Halifax Landfill
2044 Branch Road
Halifax, Vermont

VT DEC Project# NS95-0165
Solid Waste Facility ID# WH280
KAS Job# 610110045

SPRING 2025 ANNUAL WATER QUALITY MONITORING REPORT

June 18, 2025

Prepared for:

Town of Halifax
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Introduction

KAS, Inc. (KAS) conducted an annual water quality monitoring event on May 1, 2025 at the Halifax closed landfill (Site Location Map and Site Map in Appendix A). Pursuant to the current landfill certification, issued by the Vermont Department of Environmental Conservation (VT DEC) on July 11, 2017, a groundwater sample was collected from monitoring well MW-3 and analyzed for per- and polyfluorinated compounds (PFAS). In addition, a drinking water sample from the Town Garage building and a surface water sample from Branch Brook were collected and analyzed for PFAS, as requested by the Town of Halifax.

Background

The unlined landfill was closed in 1995 and, since then, post-closure monitoring has been conducted for various water quality parameters (e.g., metals, chemical oxygen demand, chloride, etc.), which have since been shown to be below Vermont Groundwater Enforceable Standard (VGES) and/or exhibiting a long-term stable or decreasing trend. However, in October 2016, when the landfill first began testing for PFAS, the emerging contaminants were confirmed to be in groundwater at levels above VGES. Post-closure monitoring continues to be required (e.g., the closed landfill is not eligible for custodial care status) due to elevated PFAS levels that persist in the groundwater.

PFAS compounds subject to regulation in Vermont include perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS), perfluorohexanesulfonic acid (PFHxS), perfluoroheptanoic acid (PFHpA), and perfluorononanoic acid (PFNA). The VGES for PFAS is 20 nanograms per liter (ng/L) for the sum of the five regulated PFAS. There are numerous other PFAS compounds that are not regulated in Vermont, some of which are considered replacements for PFAS that have been phased out of production and use.

Currently, the contaminant of concern in groundwater is PFAS and monitoring is limited to groundwater monitoring well MW-3. Groundwater is presumed to flow southeasterly, and MW-3 is considered to be the farthest downgradient well. Based on historical sampling done in December 2016 and in November 2019, regulated PFAS levels at MW-4 were found to be below VGES (e.g., 10.05 ng/L and 6.99 ng/L, respectively).

In March 2024, the VT DEC approved the reduction of PFAS monitoring from biannual (May and October) to annual (May).

Since 2016, monitoring has also periodically included nearby residential/private drinking water samples. In general, drinking water sampling has been conducted at the request of the Town and is not specified in the VT DEC post-closure monitoring plan requirements.

Groundwater Sampling & Results

Field measurements

Depth to groundwater in MW-3 was measured at 5.71 feet below top of casing (btoc). At the time of sampling, the water temperature was 9.8 degrees Celsius, with a pH of 6.29 and a specific conductivity of 250 microsiemens per centimeter (µS/cm), as measured by a properly calibrated YSI® Pro Multi-Meter. All measurements were within the range of historical fluctuations. Field measurement data is presented in tables and a graph in Appendix B.

Laboratory results

A groundwater sample was collected from MW-3 via low-flow sampling techniques (peristaltic pump) to minimize turbidity in the sample. The groundwater sample was analyzed for PFAS via a lab-specific isotope dilution method. The laboratory reported a total regulated PFAS concentration of 142 ng/L in the sample collected from MW-3, which exceeds the VGES of 20 ng/l. No PFAS were detected above laboratory method detection limits in the equipment rinse blank sample, which indicates cross contamination of PFAS from the sampler, sampling equipment, and/or ambient air was not a concern during sample collection. Current and historical analytical data are presented in a table and graph in Appendix B. A copy of the laboratory report is provided in Appendix C.

Drinking Water Sampling & Results

On May 1, 2025, KAS collected a drinking water sample from the Town Garage private supply well. The sample was collected from the pressure tank and analyzed for PFAS via a lab-specific isotope dilution method. All regulated PFAS concentrations were all below the laboratory detection limit. One non-regulated PFAS – perfluorobutanoic acid (PFBA), was reported at 2.8 ng/L. A field blank was prepared by KAS at the time of sample collection. No PFAS was detected in the field blank.

Surface Water Sampling & Results

On May 1, 2025, KAS collected a surface water sample from the Branch Brook, at a downstream location from MW-3. The sample was collected manually directly from the river and into the sample container. The surface water sample (SW-1) was analyzed for PFAS via a lab-specific isotope dilution method. No PFAS were reported above the laboratory reporting limit. The approximate sample location is shown on the Site Map.

PFAS Trends & Discussions

The total regulated PFAS concentration reported at MW-3 (142 ng/L) is within the range of historical fluctuations (e.g., 30 – 236 ng/L) and has decreased significantly from its peak in May 2024. Overall, PFAS concentrations at MW-3 continue to fluctuate widely and appear to be influenced by fluctuations in precipitation, groundwater elevations, and/or leachate generation. Additional data is needed to establish meaningful long-term trends. Once the residual source of PFAS from the closed landfill decreases, PFAS levels at MW-3 are expected to become more stable and decrease slowly over time. However, given the persistent nature of PFAS in the environment, this may take many years.

Consistent with previous findings, of the regulated PFAS compounds, PFOA and PFOS continue to exhibit the highest concentrations. This is also consistent with a Vermont landfill leachate study, which found PFOA and PFOS to be the predominant PFAS.[1] Non-regulated PFAS compounds are also typically detected at MW-3, which is more evident since May 2023 when the full PFAS list, consisting of 34 compounds, began being analyzed and reported by the lab. The total non-regulated PFAS concentration has been added to the summary data table in Appendix B. Since May 2023, the total non-regulated PFAS concentration following a similar trend as the total regulated PFAS concentration. Tracking both trends (regulated and non-regulated) may be useful

[1] PFAS Waste Source Testing Report, New England Waste Services of Vermont, Inc., by Sanborn, Head & Associates, Inc., October 2019, available online https://dec.vermont.gov/press-release/department-environmental-conservation-releases-reports-pfas-chemicals

should notable changes occur in the future, which may help indicate overall PFAS degradation and/or transformation.

The Branch Brook, which is downgradient to MW-3, does not appear to be impacted by PFAS. Unless PFAS trends at MW-3 change/increase significantly, additional surface water monitoring at the Branch Brook does not appear to be warranted.

The following table is a summary of supply well/drinking water sampling conducted to date. As shown, the nearby residential/private supply wells do not appear to be impacted by PFAS. At the Town Garage, select PFAS compounds have been reported at levels below the drinking water standard of 20 ng/L (per the Vermont Water Supply Rule for public water supply systems). This, along with infrequent detections of PFAS, suggests that the Town Garage supply well is not impacted by PFAS from the closed landfill. Should the Town continue to monitor PFAS in the Town Garage supply well, for preventative/precautionary purposes, the Town has the option to have the sample analyzed via EPA Method 537.1, which is typically used for drinking water (reports 6 to 18 individual PFAS compounds) or via a lab specific isotope dilution method for aqueous samples (reports 34 PFAS compounds). Given the higher number of PFAS reported via isotope dilution, it is KAS' opinion that this analysis method should be used.

Table 1 – Summary of Private Drinking Water Sampling

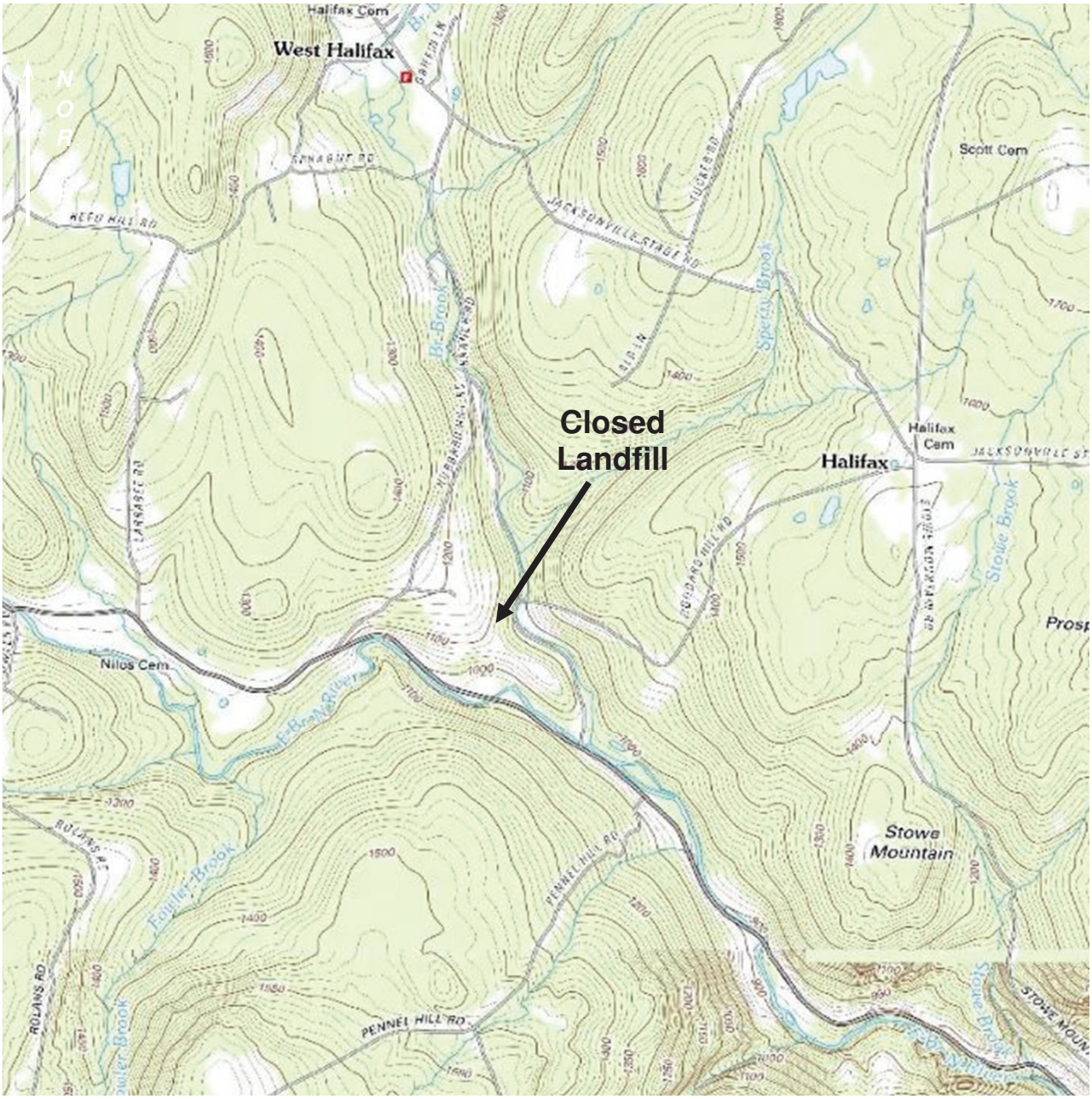
Sample ID	Address	Sampling Dates	PFAS Results
Town Garage	2044 Branch Road (south of landfill)	8/30/2017, 11/18/2021, 5/25/2023, 10/4/2023, 5/1/2024, 5/1/2025	PFAS was non-detect (below laboratory reporting limits) except for: - On 11/18/2021, PFOA was detected at 1.5 ng/L. - On 5/1/2025, PFBA (a non-regulated PFAS in VT) was detected at 2.8 ng/L.
Rafus	637 Hubbard Hill Road (north/northwest of landfill)	12/7/2016, 8/30/2017, 10/23/2018, 10/28/2019, 5/28/2020, 11/18/2021, 5/25/2023, 10/4/2023	For all samples, VT-regulated PFAS were non-detect (below laboratory reporting limits).
Phelan	1547 Branch Road (northeast of landfill)	10/23/2018, 11/18/2021	For all samples, VT-regulated PFAS was non-detect (below laboratory reporting limits).
Tamburrino	2136 Branch Road (south of landfill)	8/30/2017	VT-regulated PFAS was non-detect (below laboratory reporting limits).

