg/kg wet							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	0.39	µg/kg wet							
Surrogate: 13C4-PFBA	5.01		µg/kg wet	7.758		64.5	8-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B405176 - EPA 1633

Blank (B405176-BLK1)

Prepared: 05/27/25 Analyzed: 05/28/25

Surrogate: 13C5-PFPeA	3.03		µg/kg wet	3.879		78.2	35-130			
Surrogate: 13C5-PFHxA	1.58		µg/kg wet	1.939		81.6	40-130			
Surrogate: 13C4-PFHpA	1.41		µg/kg wet	1.939		72.7	40-130			
Surrogate: 13C8-PFOA	1.55		µg/kg wet	1.939		80.1	40-130			
Surrogate: 13C9-PFNA	0.813		µg/kg wet	0.9697		83.8	40-130			
Surrogate: 13C6-PFDA	0.824		µg/kg wet	0.9697		85.0	40-130			
Surrogate: 13C7-PFUnA	0.766		µg/kg wet	0.9697		79.0	40-130			
Surrogate: 13C2-PFDoA	0.669		µg/kg wet	0.9697		69.0	40-130			
Surrogate: 13C2-PFTeDA	0.678		µg/kg wet	0.9697		69.9	20-130			
Surrogate: 13C3-PFBS	1.64		µg/kg wet	1.939		84.7	40-135			
Surrogate: 13C3-PFHxS	1.78		µg/kg wet	1.939		92.0	40-130			
Surrogate: 13C8-PFOS	1.66		µg/kg wet	1.939		85.8	40-130			
Surrogate: 13C2-4:2FTS	3.08		µg/kg wet	3.879		79.3	40-165			
Surrogate: 13C2-6:2FTS	3.18		µg/kg wet	3.879		81.9	40-215			
Surrogate: 13C2-8:2FTS	3.28		µg/kg wet	3.879		84.6	40-275			
Surrogate: 13C8-PFOSA	1.57		µg/kg wet	1.939		80.8	40-130			
Surrogate: D3-NMeFOSA	1.73		µg/kg wet	1.939		89.4	10-130			
Surrogate: D5-NEtFOSA	1.71		µg/kg wet	1.939		88.1	10-130			
Surrogate: D3-NMeFOSAA	3.77		µg/kg wet	3.879		97.1	40-135			
Surrogate: D5-NEtFOSAA	3.40		µg/kg wet	3.879		87.7	40-150			
Surrogate: D7-NMeFOSE	18.5		µg/kg wet	19.39		95.6	20-130			
Surrogate: D9-NEtFOSE	19.0		µg/kg wet	19.39		97.8	15-130			
Surrogate: 13C3-HFPO-DA	5.92		µg/kg wet	7.758		76.3	40-130			

LCS (B405176-BS1)

Prepared: 05/27/25 Analyzed: 05/28/25

Perfluorobutanoic acid (PFBA)	7.85	0.80	µg/kg wet	7.971		98.5	70-140			
Perfluoropentanoic acid (PFPeA)	4.28	0.40	µg/kg wet	3.986		107	60-150			
Perfluorohexanoic acid (PFHxA)	2.13	0.20	µg/kg wet	1.993		107	65-140			
Perfluoroheptanoic acid (PFHpA)	1.84	0.20	µg/kg wet	1.993		92.4	65-145			
Perfluorooctanoic acid (PFOA)	2.00	0.20	µg/kg wet	1.993		101	70-150			
Perfluorononanoic acid (PFNA)	2.00	0.20	µg/kg wet	1.993		101	70-155			
Perfluorodecanoic acid (PFDA)	1.90	0.20	µg/kg wet	1.993		95.5	70-155			
Perfluoroundecanoic acid (PFUnA)	1.81	0.20	µg/kg wet	1.993		90.7	70-155			
Perfluorododecanoic acid (PFDoA)	2.05	0.20	µg/kg wet	1.993		103	70-150			
Perfluorotridecanoic acid (PFTTrDA)	1.94	0.20	µg/kg wet	1.993		97.2	65-150			
Perfluorotetradecanoic acid (PFTeDA)	1.91	0.20	µg/kg wet	1.993		95.6	65-150			
Perfluorobutanesulfonic acid (PFBS)	1.61	0.20	µg/kg wet	1.770		90.7	65-145			
Perfluoropentanesulfonic acid (PFPeS)	1.92	0.20	µg/kg wet	1.873		102	55-160			
Perfluorohexanesulfonic acid (PFHxS)	1.59	0.20	µg/kg wet	1.817		87.7	60-150			
Perfluoroheptanesulfonic acid (PFHpS)	1.87	0.20	µg/kg wet	1.897		98.7	65-155			
Perfluorooctanesulfonic acid (PFOS)	1.62	0.20	µg/kg wet	1.849		87.7	65-160			
Perfluorononanesulfonic acid (PFNS)	1.73	0.20	µg/kg wet	1.913		90.4	55-140			
Perfluorodecanesulfonic acid (PFDS)	1.63	0.20	µg/kg wet	1.921		84.9	40-155			
Perfluorododecanesulfonic acid (PFDoS)	1.57	0.20	µg/kg wet	1.929		81.3	25-160			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	8.57	0.80	µg/kg wet	7.469		115	60-150			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	9.53	0.80	µg/kg wet	7.581		126	55-200			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	8.72	0.80	µg/kg wet	7.652		114	70-150			
Perfluorooctanesulfonamide (PFOSA)	1.81	0.20	µg/kg wet	1.993		90.9	70-140			
N-methyl perfluorooctanesulfonamide (NMeFOSA)	1.81	0.20	µg/kg wet	1.993		90.7	70-155			