Recommendations

KAS recommends that groundwater monitoring continue in accordance with the post-closure monitoring plan and sampling frequency approved by the VT DEC, with the next monitoring event to occur in May 2026.

APPENDIX A

Site Location Map, Site Map, Sample Location Map



KAS Job Number: 610110045

Source: http://anrmaps.vermont.gov/websites/anra5/

TOWN OF HALIFAX CLOSED LANDFILL

2044 Branch Road, Halifax, VT

Site Location Map

Date: 05/25/16	Drawing No. 0	Scale: NTS	By: CS

MONITORING WELL
SURFACE WATER SAMPLE
* montoring well and surface water locations are approximate

VTDEC Project: NS95-0165
KAS Job Number: 610110045
Source: Google Earth

HALIFAX CLOSED LANDFILL

2044 Branch Road, Halifax, VT

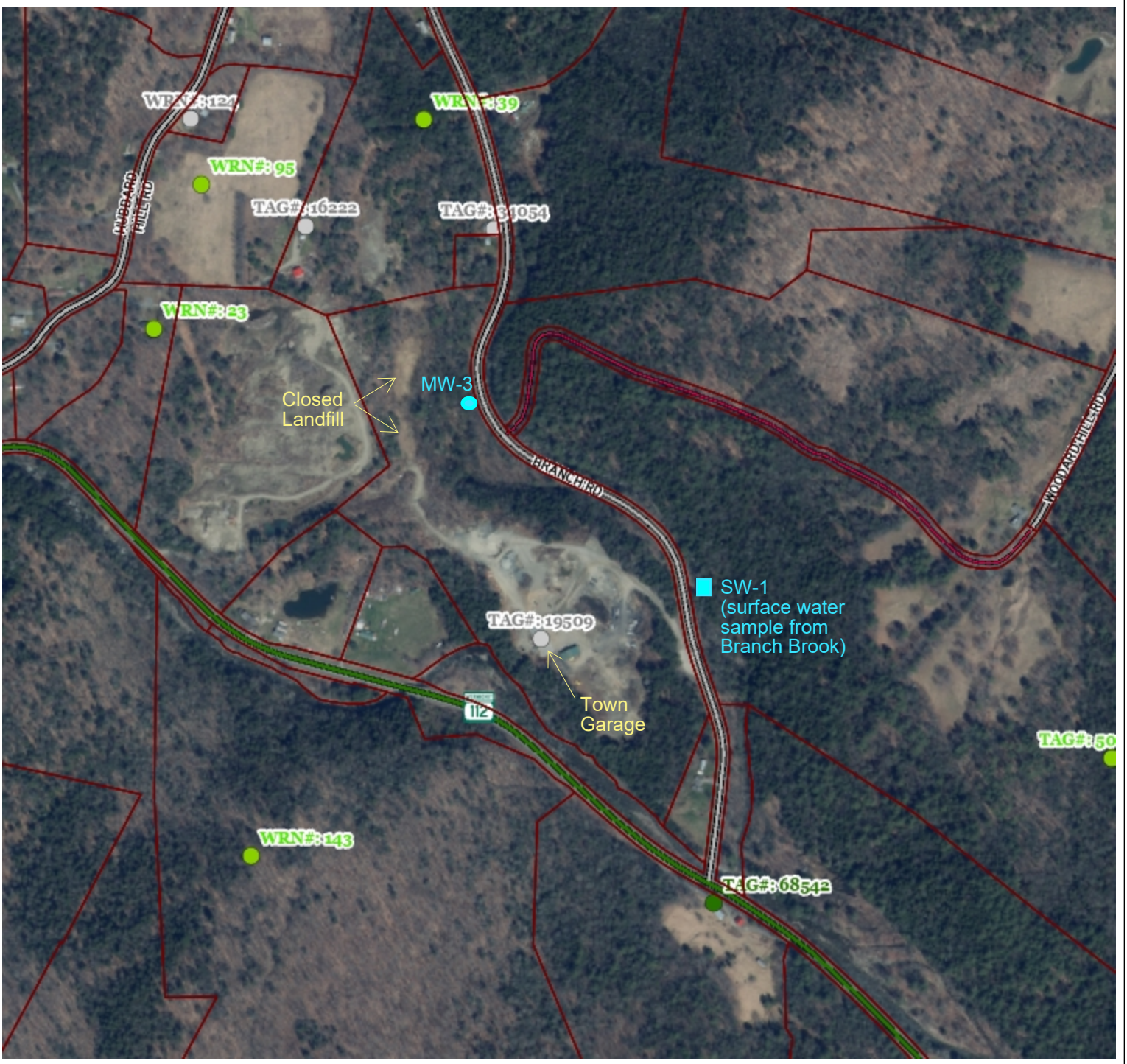
SITE MAP

Date: 07/31/17	Drawing No. 2	Scale: NTS	By: RT

Natural Resources Atlas

Vermont Agency of Natural Resources

vermont.gov



LEGEND

Private Wells

- GPS Located
- Screen Digitized
- E911 Address Matched
- Welldriller/Clarion
- Unknown Location Method
- Incorrectly Located

Parcels (standardized)

NOTES

Map created using ANR GIS mapping techology.

1: 6,916

June 5, 2025

351.0 0 176.00 351.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere

1" = 576 Ft. 1cm = 69 Meters

THIS MAP IS NOT TO BE USED FOR NAVIGATION

APPENDIX B

Current & Historical Sampling Data

kas

GROUNDWATER QUALITY SUMMARY

HALIFAX LANDFILL
HALIFAX, VT

MW-3

Parameter (PPM unless noted)	VGES	PAL	SAMPLING DATE: Aug-93	Dec-95	May-96	Nov-96	May-97	Oct-97	May-98	Oct-98	May-99	Oct-99	May-00	Dec-00	Oct-01	Jan-02	Jun-02	Dec-02	Jun-03
pH**	change of 1 ph unit		6.4	6.27	6.1	6.1	6.4	6.3	6.2	5.8	6.2	6	6.6	6.5	6.5	nt	6.5	6.6	6.7
Conductivity (µS/cm)**	change of 100 µs/cm		328	440	600	610	530	380	480	280	340	390	520	500	320	nt	nt	360	430
COD**	change of 25 ppm		6.9	ND<50	22	16	16	18	10	20	20	10	20	10	10	nt	30	20	20
Chloride*	250	125	14	27	29	26	20	1	17	8	14	ND<1	18	17	8	nt	15	10	12
Sodium* & ** (change of 10 ppm)	250	125	nt	23	28	27	23	15	18	11	14	nt	21	16	13	nt	39	11	16
Ca Hardness**	change of 100	NA	nt	nt	230	nt	230	160	220	120	150	190	230	190	130	nt	nt	130	220
Dissolved Chromium	0.1	0.05	nt	ND<0.05	ND<0.002	ND<0.002	0.003	ND<0.002	ND<0.002	0.004	ND<0.002	ND<0.002	ND<0.002	0.005	0.004	nt	ND<0.001	ND<0.001	ND<0.001
Dissolved Copper	1.3	0.65	nt	ND<0.05	ND<0.01	ND<0.01	0.03	ND<0.01	ND<0.01	0.02	ND<0.01	ND<0.01	0.01	0.02	0.002	nt	0.003	0.001	0.002
Dissolved Iron*	0.3	0.15	0.06	ND<0.05	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	0.18	nt	nt
Dissolved Manganese*	0.05	0.025	ND<0.02	ND<0.05	ND<0.005	0.046	0.22	0.075	0.38	0.45	0.21	0.067	0.12	0.28	0.015	nt	0.005	ND<0.005	ND<0.005
Dissolved Nickel	0.1	0.05	nt	ND<0.05	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	nt	ND<0.01	ND<0.01	0.002	nt	0.003	ND<0.001	0.001
Dissolved Zinc*	5	2.5	nt	ND<0.05	0.07	0.057	0.095	0.015	0.058	0.042	0.013	0.015	0.014	0.024	0.24	nt	0.23	0.084	0.2
Dissolved Arsenic	0.05	0.005	nt	ND<0.010	ND<0.002	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	0.003	nt	ND<0.001	ND<0.001	ND<0.001
Dissolved Cadmium	0.005	0.0025	nt	ND<0.005	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	nt	ND<0.001	ND<0.001	ND<0.001	0.002	ND<0.001	ND<0.001	nt	ND<0.001	ND<0.001	ND<0.001
Dissolved Lead	0.015	0.005	nt	ND<0.005	ND<0.001	ND<0.01	ND<0.01	ND<0.01	ND<0.01	0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.001	nt	ND<0.001	ND<0.001	ND<0.001
Calcium	NA	NA	nt	nt	nt	nt	nt	nt	2.3	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Methylene Chloride	0.005	0.0005	ND<10	ND<2	ND<2	ND<2	ND<2	nt	ND<2	nt	nt	ND<5	nt	nt	nt	ND<5	nt	1600[E]	560

Parameter (PPM unless noted)	VGES	PAL	SAMPLING DATE: 11/3/03	6/17/04	10/28/04	12/1/05	5/6/06	10/6/06	5/7/07	10/7/07	5/8/08	10/24/08	5/15/09	10/22/09	5/10/10	10/13/10	5/25/11	10/26/11	5/8/12
pH**	change of 1 ph unit		6.1	6.1	ns	ns	nt	6.63	5.67	6.41	6.41	6.78	6.59	NR	6.15	6.49	6.03	6.63	6.70
Conductivity (µS/cm) **	change of 100 µs/cm		450	420	ns	ns	nt	391	329	128	128	413	92	108	83.4	223.3	83.8	387.6	599
Temperature (degrees C)	change of 5.6 deg C		nt	nt	ns	ns	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	10.9	11.7
Depth to Water (feet btoc)	NA	NA	nt	nt	ns	ns	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	4.60	4.41
COD**	change of 25 ppm		10	20	ns	ns	121	60	ND<10	50	10	<10	28	290	29	27	11	18	nt
Chloride*	250	125	12	12	ns	ns	1460	1	10	6	9	7	2.8	6.2	ND<2.5	5.7	4.3	12	6.2
Sodium* & ** (change of 10 ppm)	250	125	17	28	ns	ns	17.6	ND<5	15	ND<5	16	13	2.3	2.7	1.9	10	2	12	13
Ca Hardness**	change of 100	NA	170	180	ns	ns	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Dissolved Chromium	0.1	0.05	ND<0.001	ND<0.001	ns	ns	ND<0.002	ND<0.001	0.004	ND<0.001	0.002	ND<0.001	ND<0.02	ND<0.02	ND<0.005	ND<0.005	ND<0.005	ND<0.005	nt
Dissolved Copper	1.3	0.65	0.001	0.002	ns	ns	ND<0.05	0.002	0.01	0.002	0.002	ND<0.001	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.020	nt
Dissolved Iron*	0.3	0.15	ND<0.05	ND<0.05	ns	ns	0.35	0.1	3.6	0.08	ND<0.05	ND<0.05	0.17	0.88	0.1	0.11	0.2	ND<0.020	ND<0.020
Dissolved Manganese*	0.05	0.025	ND<0.005	ND<0.005	ns	ns	0.05	0.006	0.079	0.007	ND<0.005	ND<0.005	ND<0.02	0.15	ND<0.02	ND<0.02	ND<0.02	ND<0.020	ND<0.020
Dissolved Nickel	0.1	0.05	ND<0.001	0.002	ns	ns	ND<0.05	0.003	0.007	0.003	0.005	0.004	ND<0.02	ND<0.02	ND<0.005	ND<0.005	ND<0.005	ND<0.005	nt
Dissolved Zinc*	5	2.5	0.078	0.13	ns	ns	ND<0.01	0.047	0.045	0.033	0.013	0.007	ND<0.02	ND<0.02	ND<0.005	ND<0.005	0.007	ND<0.020	nt
Dissolved Arsenic	0.05	0.005	ND<0.001	ND<0.001	ns	ns	ND<0.002	ND<0.002	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.002	ND<0.002	ND<0.001	ND<0.001	ND<0.001	ND<0.020	nt
Dissolved Cadmium	0.005	0.0025	ND<0.001	ND<0.001	ns	ns	ND<0.0005	ND<0.0005	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.002	ND<0.002	ND<0.002	ND<0.002	ND<0.002	ND<0.002	nt
Dissolved Lead	0.015	0.005	ND<0.001	ND<0.001	ns	ns	ND<0.002	ND<0.001	0.003	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	nt
Calcium	NA	AN	nt	nt	ns	ns	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Methylene Chloride	0.005	0.0005	ND<5	ND<5	ns	ns	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt

Notes:

Only detected or previously detected volatile organic compounds are listed.

btoc = below top of casing

ND<xx = Not Detected< Detection Limit

VGES = Vermont Groundwater Enforcement Standard (December 2016)

PAL = Preventative Action Level (December 2016)

NA = No VGES/PAL available

Results reported above detection limits are indicated in bold.

ns = not sampled

nt = not tested during sampling round

* = secondary groundwater quality standards (mg/L or ppm)

** = maximum acceptable change (units as noted)

*** = All perfluorinated compound values reported in ng/L. Analysis via EPA Method 537 (short list)

VGES and PALs pertain to total metals and are provided for reference only

E - The reported value exceeds largest calibration standard. Extrapolation of the calibration curve was employed to obtain the reported value.

= exceeds PAL

= exceeds VGES

= exceeds max acceptable change

Continued on next page…

GROUNDWATER QUALITY SUMMARY

HALIFAX LANDFILL
HALIFAX, VT

MW-3 (continued)

Parameter (PPM unless noted)	VGES	PAL	SAMPLING DATE: 10/9/12	5/30/13	10/16/13	5/15/14	10/21/14	5/28/15	10/29/15	May-16	10/19/16	5/30/2017	10/25/2017	5/30/2018	10/23/2018	5/29/2019	10/28/2019	5/28/2020	10/27/2020
pH	NA	NA	6.06	6.71	6.09	6.05	5.73	6.56	6.71	ns	nt	7.04	6.51	6.55	6.53	6.52	7.14	6.75	6.35
Conductivity (µS/cm)	NA	NA	293	215.6	625	358.1	187	376	340.6	ns	nt	470.7	500	388	160.7	306.8	425.9	317.6	251.5
Temperature (degrees C)	NA	NA	11.5	15.7	11.3	12.5	13.2	10.7	13.0	ns	nt	9.9	13.2	10.9	9.7	10.5	10.0	13.0	10.3
Depth to Water (feet btoc)	NA	NA	5.63	4.38	5.49	5.23	5.34	5.55	4.51	ns	6.87	5.07	4.85	6.50	5.62	5.57	5.04	6.18	6.30
COD	NA	NA	nt	22	nt	nt	nt	nt	nt	ns	nt	nt	nt	nt	nt	nt	nt	nt	nt
Chloride	NA	NA	19	12	6.5	5.7	6.7	4.5	52	ns	nt	nt	nt	nt	nt	nt	nt	nt	nt
Sodium	NA	NA	**12**	**13**	nt	nt	nt	nt	nt	ns	nt	nt	nt	nt	nt	nt	nt	nt	nt
Dissolved Chromium	0.1	0.05	nt	ND<0.005	nt	nt	nt	nt	nt	ns	nt	nt	nt	nt	nt	nt	nt	nt	nt
Dissolved Copper	1.3	0.65	nt	ND<0.020	nt	nt	nt	nt	nt	ns	nt	nt	nt	nt	nt	nt	nt	nt	nt
Dissolved Iron	NA	NA	ND<0.020	ND<0.020	**0.030**	**0.086**	**0.020**	ND<0.020	ND<0.020	ns	nt	nt	nt	nt	nt	nt	nt	nt	nt
Dissolved Manganese	0.3	0.15	ND<0.020	ND<0.020	ND<0.020	ND<0.020	ND<0.020	ND<0.020	ND<0.020	ns	nt	nt	nt	nt	nt	nt	nt	nt	nt
Dissolved Nickel	0.1	0.05	nt	ND<0.005	nt	nt	nt	nt	nt	ns	nt	nt	nt	nt	nt	nt	nt	nt	nt
Dissolved Zinc	NA	NA	nt	ND<0.020	nt	nt	nt	nt	nt	ns	nt	nt	nt	nt	nt	nt	nt	nt	nt
Dissolved Arsenic	0.05	0.005	nt	ND<0.001	nt	nt	nt	nt	nt	ns	nt	nt	nt	nt	nt	nt	nt	nt	nt
Dissolved Cadmium	0.005	0.001	nt	ND<0.002	nt	nt	nt	nt	nt	ns	nt	nt	nt	nt	nt	nt	nt	nt	nt
Dissolved Lead	0.015	0.002	nt	ND<0.001	nt	nt	nt	nt	nt	ns	nt	nt	nt	nt	nt	nt	nt	nt	nt
Perfluorobutanesulfonic acid (PFBS)*	NA	NA	nt	nt	nt	nt	nt	nt	nt	ns	ND<11	ND<6.6	ND<6.6	**3.75**	ND<6.6	ND<6.6	ND<5.1	**3.55**	**1.87**
Perfluorohexanesulfonic acid (PFHxS)*			nt	nt	nt	nt	nt	nt	nt	ns	ND<3.8	**11.7**	**9.2**	**13.1**	**12.3**	**10.1**	**4.8**	**14.9**	**8.49**
Perfluoroheptanoic acid (PFHpA)*			nt	nt	nt	nt	nt	nt	nt	ns	**2.06**	**22**	**13.2**	**41.2**	**15.1**	**21.4**	**10.3**	**9.38**	**7.64**
Perfluorooctanoic acid (PFOA)*	-	-	nt	nt	nt	nt	nt	nt	nt	ns	**11.5**	**78.2**	**44.9**	**134**	**76.8**	**106**	**52.8**	**58.1**	**42.6**
Perfluorooctanesulfonic acid (PFOS)*			nt	nt	nt	nt	nt	nt	nt	ns	**16.7**	**32.1**	**37**	**33.3**	**36.4**	**30**	**37.8**	**33.7**	**34.5**
Perfluorononanoic acid (PFNA)*			nt	nt	nt	nt	nt	nt	nt	ns	ND<2.3	ND<1.5	ND<1.5	**1.9**	ND<1.5	ND<1.5	ND<1.8	ND<2.0	**0.93**
Total Regulated PFC Compounds	20	2	nt	nt	nt	nt	nt	nt	nt	ns	**30.3**	**144**	**104**	**224**	**140.6**	**167**	**105.7**	**116.1**	**94.2**

Parameter (ng/L unless noted)	VGES	PAL	SAMPLING DATE: 6/2/2021	11/18/21	6/7/22	10/26/22	5/25/23	10/4/23	5/1/24	5/1/25									
pH (standard units)	NA	NA	6.62	6.29	6.42	6.82	6.47	6.20	6.25	6.29									
Spec. Conductivity (µS/cm)	NA	NA	259.2	319.9	346	-	209.8	264.0	285.1	250.0									
Temperature (degrees C)	NA	NA	13.5	10.8	18.1	13.2	8.6	14.7	9.3	9.8									
Depth to Water (feet btoc)	NA	NA	5.68	5.19	6.76	6.44	5.89	6.25	5.31	5.71									
Perfluorobutanesulfonic acid (PFBS)*	NA	NA	**4.44**	**4.71**	**3.7**	ND<20	**3.7**	**3.5**	**3.6**	**3.6**									
Perfluorohexanesulfonic acid (PFHxS)*			**15.9**	**16.5**	**16**	ND<20	**14**	**12**	**18**	**14**									
Perfluoroheptanoic acid (PFHpA)*			**9.52**	**8.73**	**23**	ND<20	**22**	**3.7**	**46**	**14**									
Perfluorooctanoic acid (PFOA)*	-	-	**48.1**	**46.2**	**140**	**60**	**89**	**22**	**160**	**73**									
Perfluorooctanesulfonic acid (PFOS)*			**41.6**	**39.3**	**54**	**48**	**49**	**39**	**59**	**41**									
Perfluorononanoic acid (PFNA)*			**1.03**	**1.3**	**2.8**	ND<20	**2.3**	ND<1.9	**3.1**	ND<1.9									
Total Regulated PFAS Compounds	20	2	**116.2**	**112.0**	**236**	**108**	**176**	**77**	**286**	**142**									
Total Non-Regulated PFAS Compounds	-	-	**-**	**-**	**-**	**-**	**43**	**13**	**95**	**33**									

Notes:

Only detected or previously detected volatile organic compounds are listed.

btoc = below top of casing

ND<xx = Not Detected< Detection Limit

VGES = Vermont Groundwater Enforcement Standard (July 2019)

PAL = Preventative Action Level (July 2019)

NA = No VGES/PAL available

Results reported above detection limits are indicated in bold.

ns = not sampled

nt = not tested during sampling round

VGES and PALs pertain to total metals and are provided for reference only

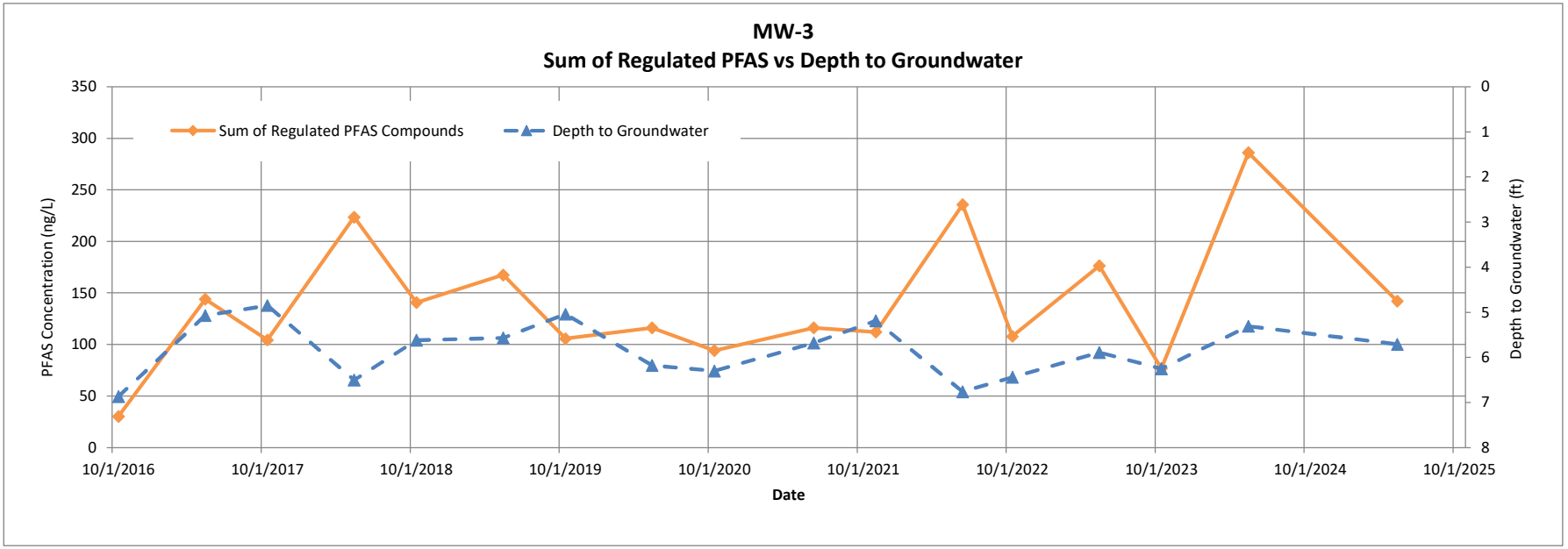
E - The reported value exceeds largest calibration standard. Extrapolation of the calibration curve was employed to obtain the reported value.