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QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B405176 - EPA 1633										
LCS (B405176-BS1)										
Prepared: 05/27/25 Analyzed: 05/28/25										
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	1.92	0.20	µg/kg wet	1.993		96.2	70-140			
N-MeFOSAA (NMeFOSAA)	1.38	0.20	µg/kg wet	1.993		69.2	65-155			
N-EtFOSAA (NEtFOSAA)	1.75	0.20	µg/kg wet	1.993		87.8	65-165			
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	20.5	2.0	µg/kg wet	19.93		103	70-140			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	19.3	2.0	µg/kg wet	19.93		96.8	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	8.52	0.80	µg/kg wet	7.971		107	70-145			
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	8.65	0.80	µg/kg wet	7.533		115	70-160			
9Cl-PF3ONS (F53B Minor)	6.76	0.80	µg/kg wet	7.437		90.9	70-150			
11Cl-PF3OUdS (F53B Major)	7.71	0.80	µg/kg wet	7.413		104	45-160			
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	4.18	1.0	µg/kg wet	9.964		41.9	* 45-130			L-03
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	45.5	5.0	µg/kg wet	49.82		91.3	60-130			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	43.8	5.0	µg/kg wet	49.82		87.9	60-150			
Perfluoro(2-ethoxyethane)sulfonic acid (PFESA)	3.67	0.40	µg/kg wet	3.555		103	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.31	0.40	µg/kg wet	3.986		108	30-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.37	0.40	µg/kg wet	3.986		110	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.02	0.40	µg/kg wet	3.986		101	60-155			
Surrogate: 13C4-PFBA	5.51		µg/kg wet	7.971		69.2	8-130			
Surrogate: 13C5-PFPeA	3.36		µg/kg wet	3.986		84.3	35-130			
Surrogate: 13C5-PFHxA	1.74		µg/kg wet	1.993		87.4	40-130			
Surrogate: 13C4-PFHpA	1.61		µg/kg wet	1.993		80.6	40-130			
Surrogate: 13C8-PFOA	1.76		µg/kg wet	1.993		88.3	40-130			
Surrogate: 13C9-PFNA	0.884		µg/kg wet	0.9964		88.7	40-130			
Surrogate: 13C6-PFDA	0.934		µg/kg wet	0.9964		93.7	40-130			
Surrogate: 13C7-PFUnA	0.908		µg/kg wet	0.9964		91.2	40-130			
Surrogate: 13C2-PFDoA	0.762		µg/kg wet	0.9964		76.5	40-130			
Surrogate: 13C2-PFTeDA	0.758		µg/kg wet	0.9964		76.1	20-130			
Surrogate: 13C3-PFBS	1.82		µg/kg wet	1.993		91.6	40-135			
Surrogate: 13C3-PFHxS	1.88		µg/kg wet	1.993		94.4	40-130			
Surrogate: 13C8-PFOS	1.91		µg/kg wet	1.993		95.8	40-130			
Surrogate: 13C2-4:2FTS	3.29		µg/kg wet	3.986		82.6	40-165			
Surrogate: 13C2-6:2FTS	3.37		µg/kg wet	3.986		84.6	40-215			
Surrogate: 13C2-8:2FTS	3.53		µg/kg wet	3.986		88.5	40-275			
Surrogate: 13C8-PFOSA	1.68		µg/kg wet	1.993		84.5	40-130			
Surrogate: D3-NMeFOSA	1.80		µg/kg wet	1.993		90.2	10-130			
Surrogate: D5-NEtFOSA	1.75		µg/kg wet	1.993		87.7	10-130			
Surrogate: D3-NMeFOSAA	4.48		µg/kg wet	3.986		112	40-135			
Surrogate: D5-NEtFOSAA	4.49		µg/kg wet	3.986		113	40-150			
Surrogate: D7-NMeFOSE	16.8		µg/kg wet	19.93		84.1	20-130			
Surrogate: D9-NEtFOSE	17.8		µg/kg wet	19.93		89.4	15-130			
Surrogate: 13C3-HFPO-DA	6.51		µg/kg wet	7.971		81.6	40-130			
MRL Check (B405176-MRL1)										
Prepared: 05/27/25 Analyzed: 05/28/25										
Perfluorobutanoic acid (PFBA)	1.31	0.79	µg/kg wet	1.583		82.9	70-140			
Perfluoropentanoic acid (PFPeA)	0.720	0.40	µg/kg wet	0.7915		91.0	60-150			