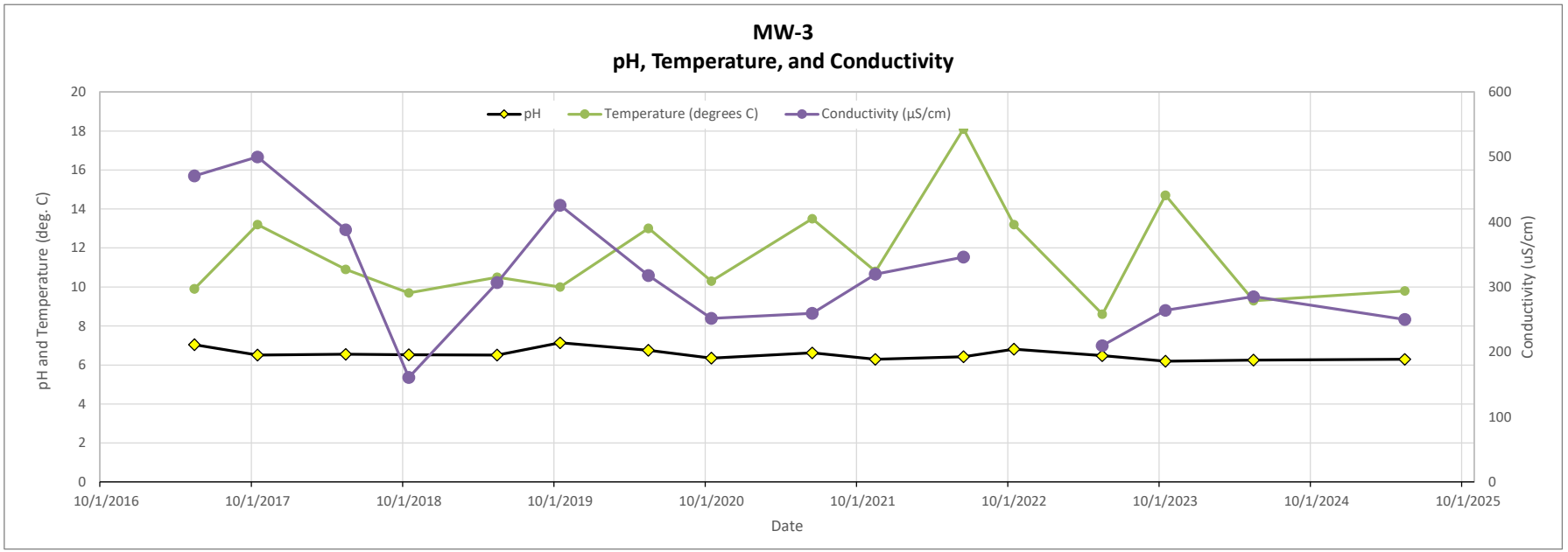
* = All perfluorinated compound values reported in ng/L. Analysis via EPA Method 537 (short list). For PFHxS, PFHpA, PFOA, PFOS and PFNA, the VGES and PAL standards applies to the individual compounds and the sum of these compounds.

= exceeds current PAL

= exceeds current VGES

Continued on next page…


MW-3
Sum of Regulated PFAS vs Depth to Groundwater
Sum of Regulated PFAS Compounds
Depth to Groundwater
PFAS Concentration (ng/L)
Depth to Groundwater (ft)
0
50
100
150
200
250
300
350
0
1
2
3
4
5
6
7
8
10/1/2016
10/1/2017
10/1/2018
10/1/2019
10/1/2020
10/1/2021
10/1/2022
10/1/2023
10/1/2024
10/1/2025
Date


MW-3
pH, Temperature, and Conductivity
pH
Temperature (degrees C)
Conductivity (µS/cm)
pH and Temperature (deg. C)
Conductivity (uS/cm)
0
2
4
6
8
10
12
14
16
18
20
0
100
200
300
400
500
600
10/1/2016
10/1/2017
10/1/2018
10/1/2019
10/1/2020
10/1/2021
10/1/2022
10/1/2023
10/1/2024
10/1/2025
Date

APPENDIX C

Laboratory Report

Pace Analytical Services, LLC - East Longmeadow, Ma

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

May 29, 2025

Clare Santos
KAS Environmental
589 Avenue D
Williston, VT 05495

Project Location: Halifax, VT
Client Job Number:
Project Number: 610110045
Laboratory Work Order Number: 25E0316

Enclosed are results of analyses for samples as received by the laboratory on May 5, 2025. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kaitlyn A. Feliciano
Project Manager

Table of Contents

Pace Analytical Services, LLC - East Longmeadow, Ma

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

KAS Environmental
589 Avenue D
Williston, VT 05495
ATTN: Clare Santos

REPORT DATE: 5/29/2025

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 610110045

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 25E0316

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: Halifax, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-3	25E0316-01	Ground Water		SOP-454 PFAS	
MW-3 ERB	25E0316-02	Equipment Blank Water		SOP-454 PFAS	
Town Garage	25E0316-03	Ground Water		SOP-454 PFAS	
Town Garage FB	25E0316-04	Field Blank		SOP-454 PFAS	
SW-1	25E0316-05	Surface Water		SOP-454 PFAS	

Pace Analytical Services, LLC - East Longmeadow, Ma

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

CASE NARRATIVE SUMMARY

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

SOP-454 PFAS

Qualifications:

S-29

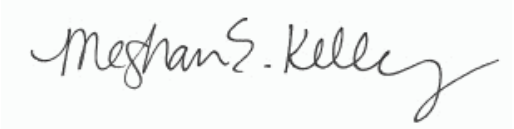
Extracted Internal Standard is outside of control limits.

Analyte & Samples(s) Qualified:

M2-4:2FTS
25E0316-03[Town Garage]

M2PFTA
25E0316-05[SW-1]

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

Pace Analytical Services, LLC - East Longmeadow, Ma

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

Project Location: Halifax, VT | Sample Description: | Work Order: 25E0316

Date Received: 5/5/2025

Field Sample #: MW-3 | Sampled: 5/1/2025 11:23

Sample ID: 25E0316-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	5.6	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluorobutanesulfonic acid (PFBS)	3.6	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluoropentanoic acid (PFPeA)	9.0	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluorohexanoic acid (PFHxA)	12	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
11Cl-PF3OUdS (F53B Major)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
9Cl-PF3ONS (F53B Minor)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluorodecanoic acid (PFDA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluorododecanoic acid (PFDoA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
N-EtFOSAA (NEtFOSAA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
N-MeFOSAA (NMeFOSAA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluorotetradecanoic acid (PFTA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluorotridecanoic acid (PFTrDA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluorodecanesulfonic acid (PFDS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluorooctanesulfonamide (FOSA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluoro-1-butanesulfonamide (FBSA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluorohexanesulfonic acid (PFHxS)	14	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluoropentanesulfonic acid (PFPeS)	2.4	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluoroundecanoic acid (PFUnA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluoroheptanoic acid (PFHpA)	14	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluorooctanoic acid (PFOA)	73	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluorooctanesulfonic acid (PFOS)	41	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB
Perfluorononanoic acid (PFNA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:38	AB

Pace Analytical Services, LLC - East Longmeadow, Ma

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

Project Location: Halifax, VT | Sample Description: | Work Order: 25E0316

Date Received: 5/5/2025

Field Sample #: MW-3 ERB | Sampled: 5/1/2025 11:19

Sample ID: 25E0316-02

Sample Matrix: Equipment Blank Water

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	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluorobutanesulfonic acid (PFBS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluoropentanoic acid (PFPeA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluorohexanoic acid (PFHxA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
11Cl-PF3OUdS (F53B Major)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
9Cl-PF3ONS (F53B Minor)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluorodecanoic acid (PFDA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluorododecanoic acid (PFDoA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
N-EtFOSAA (NEtFOSAA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
N-MeFOSAA (NMeFOSAA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluorotetradecanoic acid (PFTA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluorotridecanoic acid (PFTrDA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluorodecanesulfonic acid (PFDS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluorooctanesulfonamide (FOSA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluoro-1-butanesulfonamide (FBSA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluoroundecanoic acid (PFUnA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluoroheptanoic acid (PFHpA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluorooctanoic acid (PFOA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluorooctanesulfonic acid (PFOS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB
Perfluorononanoic acid (PFNA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:32	AB

Pace Analytical Services, LLC - East Longmeadow, Ma

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

Project Location: Halifax, VT | Sample Description: | Work Order: 25E0316

Date Received: 5/5/2025

Field Sample #: Town Garage | Sampled: 5/1/2025 10:10

Sample ID: 25E0316-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	2.8	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluorobutanesulfonic acid (PFBS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluoropentanoic acid (PFPeA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluorohexanoic acid (PFHxA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
11Cl-PF3OUdS (F53B Major)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
9Cl-PF3ONS (F53B Minor)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluorodecanoic acid (PFDA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluorododecanoic acid (PFDoA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
N-EtFOSAA (NEtFOSAA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
N-MeFOSAA (NMeFOSAA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluorotetradecanoic acid (PFTA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluorotridecanoic acid (PFTrDA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluorodecanesulfonic acid (PFDS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluorooctanesulfonamide (FOSA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluoro-1-butanesulfonamide (FBSA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluoroundecanoic acid (PFUnA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluoroheptanoic acid (PFHpA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluorooctanoic acid (PFOA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluorooctanesulfonic acid (PFOS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB
Perfluorononanoic acid (PFNA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:46	AB

Pace Analytical Services, LLC - East Longmeadow, Ma

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

Project Location: Halifax, VT | Sample Description: | Work Order: 25E0316

Date Received: 5/5/2025

Field Sample #: Town Garage FB | Sampled: 5/1/2025 10:09

Sample ID: 25E0316-04

Sample Matrix: Field Blank

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	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluorobutanesulfonic acid (PFBS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluoropentanoic acid (PFPeA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluorohexanoic acid (PFHxA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
11Cl-PF3OUdS (F53B Major)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
9Cl-PF3ONS (F53B Minor)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluorodecanoic acid (PFDA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluorododecanoic acid (PFDoA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
N-EtFOSAA (NEtFOSAA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
N-MeFOSAA (NMeFOSAA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluorotetradecanoic acid (PFTA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluorotridecanoic acid (PFTrDA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluorodecanesulfonic acid (PFDS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluorooctanesulfonamide (FOSA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluoro-1-butanesulfonamide (FBSA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluoroundecanoic acid (PFUnA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluoroheptanoic acid (PFHpA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluorooctanoic acid (PFOA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluorooctanesulfonic acid (PFOS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB
Perfluorononanoic acid (PFNA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/27/25	5/28/25 8:39	AB

Pace Analytical Services, LLC - East Longmeadow, Ma

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

Project Location: Halifax, VT | Sample Description: | Work Order: 25E0316

Date Received: 5/5/2025

Field Sample #: SW-1 | Sampled: 5/1/2025 12:10

Sample ID: 25E0316-05

Sample Matrix: Surface Water

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	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluorobutanesulfonic acid (PFBS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluoropentanoic acid (PFPeA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluorohexanoic acid (PFHxA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
11Cl-PF3OUdS (F53B Major)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
9Cl-PF3ONS (F53B Minor)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluorodecanoic acid (PFDA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluorododecanoic acid (PFDoA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
N-EtFOSAA (NEtFOSAA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
N-MeFOSAA (NMeFOSAA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluorotetradecanoic acid (PFTA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluorotridecanoic acid (PFTrDA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluorodecanesulfonic acid (PFDS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluorooctanesulfonamide (FOSA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluorononanesulfonic acid (PFNS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluoro-1-butanesulfonamide (FBSA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluoropentanesulfonic acid (PFPeS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluoroundecanoic acid (PFUnA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluoroheptanoic acid (PFHpA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluorooctanoic acid (PFOA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluorooctanesulfonic acid (PFOS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB
Perfluorononanoic acid (PFNA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/12/25	5/13/25 8:53	AB