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

QUALITY CONTROL
Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B405176 - EPA 1633										
MRL Check (B405176-MRL1)										
				Prepared: 05/27/25 Analyzed: 05/28/25						
Perfluorohexanoic acid (PFHxA)	0.337	0.20	µg/kg wet	0.3957		85.2	65-140			
Perfluoroheptanoic acid (PFHpA)	0.293	0.20	µg/kg wet	0.3957		73.9	65-145			
Perfluorooctanoic acid (PFOA)	0.367	0.20	µg/kg wet	0.3957		92.6	70-150			
Perfluorononanoic acid (PFNA)	0.316	0.20	µg/kg wet	0.3957		79.9	70-155			
Perfluorodecanoic acid (PFDA)	0.307	0.20	µg/kg wet	0.3957		77.6	70-155			
Perfluoroundecanoic acid (PFUnA)	0.313	0.20	µg/kg wet	0.3957		79.1	70-155			
Perfluorododecanoic acid (PFDoA)	0.320	0.20	µg/kg wet	0.3957		81.0	70-150			
Perfluorotridecanoic acid (PFTrDA)	0.313	0.20	µg/kg wet	0.3957		79.2	65-150			
Perfluorotetradecanoic acid (PFTeDA)	0.321	0.20	µg/kg wet	0.3957		81.1	65-150			
Perfluorobutanesulfonic acid (PFBS)	0.271	0.20	µg/kg wet	0.3514		77.0	65-145			
Perfluoropentanesulfonic acid (PFPeS)	0.308	0.20	µg/kg wet	0.3720		82.7	55-160			
Perfluorohexanesulfonic acid (PFHxS)	0.276	0.20	µg/kg wet	0.3609		76.5	60-150			
Perfluoroheptanesulfonic acid (PFHpS)	0.300	0.20	µg/kg wet	0.3767		79.6	65-155			
Perfluorooctanesulfonic acid (PFOS)	0.273	0.20	µg/kg wet	0.3672		74.4	65-160			
Perfluorononanesulfonic acid (PFNS)	0.255	0.20	µg/kg wet	0.3799		67.1	55-140			
Perfluorodecanesulfonic acid (PFDS)	0.257	0.20	µg/kg wet	0.3815		67.3	40-155			
Perfluorododecanesulfonic acid (PFDoS)	0.255	0.20	µg/kg wet	0.3831		66.7	25-160			
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	1.43	0.79	µg/kg wet	1.483		96.1	60-150			
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	1.30	0.79	µg/kg wet	1.505		86.3	55-200			
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	1.36	0.79	µg/kg wet	1.520		89.8	70-150			
Perfluorooctanesulfonamide (PFOSA)	0.292	0.20	µg/kg wet	0.3957		73.7	70-140			
N-methyl perfluorooctanesulfonamide (NMeFOSA)	0.325	0.20	µg/kg wet	0.3957		82.2	70-155			
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	0.326	0.20	µg/kg wet	0.3957		82.3	70-140			
N-MeFOSAA (NMeFOSAA)	0.235	0.20	µg/kg wet	0.3957		59.4	* 65-155			L-03
N-EtFOSAA (NEtFOSAA)	0.319	0.20	µg/kg wet	0.3957		80.7	65-165			
N-methylperfluorooctanesulfonamidoethanol (NMeFOSE)	3.25	2.0	µg/kg wet	3.957		82.1	70-140			
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	3.31	2.0	µg/kg wet	3.957		83.7	70-135			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1.39	0.79	µg/kg wet	1.583		87.7	70-145			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.50	0.79	µg/kg wet	1.496		100	70-160			
9Cl-PF3ONS (F53B Minor)	1.11	0.79	µg/kg wet	1.477		75.2	70-150			
11Cl-PF3OUDS (F53B Major)	1.25	0.79	µg/kg wet	1.472		85.2	45-160			
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	0.774	0.99	µg/kg wet	1.979		39.1	* 45-130			L-03
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	7.87	4.9	µg/kg wet	9.893		79.6	60-130			
3-Perfluoroheptyl propanoic acid (FHpPA) (7:3FTCA)	7.95	4.9	µg/kg wet	9.893		80.3	60-150			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.604	0.40	µg/kg wet	0.7060		85.6	70-140			
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.716	0.40	µg/kg wet	0.7915		90.5	30-140			
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.694	0.40	µg/kg wet	0.7915		87.6	60-150			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.623	0.40	µg/kg wet	0.7915		78.7	60-155			
Surrogate: 13C4-PFBA	5.73		µg/kg wet	7.915		72.4	8-130			
Surrogate: 13C5-PFPeA	3.60		µg/kg wet	3.957		91.0	35-130			
Surrogate: 13C5-PFHxA	1.88		µg/kg wet	1.979		95.2	40-130			

QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B405176 - EPA 1633

MRL Check (B405176-MRL1)

Prepared: 05/27/25 Analyzed: 05/28/25

Surrogate: 13C4-PFHpA	1.66		µg/kg wet	1.979		84.0	40-130			
Surrogate: 13C8-PFOA	1.87		µg/kg wet	1.979		94.4	40-130			
Surrogate: 13C9-PFNA	0.920		µg/kg wet	0.9893		93.0	40-130			
Surrogate: 13C6-PFDA	1.01		µg/kg wet	0.9893		102	40-130			
Surrogate: 13C7-PFUnA	0.914		µg/kg wet	0.9893		92.4	40-130			
Surrogate: 13C2-PFDoA	0.803		µg/kg wet	0.9893		81.2	40-130			
Surrogate: 13C2-PFTeDA	0.788		µg/kg wet	0.9893		79.7	20-130			
Surrogate: 13C3-PFBS	1.91		µg/kg wet	1.979		96.5	40-135			
Surrogate: 13C3-PFHxS	2.03		µg/kg wet	1.979		103	40-130			
Surrogate: 13C8-PFOS	2.17		µg/kg wet	1.979		110	40-130			
Surrogate: 13C2-4:2FTS	3.62		µg/kg wet	3.957		91.4	40-165			
Surrogate: 13C2-6:2FTS	3.99		µg/kg wet	3.957		101	40-215			
Surrogate: 13C2-8:2FTS	3.57		µg/kg wet	3.957		90.1	40-275			
Surrogate: 13C8-PFOSA	1.86		µg/kg wet	1.979		94.1	40-130			
Surrogate: D3-NMeFOSA	2.04		µg/kg wet	1.979		103	10-130			
Surrogate: D5-NEtFOSA	1.99		µg/kg wet	1.979		101	10-130			
Surrogate: D3-NMeFOSAA	4.80		µg/kg wet	3.957		121	40-135			
Surrogate: D5-NEtFOSAA	4.42		µg/kg wet	3.957		112	40-150			
Surrogate: D7-NMeFOSE	20.0		µg/kg wet	19.79		101	20-130			
Surrogate: D9-NEtFOSE	20.0		µg/kg wet	19.79		101	15-130			
Surrogate: 13C3-HFPO-DA	6.78		µg/kg wet	7.915		85.7	40-130			

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
L-03	Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.
PF-17	Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 1633 in Soil</i>	
Perfluorobutanoic acid (PFBA)	NH-P,WV,PA,VA,NJ,LA
Perfluoropentanoic acid (PFPeA)	NH-P,WV,PA,VA,NJ,LA
Perfluorohexanoic acid (PFHxA)	NH-P,WV,PA,VA,NJ,LA
Perfluoroheptanoic acid (PFHpA)	NH-P,WV,PA,VA,NJ,LA
Perfluorooctanoic acid (PFOA)	NH-P,WV,PA,VA,NJ,LA
Perfluorononanoic acid (PFNA)	NH-P,WV,PA,VA,NJ,LA
Perfluorodecanoic acid (PFDA)	NH-P,WV,PA,VA,NJ,LA
Perfluoroundecanoic acid (PFUnA)	NH-P,WV,PA,VA,NJ,LA
Perfluorododecanoic acid (PFDoA)	NH-P,WV,PA,VA,NJ,LA
Perfluorotridecanoic acid (PFTrDA)	NH-P,WV,PA,VA,NJ,LA
Perfluorotetradecanoic acid (PFTeDA)	NH-P,WV,PA,VA,NJ,LA
Perfluorobutanesulfonic acid (PFBS)	NH-P,WV,PA,VA,NJ,LA
Perfluoropentanesulfonic acid (PFPeS)	NH-P,WV,PA,VA,NJ,LA
Perfluorohexanesulfonic acid (PFHxS)	NH-P,WV,PA,VA,NJ,LA
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,WV,PA,VA,NJ,LA
Perfluorooctanesulfonic acid (PFOS)	NH-P,WV,PA,VA,NJ,LA
Perfluorononanesulfonic acid (PFNS)	NH-P,WV,PA,VA,NJ,LA
Perfluorodecanesulfonic acid (PFDS)	NH-P,WV,PA,VA,NJ,LA
Perfluorododecanesulfonic acid (PFDoS)	NH-P,WV,PA,VA,NJ,LA
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	NH-P,WV,PA,VA,NJ,LA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	NH-P,WV,PA,VA,NJ,LA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	NH-P,WV,PA,VA,NJ,LA
Perfluorooctanesulfonamide (PFOSA)	NH-P,WV,PA,VA,NJ,LA
N-methyl perfluorooctanesulfonamide (NMeFOSA)	NH-P,WV,PA,VA,NJ,LA
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	NH-P,WV,PA,VA,NJ,LA
N-MeFOSAA (NMeFOSAA)	NH-P,WV,PA,VA,NJ,LA
N-EtFOSAA (NEtFOSAA)	NH-P,WV,PA,VA,NJ,LA
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	NH-P,WV,PA,VA,NJ,LA
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	NH-P,WV,PA,VA,NJ,LA
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,WV,PA,VA,NJ,LA
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,WV,PA,VA,NJ,LA
9CI-PF3ONS (F53B Minor)	NH-P,WV,PA,VA,NJ,LA
11CI-PF3OUdS (F53B Major)	NH-P,WV,PA,VA,NJ,LA
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	NH-P,WV,PA,VA,NJ,LA
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	NH-P,WV,PA,VA,NJ,LA
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)	NH-P,WV,PA,VA,NJ,LA
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	NH-P,WV,PA,VA,NJ,LA
Perfluoro-3-methoxypropanoic acid (PFMPA)	NH-P,WV,PA,VA,NJ,LA
Perfluoro-4-methoxybutanoic acid (PFMBA)	NH-P,WV,PA,VA,NJ,LA
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,WV,PA,VA,NJ,LA
<i>EPA 1633 in Water</i>	
Perfluorobutanoic acid (PFBA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoropentanoic acid (PFPeA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorohexanoic acid (PFHxA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoroheptanoic acid (PFHpA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorooctanoic acid (PFOA)	CT,NH-P,WV,PA,VA,NJ,LA