Pace Analytical Services, LLC - East Longmeadow, Ma

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

Sample Extraction Data

Prep Method:SOP 454-PFAAS **Analytical Method:SOP-454 PFAS**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
25E0316-01 [MW-3]	B404800	267	1.00	05/12/25
25E0316-03 [Town Garage]	B404800	267	1.00	05/12/25
25E0316-05 [SW-1]	B404800	260	1.00	05/12/25

Prep Method:SOP 454-PFAAS **Analytical Method:SOP-454 PFAS**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
25E0316-02 [MW-3 ERB]	B405648	270	1.00	05/27/25
25E0316-04 [Town Garage FB]	B405648	260	1.00	05/27/25

Pace Analytical Services, LLC - East Longmeadow, Ma

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 B404800 - SOP 454-PFAAS										
Blank (B404800-BLK1)				Prepared: 05/12/25 Analyzed: 05/13/25						
Perfluorobutanoic acid (PFBA)	ND	1.9	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.9	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	1.9	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.9	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.9	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.9	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9	ng/L							
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.9	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.9	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.9	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.9	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.9	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.9	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.9	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.9	ng/L							
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.9	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.9	ng/L							
Perfluorooctanesulfonamide (FOSA)	ND	1.9	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.9	ng/L							
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.9	ng/L							
Perfluoro-1-butanesulfonamide (FBSA)	ND	1.9	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9	ng/L							
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.9	ng/L							
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.9	ng/L							
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.9	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	1.9	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.9	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.9	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.9	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.9	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.9	ng/L							
LCS (B404800-BS1)				Prepared: 05/12/25 Analyzed: 05/13/25						
Perfluorobutanoic acid (PFBA)	9.94	1.9	ng/L	9.424		105	73-129			
Perfluorobutanesulfonic acid (PFBS)	10.7	1.9	ng/L	9.424		113	72-130			
Perfluoropentanoic acid (PFPeA)	9.68	1.9	ng/L	9.424		103	72-129			
Perfluorohexanoic acid (PFHxA)	9.47	1.9	ng/L	9.424		100	72-129			
11Cl-PF3OUdS (F53B Major)	8.19	1.9	ng/L	9.424		86.9	35.6-144			
9Cl-PF3ONS (F53B Minor)	9.00	1.9	ng/L	9.424		95.5	51-130			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.39	1.9	ng/L	9.424		99.6	57.1-131			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	8.68	1.9	ng/L	9.424		92.1	47.6-152			
8:2 Fluorotelomersulfonic acid (8:2FTS A)	10.1	1.9	ng/L	9.424		107	67-138			
Perfluorodecanoic acid (PFDA)	9.78	1.9	ng/L	9.424		104	71-129			
Perfluorododecanoic acid (PFDoA)	8.39	1.9	ng/L	9.424		89.0	72-134			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	9.36	1.9	ng/L	9.424		99.4	62.3-144			

Pace Analytical Services, LLC - East Longmeadow, Ma

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 B404800 - SOP 454-PFAAS										
LCS (B404800-BS1)				Prepared: 05/12/25 Analyzed: 05/13/25						
Perfluoroheptanesulfonic acid (PFHpS)	9.20	1.9	ng/L	9.424		97.7	69-134			
N-EtFOSAA (NEtFOSAA)	9.84	1.9	ng/L	9.424		104	61-135			
N-MeFOSAA (NMeFOSAA)	9.63	1.9	ng/L	9.424		102	65-136			
Perfluorotetradecanoic acid (PFTA)	10.1	1.9	ng/L	9.424		108	71-132			
Perfluorotridecanoic acid (PFTrDA)	8.68	1.9	ng/L	9.424		92.1	65-144			
4:2 Fluorotelomersulfonic acid (4:2FTS A)	10.0	1.9	ng/L	9.424		107	63-143			
Perfluorodecanesulfonic acid (PFDS)	11.1	1.9	ng/L	9.424		118	53-142			
Perfluorooctanesulfonamide (FOSA)	9.41	1.9	ng/L	9.424		99.8	67-137			
Perfluorononanesulfonic acid (PFNS)	10.5	1.9	ng/L	9.424		112	69-127			
Perfluoro-1-hexanesulfonamide (FHxSA)	10.2	1.9	ng/L	9.424		108	35-131			
Perfluoro-1-butanesulfonamide (FBSA)	11.7	1.9	ng/L	9.424		124	53.1-125			
Perfluorohexanesulfonic acid (PFHxS)	10.5	1.9	ng/L	9.424		112	68-131			
Perfluoro-4-oxapentanoic acid (PFMPA)	10.2	1.9	ng/L	9.424		108	62.3-138			
Perfluoro-5-oxahexanoic acid (PFMBA)	9.50	1.9	ng/L	9.424		101	60.1-138			
6:2 Fluorotelomersulfonic acid (6:2FTS A)	10.5	1.9	ng/L	9.424		111	64-140			
Perfluoropentanesulfonic acid (PFPeS)	10.2	1.9	ng/L	9.424		109	71-127			
Perfluoroundecanoic acid (PFUnA)	9.31	1.9	ng/L	9.424		98.8	69-133			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	11.0	1.9	ng/L	9.424		117	58.2-144			
Perfluoroheptanoic acid (PFHpA)	8.43	1.9	ng/L	9.424		89.5	72-130			
Perfluorooctanoic acid (PFOA)	8.59	1.9	ng/L	9.424		91.1	71-133			
Perfluorooctanesulfonic acid (PFOS)	9.87	1.9	ng/L	9.424		105	65-140			
Perfluorononanoic acid (PFNA)	10.8	1.9	ng/L	9.424		115	69-130			
LCS Dup (B404800-BSD1)				Prepared: 05/12/25 Analyzed: 05/13/25						
Perfluorobutanoic acid (PFBA)	9.41	1.9	ng/L	9.308		101	73-129	5.48	30	
Perfluorobutanesulfonic acid (PFBS)	9.95	1.9	ng/L	9.308		107	72-130	6.98	30	
Perfluoropentanoic acid (PFPeA)	9.05	1.9	ng/L	9.308		97.2	72-129	6.77	30	
Perfluorohexanoic acid (PFHxA)	8.52	1.9	ng/L	9.308		91.5	72-129	10.5	30	
11Cl-PF3OUdS (F53B Major)	7.11	1.9	ng/L	9.308		76.4	35.6-144	14.1	30.4	
9Cl-PF3ONS (F53B Minor)	7.58	1.9	ng/L	9.308		81.4	51-130	17.1	27.1	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.45	1.9	ng/L	9.308		102	57.1-131	0.720	20.6	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	8.31	1.9	ng/L	9.308		89.3	47.6-152	4.33	30.8	
8:2 Fluorotelomersulfonic acid (8:2FTS A)	9.41	1.9	ng/L	9.308		101	67-138	7.30	30	
Perfluorodecanoic acid (PFDA)	9.63	1.9	ng/L	9.308		104	71-129	1.55	30	
Perfluorododecanoic acid (PFDoA)	8.73	1.9	ng/L	9.308		93.8	72-134	4.03	30	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	8.83	1.9	ng/L	9.308		94.9	62.3-144	5.81	19.9	
Perfluoroheptanesulfonic acid (PFHpS)	7.17	1.9	ng/L	9.308		77.0	69-134	24.9	30	
N-EtFOSAA (NEtFOSAA)	11.1	1.9	ng/L	9.308		119	61-135	11.9	30	
N-MeFOSAA (NMeFOSAA)	8.27	1.9	ng/L	9.308		88.8	65-136	15.3	30	
Perfluorotetradecanoic acid (PFTA)	9.56	1.9	ng/L	9.308		103	71-132	5.97	30	
Perfluorotridecanoic acid (PFTrDA)	8.63	1.9	ng/L	9.308		92.7	65-144	0.618	30	
4:2 Fluorotelomersulfonic acid (4:2FTS A)	9.02	1.9	ng/L	9.308		96.9	63-143	10.7	30	
Perfluorodecanesulfonic acid (PFDS)	8.62	1.9	ng/L	9.308		92.6	53-142	25.1	30	
Perfluorooctanesulfonamide (FOSA)	9.17	1.9	ng/L	9.308		98.5	67-137	2.58	30	
Perfluorononanesulfonic acid (PFNS)	8.35	1.9	ng/L	9.308		89.7	69-127	23.0	30	
Perfluoro-1-hexanesulfonamide (FHxSA)	10.1	1.9	ng/L	9.308		109	35-131	0.853	25.1	
Perfluoro-1-butanesulfonamide (FBSA)	11.0	1.9	ng/L	9.308		119	53.1-125	6.05	22.5	
Perfluorohexanesulfonic acid (PFHxS)	10.4	1.9	ng/L	9.308		111	68-131	1.43	30	
Perfluoro-4-oxapentanoic acid (PFMPA)	9.66	1.9	ng/L	9.308		104	62.3-138	5.28	20.6	
Perfluoro-5-oxahexanoic acid (PFMBA)	8.79	1.9	ng/L	9.308		94.4	60.1-138	7.82	20.4	

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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 B404800 - SOP 454-PFAAS										
LCS Dup (B404800-BSD1)				Prepared: 05/12/25 Analyzed: 05/13/25						
6:2 Fluorotelomersulfonic acid (6:2FTS A)	9.07	1.9	ng/L	9.308		97.5	64-140	14.2	30	
Perfluoropentanesulfonic acid (PFPeS)	9.54	1.9	ng/L	9.308		102	71-127	6.98	30	
Perfluoroundecanoic acid (PFUnA)	9.11	1.9	ng/L	9.308		97.8	69-133	2.17	30	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	10.4	1.9	ng/L	9.308		112	58.2-144	5.44	21.9	
Perfluoroheptanoic acid (PFHpA)	8.03	1.9	ng/L	9.308		86.2	72-130	4.93	30	
Perfluorooctanoic acid (PFOA)	8.25	1.9	ng/L	9.308		88.7	71-133	3.99	30	
Perfluorooctanesulfonic acid (PFOS)	8.02	1.9	ng/L	9.308		86.2	65-140	20.6	30	
Perfluorononanoic acid (PFNA)	10.3	1.9	ng/L	9.308		111	69-130	4.78	30	
Batch B405648 - SOP 454-PFAAS										
Blank (B405648-BLK1)				Prepared: 05/27/25 Analyzed: 05/28/25						
Perfluorobutanoic acid (PFBA)	ND	1.8	ng/L							
Perfluorobutanesulfonic acid (PFBS)	ND	1.8	ng/L							
Perfluoropentanoic acid (PFPeA)	ND	1.8	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	1.8	ng/L							
11Cl-PF3OUdS (F53B Major)	ND	1.8	ng/L							
9Cl-PF3ONS (F53B Minor)	ND	1.8	ng/L							
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.8	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.8	ng/L							
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.8	ng/L							
Perfluorodecanoic acid (PFDA)	ND	1.8	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	1.8	ng/L							
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.8	ng/L							
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.8	ng/L							
N-EtFOSAA (NEtFOSAA)	ND	1.8	ng/L							
N-MeFOSAA (NMeFOSAA)	ND	1.8	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	1.8	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	1.8	ng/L							
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.8	ng/L							
Perfluorodecanesulfonic acid (PFDS)	ND	1.8	ng/L							
Perfluorooctanesulfonamide (FOSA)	ND	1.8	ng/L							
Perfluorononanesulfonic acid (PFNS)	ND	1.8	ng/L							
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.8	ng/L							
Perfluoro-1-butanesulfonamide (FBSA)	ND	1.8	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	1.8	ng/L							
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.8	ng/L							
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.8	ng/L							
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.8	ng/L							
Perfluoropentanesulfonic acid (PFPeS)	ND	1.8	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	1.8	ng/L							
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.8	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	1.8	ng/L							
Perfluorooctanoic acid (PFOA)	ND	1.8	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	1.8	ng/L							
Perfluorononanoic acid (PFNA)	ND	1.8	ng/L							