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 1633 in Water	
Perfluorononanoic acid (PFNA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorodecanoic acid (PFDA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoroundecanoic acid (PFUnA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorododecanoic acid (PFDoA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorotridecanoic acid (PFTrDA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorotetradecanoic acid (PFTeDA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorobutanesulfonic acid (PFBS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoropentanesulfonic acid (PFPeS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorohexanesulfonic acid (PFHxS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoroheptanesulfonic acid (PFHpS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorooctanesulfonic acid (PFOS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorononanesulfonic acid (PFNS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorodecanesulfonic acid (PFDS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorododecanesulfonic acid (PFDoS)	CT,NH-P,WV,PA,VA,NJ,LA
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	CT,NH-P,WV,PA,VA,NJ,LA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	CT,NH-P,WV,PA,VA,NJ,LA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluorooctanesulfonamide (PFOSA)	CT,NH-P,WV,PA,VA,NJ,LA
N-methyl perfluorooctanesulfonamide (NMeFOSA)	CT,NH-P,WV,PA,VA,NJ,LA
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	CT,NH-P,WV,PA,VA,NJ,LA
N-MeFOSAA (NMeFOSAA)	CT,NH-P,WV,PA,VA,NJ,LA
N-EtFOSAA (NEtFOSAA)	CT,NH-P,WV,PA,VA,NJ,LA
N-methylperfluorooctanesulfonamidoethanol(NMeFOSE)	CT,NH-P,WV,PA,VA,NJ,LA
N-ethylperfluorooctanesulfonamidoethanol (NEtFOSE)	CT,NH-P,WV,PA,VA,NJ,LA
Hexafluoropropylene oxide dimer acid (HFPO-DA)	CT,NH-P,WV,PA,VA,NJ,LA
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	CT,NH-P,WV,PA,VA,NJ,LA
9Cl-PF3ONS (F53B Minor)	CT,NH-P,WV,PA,VA,NJ,LA
11Cl-PF3OUdS (F53B Major)	CT,NH-P,WV,PA,VA,NJ,LA
3-Perfluoropropyl propanoic acid (FPrPA)(3:3FTCA)	CT,NH-P,WV,PA,VA,NJ,LA
2H,2H,3H,3H-Perfluorooctanoic acid(FPePA)(5:3FTCA)	CT,NH-P,WV,PA,VA,NJ,LA
3-Perfluoroheptyl propanoic acid (FHpPA)(7:3FTCA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoro-3-methoxypropanoic acid (PFMPA)	CT,NH-P,WV,PA,VA,NJ,LA
Perfluoro-4-methoxybutanoic acid (PFMBA)	CT,NH-P,WV,PA,VA,NJ,LA
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	CT,NH-P,WV,PA,VA,NJ,LA

Pace Analytical Services, LLC - East Longmeadow, Ma, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2026
NJ	New Jersey DEP	MA007 NELAP	06/30/2025
VA	Commonwealth of Virginia	460217	12/14/2025
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2025
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2026
WV	West Virginia DEP Division of Water and Waste Management	419	08/31/2025
LA	State of Louisiana Dept. of Env. Quality Office of Env. Services	05130	06/30/2025

	DC#_Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist
	Effective Date: 06/11/2024

Log In Back-Sheet

Client Ross Environmental
 Project + 2025-014
 MCP/RCP Required NO
 Deliverable Package Requirement none
 Location Waterbury, VT
 PWSID# (When Applicable) n/a
 Arrival Method:
 Courier ☒ Fed Ex ☐ Walk In ☐ Other ☐
 Received By / Date / Time Mem 5/12/25 1733
 Back-Sheet By / Date / Time Mem 5/12/25 1936
 Temperature Method Gun # 4
 WV samples: Yes (see note*) / No (follow normal procedure)
 Temp < 6° C Actual Temperature 29
 Rush Samples: Yes / No Notify No
 Short Hold: Yes / No Notify No

Notes regarding Samples/COC outside of SOP:

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

	True	False
Received on Ice	☒	☐
Received in Cooler	☒	☐
Custody Seal: DATE TIME	☐	☒
COC Relinquished	☒	☐
COC/Samples Labels Agree	☒	☐
All Samples in Good Condition	☒	☐
Samples Received within Holding Time	☒	☐
Is there enough Volume	☒	☐
Proper Media/Container Used	☒	☐
Splitting Samples Required	☐	☒
MS/MSD	☐	☒
Trip Blanks	☐	☒
Lab to Filters	☐	☒
COC Legible	☒	☐
COC Included: (Check all included)		
Client ☒	Analysis ☒	Sampler Name ☒
Project ☒	IDs ☒	Collection Date/Time ☐
All Samples Proper pH: <u>N/A</u> ☐ ☐		

Additional Container Notes

*Note: West Virginia requires all samples to have their
 temperature taken. Note any outliers.

Sample	Soils Jars (Circle Amb/Clear)	Ambers				Plastics						VOA Vials					Other / Fill in				
		1 Liter		250mL		100mL	1 Liter			500mL	250mL			Unpreserved	HCl	MeOH	D.I. Water	Bisulfate	Col/Bact		
1	16oz Amb/Clear	Unpreserved	HCL	Sulfuric	Sulfuric	Unpreserved	Unpreserved	Sulfuric	Unpreserved	Sulfuric	Unpreserved	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc				
2	8oz Amb/Clear																				
3	4oz Amb/Clear																				
4	2oz Amb/Clear																				
5																					
6																					
7																					
8																					
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DC# Title: ENV-FRM-ELON-0001 v08_Sample Receiving Checklist Page 2 of 2	Effective Date: 06/11/2024
	QUALTRAX SERVICES Page 2 of 2