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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 B405648 - SOP 454-PFAAS										
LCS (B405648-BS1)				Prepared: 05/27/25 Analyzed: 05/28/25						
Perfluorobutanoic acid (PFBA)	9.75	1.9	ng/L	9.311		105	73-129			
Perfluorobutanesulfonic acid (PFBS)	8.54	1.9	ng/L	9.311		91.7	72-130			
Perfluoropentanoic acid (PFPeA)	8.23	1.9	ng/L	9.311		88.4	72-129			
Perfluorohexanoic acid (PFHxA)	8.18	1.9	ng/L	9.311		87.8	72-129			
11Cl-PF3OUdS (F53B Major)	7.35	1.9	ng/L	9.311		79.0	35.6-144			
9Cl-PF3ONS (F53B Minor)	7.37	1.9	ng/L	9.311		79.2	51-130			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	8.00	1.9	ng/L	9.311		85.9	57.1-131			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	7.00	1.9	ng/L	9.311		75.1	47.6-152			
8:2 Fluorotelomersulfonic acid (8:2FTS A)	8.48	1.9	ng/L	9.311		91.0	67-138			
Perfluorodecanoic acid (PFDA)	8.69	1.9	ng/L	9.311		93.4	71-129			
Perfluorododecanoic acid (PFDoA)	7.32	1.9	ng/L	9.311		78.6	72-134			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	7.56	1.9	ng/L	9.311		81.2	62.3-144			
Perfluoroheptanesulfonic acid (PFHpS)	7.86	1.9	ng/L	9.311		84.4	69-134			
N-EtFOSAA (NEtFOSAA)	9.61	1.9	ng/L	9.311		103	61-135			
N-MeFOSAA (NMeFOSAA)	8.85	1.9	ng/L	9.311		95.0	65-136			
Perfluorotetradecanoic acid (PFTA)	8.09	1.9	ng/L	9.311		86.9	71-132			
Perfluorotridecanoic acid (PFTrDA)	7.28	1.9	ng/L	9.311		78.2	65-144			
4:2 Fluorotelomersulfonic acid (4:2FTS A)	9.44	1.9	ng/L	9.311		101	63-143			
Perfluorodecanesulfonic acid (PFDS)	7.85	1.9	ng/L	9.311		84.3	53-142			
Perfluorooctanesulfonamide (FOSA)	7.87	1.9	ng/L	9.311		84.5	67-137			
Perfluorononanesulfonic acid (PFNS)	7.86	1.9	ng/L	9.311		84.4	69-127			
Perfluoro-1-hexanesulfonamide (FHxSA)	9.23	1.9	ng/L	9.311		99.1	35-131			
Perfluoro-1-butanesulfonamide (FBSA)	8.05	1.9	ng/L	9.311		86.4	53.1-125			
Perfluorohexanesulfonic acid (PFHxS)	9.01	1.9	ng/L	9.311		96.8	68-131			
Perfluoro-4-oxapentanoic acid (PFMPA)	8.87	1.9	ng/L	9.311		95.2	62.3-138			
Perfluoro-5-oxahexanoic acid (PFMBA)	8.04	1.9	ng/L	9.311		86.4	60.1-138			
6:2 Fluorotelomersulfonic acid (6:2FTS A)	9.31	1.9	ng/L	9.311		100	64-140			
Perfluoropentanesulfonic acid (PFPeS)	8.35	1.9	ng/L	9.311		89.7	71-127			
Perfluoroundecanoic acid (PFUnA)	7.29	1.9	ng/L	9.311		78.3	69-133			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.25	1.9	ng/L	9.311		88.6	58.2-144			
Perfluoroheptanoic acid (PFHpA)	7.61	1.9	ng/L	9.311		81.7	72-130			
Perfluorooctanoic acid (PFOA)	7.40	1.9	ng/L	9.311		79.5	71-133			
Perfluorooctanesulfonic acid (PFOS)	7.62	1.9	ng/L	9.311		81.8	65-140			
Perfluorononanoic acid (PFNA)	8.35	1.9	ng/L	9.311		89.6	69-130			
LCS Dup (B405648-BSD1)				Prepared: 05/27/25 Analyzed: 05/28/25						
Perfluorobutanoic acid (PFBA)	10.5	1.9	ng/L	9.392		112	73-129	7.53	30	
Perfluorobutanesulfonic acid (PFBS)	9.40	1.9	ng/L	9.392		100	72-130	9.53	30	
Perfluoropentanoic acid (PFPeA)	9.08	1.9	ng/L	9.392		96.7	72-129	9.81	30	
Perfluorohexanoic acid (PFHxA)	8.72	1.9	ng/L	9.392		92.9	72-129	6.46	30	
11Cl-PF3OUdS (F53B Major)	8.40	1.9	ng/L	9.392		89.4	35.6-144	13.3	30.4	
9Cl-PF3ONS (F53B Minor)	9.11	1.9	ng/L	9.392		97.0	51-130	21.1	27.1	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.37	1.9	ng/L	9.392		99.7	57.1-131	15.8	20.6	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	7.48	1.9	ng/L	9.392		79.6	47.6-152	6.67	30.8	
8:2 Fluorotelomersulfonic acid (8:2FTS A)	9.37	1.9	ng/L	9.392		99.8	67-138	10.0	30	
Perfluorodecanoic acid (PFDA)	9.20	1.9	ng/L	9.392		98.0	71-129	5.69	30	
Perfluorododecanoic acid (PFDoA)	7.17	1.9	ng/L	9.392		76.3	72-134	2.11	30	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	8.19	1.9	ng/L	9.392		87.2	62.3-144	8.05	19.9	

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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 B405648 - SOP 454-PFAAS										
LCS Dup (B405648-BSD1)				Prepared: 05/27/25 Analyzed: 05/28/25						
Perfluoroheptanesulfonic acid (PFHpS)	8.99	1.9	ng/L	9.392		95.7	69-134	13.4	30	
N-EtFOSAA (NEtFOSAA)	9.75	1.9	ng/L	9.392		104	61-135	1.41	30	
N-MeFOSAA (NMeFOSAA)	8.95	1.9	ng/L	9.392		95.3	65-136	1.16	30	
Perfluorotetradecanoic acid (PFTA)	9.30	1.9	ng/L	9.392		99.1	71-132	13.9	30	
Perfluorotridecanoic acid (PFTrDA)	7.51	1.9	ng/L	9.392		80.0	65-144	3.07	30	
4:2 Fluorotelomersulfonic acid (4:2FTS A)	10.6	1.9	ng/L	9.392		113	63-143	11.4	30	
Perfluorodecanesulfonic acid (PFDS)	8.80	1.9	ng/L	9.392		93.7	53-142	11.4	30	
Perfluorooctanesulfonamide (FOSA)	7.97	1.9	ng/L	9.392		84.9	67-137	1.27	30	
Perfluorononanesulfonic acid (PFNS)	8.95	1.9	ng/L	9.392		95.3	69-127	13.0	30	
Perfluoro-1-hexanesulfonamide (FHxSA)	9.10	1.9	ng/L	9.392		96.9	35-131	1.40	25.1	
Perfluoro-1-butanesulfonamide (FBSA)	8.57	1.9	ng/L	9.392		91.2	53.1-125	6.25	22.5	
Perfluorohexanesulfonic acid (PFHxS)	9.14	1.9	ng/L	9.392		97.3	68-131	1.36	30	
Perfluoro-4-oxapentanoic acid (PFMPA)	9.22	1.9	ng/L	9.392		98.2	62.3-138	3.93	20.6	
Perfluoro-5-oxahexanoic acid (PFMBA)	8.32	1.9	ng/L	9.392		88.6	60.1-138	3.37	20.4	
6:2 Fluorotelomersulfonic acid (6:2FTS A)	9.80	1.9	ng/L	9.392		104	64-140	5.09	30	
Perfluoropentanesulfonic acid (PFPeS)	8.81	1.9	ng/L	9.392		93.9	71-127	5.36	30	
Perfluoroundecanoic acid (PFUnA)	8.00	1.9	ng/L	9.392		85.1	69-133	9.20	30	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.97	1.9	ng/L	9.392		95.5	58.2-144	8.34	21.9	
Perfluoroheptanoic acid (PFHpA)	8.55	1.9	ng/L	9.392		91.1	72-130	11.7	30	
Perfluorooctanoic acid (PFOA)	7.75	1.9	ng/L	9.392		82.5	71-133	4.57	30	
Perfluorooctanesulfonic acid (PFOS)	8.87	1.9	ng/L	9.392		94.5	65-140	15.2	30	
Perfluorononanoic acid (PFNA)	9.29	1.9	ng/L	9.392		98.9	69-130	10.7	30	

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
S-29	Extracted Internal Standard is outside of control limits.

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INTERNAL STANDARD AREA AND RT SUMMARY

SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
MW-3 (25E0316-01)			Lab File ID: 25E0316-01.d			Analyzed: 05/13/25 08:38			
M8FOSA	817379.9	4.011483	967,461.00	4.011483	84	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	331009.1	2.6221	455,395.00	2.638517	73	50 - 150	-0.0164	+/-0.50	
M2PFTA	1947592	4.329533	2,178,667.00	4.337667	89	50 - 150	-0.0081	+/-0.50	
M2-8:2FTS	486506.3	3.817517	530,080.00	3.817517	92	50 - 150	0.0000	+/-0.50	
MPFBA	645108.3	1.111733	966,942.00	1.111733	67	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	315177	2.922233	313,875.00	2.930483	100	50 - 150	-0.0083	+/-0.50	
M6PFDA	2266851	3.818017	2,041,245.00	3.818017	111	50 - 150	0.0000	+/-0.50	
M3PFBS	392411.7	2.003183	365,214.00	2.011467	107	50 - 150	-0.0083	+/-0.50	
M7PFUnA	2075348	3.9607	1,775,691.00	3.968717	117	50 - 150	-0.0080	+/-0.50	
M2-6:2FTS	339074.1	3.468433	337,257.00	3.4764	101	50 - 150	-0.0080	+/-0.50	
M5PFPeA	933931.4	1.824633	918,445.00	1.824633	102	50 - 150	0.0000	+/-0.50	
M5PFHxA	1726402	2.7154	1,590,150.00	2.7239	109	50 - 150	-0.0085	+/-0.50	
M3PFHxS	289480.8	3.25135	291,823.00	3.259567	99	50 - 150	-0.0082	+/-0.50	
M4PFHpA	1964513	3.219617	1,784,100.00	3.22825	110	50 - 150	-0.0086	+/-0.50	
M8PFOA	2059076	3.484867	1,905,677.00	3.484867	108	50 - 150	0.0000	+/-0.50	
M8PFOS	286543.2	3.659	254,863.00	3.666967	112	50 - 150	-0.0080	+/-0.50	
M9PFNA	1855700	3.659967	1,847,717.00	3.667933	100	50 - 150	-0.0080	+/-0.50	
MPFDoA	1835517	4.0956	1,811,636.00	4.103817	101	50 - 150	-0.0082	+/-0.50	
D5-NEtFOSAA	566966.5	3.968167	543,424.00	3.976167	104	50 - 150	-0.0080	+/-0.50	
D3-NMeFOSAA	708356.5	3.888317	690,832.00	3.8963	103	50 - 150	-0.0080	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY

SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
MW-3 ERB (25E0316-02)			Lab File ID: 25E0316-02.d			Analyzed: 05/28/25 08:32			
M8FOSA	881784.6	4.0195	1,138,690.00	4.011483	77	50 - 150	0.0080	+/-0.50	
M2-4:2FTS	398423.9	2.564633	597,480.00	2.556417	67	50 - 150	0.0082	+/-0.50	
M2PFTA	2285472	4.288883	2,950,100.00	4.297017	77	50 - 150	-0.0081	+/-0.50	
M2-8:2FTS	832950.8	3.79365	753,884.00	3.793633	110	50 - 150	0.0000	+/-0.50	
MPFBA	1069451	1.10345	1,352,245.00	1.09515	79	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	370180.7	2.881167	407,261.00	2.873	91	50 - 150	0.0082	+/-0.50	
M6PFDA	2128672	3.79415	2,856,033.00	3.794133	75	50 - 150	0.0000	+/-0.50	
M3PFBS	379761.3	1.9535	486,073.00	1.9453	78	50 - 150	0.0082	+/-0.50	
M7PFUnA	2090269	3.928417	2,486,173.00	3.928417	84	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	285852.5	3.452333	384,862.00	3.452317	74	50 - 150	0.0000	+/-0.50	
M5PFPeA	1021581	1.774867	1,252,587.00	1.774867	82	50 - 150	0.0000	+/-0.50	
M5PFHxA	1759521	2.640117	2,142,982.00	2.640117	82	50 - 150	0.0000	+/-0.50	
M3PFHxS	270188	3.227317	365,580.00	3.227317	74	50 - 150	0.0000	+/-0.50	
M4PFHpA	1933590	3.195383	2,394,783.00	3.195383	81	50 - 150	0.0000	+/-0.50	
M8PFOA	2165331	3.460967	2,513,758.00	3.46095	86	50 - 150	0.0000	+/-0.50	
M8PFOS	282223.8	3.642833	328,269.00	3.642817	86	50 - 150	0.0000	+/-0.50	
M9PFNA	1795414	3.643833	2,231,941.00	3.643833	80	50 - 150	0.0000	+/-0.50	
MPFDoA	1711653	4.06355	2,358,755.00	4.06355	73	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	536986.3	3.9361	677,132.00	3.9361	79	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	719208	3.8642	985,618.00	3.8642	73	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY

SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Town Garage (25E0316-03)			Lab File ID: 25E0316-03.d			Analyzed: 05/13/25 08:46			
M8FOSA	728988.6	4.011483	967,461.00	4.011483	75	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	226063.7	2.6303	455,395.00	2.638517	50	50 - 150	-0.0082	+/-0.50	
M2PFTA	2004160	4.329533	2,178,667.00	4.337667	92	50 - 150	-0.0081	+/-0.50	
M2-8:2FTS	404604.2	3.817517	530,080.00	3.817517	76	50 - 150	0.0000	+/-0.50	
MPFBA	902256	1.120033	966,942.00	1.111733	93	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	314789.8	2.922233	313,875.00	2.930483	100	50 - 150	-0.0083	+/-0.50	
M6PFDA	1918938	3.818017	2,041,245.00	3.818017	94	50 - 150	0.0000	+/-0.50	
M3PFBS	358825.4	2.003183	365,214.00	2.011467	98	50 - 150	-0.0083	+/-0.50	
M7PFUnA	1853224	3.9607	1,775,691.00	3.968717	104	50 - 150	-0.0080	+/-0.50	
M2-6:2FTS	309934.8	3.4764	337,257.00	3.4764	92	50 - 150	0.0000	+/-0.50	
M5PFPeA	886440.1	1.824633	918,445.00	1.824633	97	50 - 150	0.0000	+/-0.50	
M5PFHxA	1571446	2.7154	1,590,150.00	2.7239	99	50 - 150	-0.0085	+/-0.50	
M3PFHxS	282146	3.25135	291,823.00	3.259567	97	50 - 150	-0.0082	+/-0.50	
M4PFHpA	1792039	3.22825	1,784,100.00	3.22825	100	50 - 150	0.0000	+/-0.50	
M8PFOA	1906578	3.484867	1,905,677.00	3.484867	100	50 - 150	0.0000	+/-0.50	
M8PFOS	251028.7	3.659	254,863.00	3.666967	98	50 - 150	-0.0080	+/-0.50	
M9PFNA	1670730	3.659967	1,847,717.00	3.667933	90	50 - 150	-0.0080	+/-0.50	
MPFDoA	1610651	4.0956	1,811,636.00	4.103817	89	50 - 150	-0.0082	+/-0.50	
D5-NEtFOSAA	469826.3	3.96815	543,424.00	3.976167	86	50 - 150	-0.0080	+/-0.50	
D3-NMeFOSAA	577799.2	3.8963	690,832.00	3.8963	84	50 - 150	0.0000	+/-0.50	

Pace Analytical Services, LLC - East Longmeadow, Ma

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INTERNAL STANDARD AREA AND RT SUMMARY

SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Town Garage FB (25E0316-04)			Lab File ID: 25E0316-04.d			Analyzed: 05/28/25 08:39			
M8FOSA	868090.8	4.019516	1,138,690.00	4.011483	76	50 - 150	0.0080	+/-0.50	
M2-4:2FTS	408737.8	2.564633	597,480.00	2.556417	68	50 - 150	0.0082	+/-0.50	
M2PFTA	2242974	4.2889	2,950,100.00	4.297017	76	50 - 150	-0.0081	+/-0.50	
M2-8:2FTS	999253.9	3.79365	753,884.00	3.793633	133	50 - 150	0.0000	+/-0.50	
MPFBA	1106165	1.09515	1,352,245.00	1.09515	82	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	441137.4	2.881167	407,261.00	2.873	108	50 - 150	0.0082	+/-0.50	
M6PFDA	2257785	3.79415	2,856,033.00	3.794133	79	50 - 150	0.0000	+/-0.50	
M3PFBS	406685.7	1.9535	486,073.00	1.9453	84	50 - 150	0.0082	+/-0.50	
M7PFUnA	2043789	3.928433	2,486,173.00	3.928417	82	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	326558.7	3.452333	384,862.00	3.452317	85	50 - 150	0.0000	+/-0.50	
M5PFPeA	1041068	1.774867	1,252,587.00	1.774867	83	50 - 150	0.0000	+/-0.50	
M5PFHxA	1791100	2.648317	2,142,982.00	2.640117	84	50 - 150	0.0082	+/-0.50	
M3PFHxS	297112.6	3.227333	365,580.00	3.227317	81	50 - 150	0.0000	+/-0.50	
M4PFHpA	2010490	3.1954	2,394,783.00	3.195383	84	50 - 150	0.0000	+/-0.50	
M8PFOA	2146168	3.460967	2,513,758.00	3.46095	85	50 - 150	0.0000	+/-0.50	
M8PFOS	308259.9	3.642833	328,269.00	3.642817	94	50 - 150	0.0000	+/-0.50	
M9PFNA	1950009	3.64385	2,231,941.00	3.643833	87	50 - 150	0.0000	+/-0.50	
MPFDoA	1901065	4.063567	2,358,755.00	4.06355	81	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	588346.1	3.936117	677,132.00	3.9361	87	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	707623.1	3.864217	985,618.00	3.8642	72	50 - 150	0.0000	+/-0.50	

Pace Analytical Services, LLC - East Longmeadow, Ma

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INTERNAL STANDARD AREA AND RT SUMMARY

SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
SW-1 (25E0316-05)			Lab File ID: 25E0316-05.d			Analyzed: 05/13/25 08:53			
M8FOSA	539955.4	4.011483	967,461.00	4.011483	56	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	306079.8	2.6221	455,395.00	2.638517	67	50 - 150	-0.0164	+/-0.50	
M2PFTA	812515.8	4.329533	2,178,667.00	4.337667	37	50 - 150	-0.0081	+/-0.50	*
M2-8:2FTS	425441.3	3.817517	530,080.00	3.817517	80	50 - 150	0.0000	+/-0.50	
MPFBA	717087.5	1.120033	966,942.00	1.111733	74	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	282553.3	2.922233	313,875.00	2.930483	90	50 - 150	-0.0083	+/-0.50	
M6PFDA	1744379	3.818017	2,041,245.00	3.818017	85	50 - 150	0.0000	+/-0.50	
M3PFBS	331192.9	2.003183	365,214.00	2.011467	91	50 - 150	-0.0083	+/-0.50	
M7PFUnA	1468447	3.9607	1,775,691.00	3.968717	83	50 - 150	-0.0080	+/-0.50	
M2-6:2FTS	269872	3.468433	337,257.00	3.4764	80	50 - 150	-0.0080	+/-0.50	
M5PFPeA	819133.6	1.824633	918,445.00	1.824633	89	50 - 150	0.0000	+/-0.50	
M5PFHxA	1483317	2.707217	1,590,150.00	2.7239	93	50 - 150	-0.0167	+/-0.50	
M3PFHxS	262218.4	3.25135	291,823.00	3.259567	90	50 - 150	-0.0082	+/-0.50	
M4PFHpA	1634147	3.219617	1,784,100.00	3.22825	92	50 - 150	-0.0086	+/-0.50	
M8PFOA	1793278	3.484867	1,905,677.00	3.484867	94	50 - 150	0.0000	+/-0.50	
M8PFOS	213674.9	3.659	254,863.00	3.666967	84	50 - 150	-0.0080	+/-0.50	
M9PFNA	1515013	3.659967	1,847,717.00	3.667933	82	50 - 150	-0.0080	+/-0.50	
MPFDoA	1050544	4.0956	1,811,636.00	4.103817	58	50 - 150	-0.0082	+/-0.50	
D5-NEtFOSAA	431023.5	3.96815	543,424.00	3.976167	79	50 - 150	-0.0080	+/-0.50	
D3-NMeFOSAA	540648.8	3.8963	690,832.00	3.8963	78	50 - 150	0.0000	+/-0.50	

Pace Analytical Services, LLC - East Longmeadow, Ma

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INTERNAL STANDARD AREA AND RT SUMMARY

SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Blank (B404800-BLK1)			Lab File ID: B404800-BLK1.d			Analyzed: 05/13/25 08:09			
M8FOSA	874029	4.011483	967,461.00	4.011483	90	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	407905.6	2.6303	455,395.00	2.638517	90	50 - 150	-0.0082	+/-0.50	
M2PFTA	2351486	4.329533	2,178,667.00	4.337667	108	50 - 150	-0.0081	+/-0.50	
M2-8:2FTS	547240.1	3.817517	530,080.00	3.817517	103	50 - 150	0.0000	+/-0.50	
MPFBA	1077737	1.111733	966,942.00	1.111733	111	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	329238	2.922233	313,875.00	2.930483	105	50 - 150	-0.0083	+/-0.50	
M6PFDA	2200999	3.818017	2,041,245.00	3.818017	108	50 - 150	0.0000	+/-0.50	
M3PFBS	400974.3	2.011467	365,214.00	2.011467	110	50 - 150	0.0000	+/-0.50	
M7PFUnA	2041695	3.9607	1,775,691.00	3.968717	115	50 - 150	-0.0080	+/-0.50	
M2-6:2FTS	391239.9	3.4764	337,257.00	3.4764	116	50 - 150	0.0000	+/-0.50	
M5PFPeA	1000725	1.824633	918,445.00	1.824633	109	50 - 150	0.0000	+/-0.50	
M5PFHxA	1737045	2.7154	1,590,150.00	2.7239	109	50 - 150	-0.0085	+/-0.50	
M3PFHxS	319012.1	3.25135	291,823.00	3.259567	109	50 - 150	-0.0082	+/-0.50	
M4PFHpA	2034009	3.22825	1,784,100.00	3.22825	114	50 - 150	0.0000	+/-0.50	
M8PFOA	2170720	3.484867	1,905,677.00	3.484867	114	50 - 150	0.0000	+/-0.50	
M8PFOS	312945.2	3.658983	254,863.00	3.666967	123	50 - 150	-0.0080	+/-0.50	
M9PFNA	1862516	3.667933	1,847,717.00	3.667933	101	50 - 150	0.0000	+/-0.50	
MPFDoA	1797143	4.0956	1,811,636.00	4.103817	99	50 - 150	-0.0082	+/-0.50	
D5-NEtFOSAA	535110.6	3.96815	543,424.00	3.976167	98	50 - 150	-0.0080	+/-0.50	
D3-NMeFOSAA	673170.9	3.8963	690,832.00	3.8963	97	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY

SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (B404800-BS1)			Lab File ID: B404800-BS1.d			Analyzed: 05/13/25 07:55			
M8FOSA	738700.2	4.011483	967,461.00	4.011483	76	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	374588.6	2.638517	455,395.00	2.638517	82	50 - 150	0.0000	+/-0.50	
M2PFTA	2203962	4.329533	2,178,667.00	4.337667	101	50 - 150	-0.0081	+/-0.50	
M2-8:2FTS	527870.1	3.817517	530,080.00	3.817517	100	50 - 150	0.0000	+/-0.50	
MPFBA	927643.2	1.120033	966,942.00	1.111733	96	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	298552	2.930483	313,875.00	2.930483	95	50 - 150	0.0000	+/-0.50	
M6PFDA	2055196	3.818017	2,041,245.00	3.818017	101	50 - 150	0.0000	+/-0.50	
M3PFBS	350879.7	2.011467	365,214.00	2.011467	96	50 - 150	0.0000	+/-0.50	
M7PFUnA	1887739	3.9607	1,775,691.00	3.968717	106	50 - 150	-0.0080	+/-0.50	
M2-6:2FTS	325150.9	3.4764	337,257.00	3.4764	96	50 - 150	0.0000	+/-0.50	
M5PFPeA	879871.1	1.832933	918,445.00	1.824633	96	50 - 150	0.0083	+/-0.50	
M5PFHxA	1541641	2.7239	1,590,150.00	2.7239	97	50 - 150	0.0000	+/-0.50	
M3PFHxS	270301.6	3.259567	291,823.00	3.259567	93	50 - 150	0.0000	+/-0.50	
M4PFHpA	1739377	3.228267	1,784,100.00	3.22825	97	50 - 150	0.0000	+/-0.50	
M8PFOA	1955679	3.484867	1,905,677.00	3.484867	103	50 - 150	0.0000	+/-0.50	
M8PFOS	263052.9	3.659	254,863.00	3.666967	103	50 - 150	-0.0080	+/-0.50	
M9PFNA	1693525	3.667933	1,847,717.00	3.667933	92	50 - 150	0.0000	+/-0.50	
MPFDoA	1674307	4.0956	1,811,636.00	4.103817	92	50 - 150	-0.0082	+/-0.50	
D5-NEtFOSAA	512197.3	3.968167	543,424.00	3.976167	94	50 - 150	-0.0080	+/-0.50	
D3-NMeFOSAA	610503	3.8963	690,832.00	3.8963	88	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY

SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS Dup (B404800-BSD1)			Lab File ID: B404800-BSD1.d			Analyzed: 05/13/25 08:02			
M8FOSA	740391.8	4.011483	967,461.00	4.011483	77	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	414312.8	2.630317	455,395.00	2.638517	91	50 - 150	-0.0082	+/-0.50	
M2PFTA	2250761	4.329533	2,178,667.00	4.337667	103	50 - 150	-0.0081	+/-0.50	
M2-8:2FTS	508278.8	3.817517	530,080.00	3.817517	96	50 - 150	0.0000	+/-0.50	
MPFBA	1029690	1.120033	966,942.00	1.111733	106	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	344209.4	2.930483	313,875.00	2.930483	110	50 - 150	0.0000	+/-0.50	
M6PFDA	2190141	3.818017	2,041,245.00	3.818017	107	50 - 150	0.0000	+/-0.50	
M3PFBS	386881.8	2.011467	365,214.00	2.011467	106	50 - 150	0.0000	+/-0.50	
M7PFUnA	1904944	3.9607	1,775,691.00	3.968717	107	50 - 150	-0.0080	+/-0.50	
M2-6:2FTS	373194.2	3.4764	337,257.00	3.4764	111	50 - 150	0.0000	+/-0.50	
M5PFPeA	969507.9	1.824633	918,445.00	1.824633	106	50 - 150	0.0000	+/-0.50	
M5PFHxA	1704447	2.7154	1,590,150.00	2.7239	107	50 - 150	-0.0085	+/-0.50	
M3PFHxS	295000.9	3.25135	291,823.00	3.259567	101	50 - 150	-0.0082	+/-0.50	
M4PFHpA	1885490	3.228267	1,784,100.00	3.22825	106	50 - 150	0.0000	+/-0.50	
M8PFOA	2063884	3.484867	1,905,677.00	3.484867	108	50 - 150	0.0000	+/-0.50	
M8PFOS	313807.2	3.659	254,863.00	3.666967	123	50 - 150	-0.0080	+/-0.50	
M9PFNA	1785277	3.667933	1,847,717.00	3.667933	97	50 - 150	0.0000	+/-0.50	
MPFDoA	1799065	4.0956	1,811,636.00	4.103817	99	50 - 150	-0.0082	+/-0.50	
D5-NEtFOSAA	528417.4	3.968167	543,424.00	3.976167	97	50 - 150	-0.0080	+/-0.50	
D3-NMeFOSAA	661155.9	3.8963	690,832.00	3.8963	96	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY

SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Blank (B405648-BLK1)			Lab File ID: B405648-BLK1.d			Analyzed: 05/28/25 08:25			
M8FOSA	858172.8	4.011483	1,138,690.00	4.011483	75	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	413728.4	2.556433	597,480.00	2.556417	69	50 - 150	0.0000	+/-0.50	
M2PFTA	2227596	4.288883	2,950,100.00	4.297017	76	50 - 150	-0.0081	+/-0.50	
M2-8:2FTS	698323.8	3.785683	753,884.00	3.793633	93	50 - 150	-0.0079	+/-0.50	
MPFBA	1103473	1.09515	1,352,245.00	1.09515	82	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	446226	2.873	407,261.00	2.873	110	50 - 150	0.0000	+/-0.50	
M6PFDA	2366649	3.786183	2,856,033.00	3.794133	83	50 - 150	-0.0080	+/-0.50	
M3PFBS	403173	1.9535	486,073.00	1.9453	83	50 - 150	0.0082	+/-0.50	
M7PFUnA	2089504	3.928417	2,486,173.00	3.928417	84	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	313699.8	3.444383	384,862.00	3.452317	82	50 - 150	-0.0079	+/-0.50	
M5PFPeA	1047421	1.774867	1,252,587.00	1.774867	84	50 - 150	0.0000	+/-0.50	
M5PFHxA	1831222	2.640117	2,142,982.00	2.640117	85	50 - 150	0.0000	+/-0.50	
M3PFHxS	290761.4	3.227317	365,580.00	3.227317	80	50 - 150	0.0000	+/-0.50	
M4PFHpA	1995272	3.1954	2,394,783.00	3.195383	83	50 - 150	0.0000	+/-0.50	
M8PFOA	2208767	3.460967	2,513,758.00	3.46095	88	50 - 150	0.0000	+/-0.50	
M8PFOS	314389.5	3.642817	328,269.00	3.642817	96	50 - 150	0.0000	+/-0.50	
M9PFNA	1965165	3.643833	2,231,941.00	3.643833	88	50 - 150	0.0000	+/-0.50	
MPFDoA	1782000	4.06355	2,358,755.00	4.06355	76	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	556301.8	3.9361	677,132.00	3.9361	82	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	681365.5	3.8642	985,618.00	3.8642	69	50 - 150	0.0000	+/-0.50	

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INTERNAL STANDARD AREA AND RT SUMMARY

SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (B405648-BS1)			Lab File ID: B405648-BS1R.d			Analyzed: 05/28/25 10:28			
M8FOSA	986859.4	4.011483	1,138,690.00	4.011483	87	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	448892.9	2.54	597,480.00	2.54	75	50 - 150	0.0000	+/-0.50	
M2PFTA	2413964	4.280717	2,950,100.00	4.280717	82	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	653635.4	3.777733	753,884.00	3.785683	87	50 - 150	-0.0080	+/-0.50	
MPFBA	1264388	1.09515	1,352,245.00	1.086867	94	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	474936.3	2.864817	407,261.00	2.864817	117	50 - 150	0.0000	+/-0.50	
M6PFDA	2645407	3.778233	2,856,033.00	3.778217	93	50 - 150	0.0000	+/-0.50	
M3PFBS	473827.4	1.937	486,073.00	1.937	97	50 - 150	0.0000	+/-0.50	
M7PFUnA	2465867	3.920433	2,486,173.00	3.920417	99	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	339253.3	3.436433	384,862.00	3.444383	88	50 - 150	-0.0080	+/-0.50	
M5PFPeA	1200680	1.758283	1,252,587.00	1.758283	96	50 - 150	0.0000	+/-0.50	
M5PFHxA	2138595	2.6237	2,142,982.00	2.6237	100	50 - 150	0.0000	+/-0.50	
M3PFHxS	361282.7	3.218417	365,580.00	3.218417	99	50 - 150	0.0000	+/-0.50	
M4PFHpA	2334367	3.187317	2,394,783.00	3.187317	97	50 - 150	0.0000	+/-0.50	
M8PFOA	2518992	3.452817	2,513,758.00	3.452817	100	50 - 150	0.0000	+/-0.50	
M8PFOS	354806.9	3.626883	328,269.00	3.63485	108	50 - 150	-0.0080	+/-0.50	
M9PFNA	2235126	3.635867	2,231,941.00	3.635867	100	50 - 150	0.0000	+/-0.50	
MPFDoA	2006044	4.047517	2,358,755.00	4.055533	85	50 - 150	-0.0080	+/-0.50	
D5-NEtFOSAA	566624.4	3.9279	677,132.00	3.9279	84	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	741141.6	3.856217	985,618.00	3.856217	75	50 - 150	0.0000	+/-0.50	

Pace Analytical Services, LLC - East Longmeadow, Ma

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

INTERNAL STANDARD AREA AND RT SUMMARY

SOP-454 PFAS

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS Dup (B405648-BSD1)			Lab File ID: B405648-BSD1.d			Analyzed: 05/28/25 08:18			
M8FOSA	967665.3	4.011483	1,138,690.00	4.011483	85	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	471877.4	2.556417	597,480.00	2.556417	79	50 - 150	0.0000	+/-0.50	
M2PFTA	2449661	4.288883	2,950,100.00	4.297017	83	50 - 150	-0.0081	+/-0.50	
M2-8:2FTS	722827.8	3.785683	753,884.00	3.793633	96	50 - 150	-0.0079	+/-0.50	
MPFBA	1229689	1.09515	1,352,245.00	1.09515	91	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	450657.2	2.872983	407,261.00	2.873	111	50 - 150	0.0000	+/-0.50	
M6PFDA	2385095	3.786183	2,856,033.00	3.794133	84	50 - 150	-0.0080	+/-0.50	
M3PFBS	437108.3	1.9453	486,073.00	1.9453	90	50 - 150	0.0000	+/-0.50	
M7PFUnA	2158449	3.928417	2,486,173.00	3.928417	87	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	341445.4	3.444367	384,862.00	3.452317	89	50 - 150	-0.0079	+/-0.50	
M5PFPeA	1164305	1.774867	1,252,587.00	1.774867	93	50 - 150	0.0000	+/-0.50	
M5PFHxA	2003046	2.640117	2,142,982.00	2.640117	93	50 - 150	0.0000	+/-0.50	
M3PFHxS	323342.1	3.227317	365,580.00	3.227317	88	50 - 150	0.0000	+/-0.50	
M4PFHpA	2140846	3.195383	2,394,783.00	3.195383	89	50 - 150	0.0000	+/-0.50	
M8PFOA	2413902	3.46095	2,513,758.00	3.46095	96	50 - 150	0.0000	+/-0.50	
M8PFOS	298649.2	3.63485	328,269.00	3.642817	91	50 - 150	-0.0080	+/-0.50	
M9PFNA	1997202	3.63585	2,231,941.00	3.643833	89	50 - 150	-0.0080	+/-0.50	
MPFDoA	1963446	4.06355	2,358,755.00	4.06355	83	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	585478.6	3.9361	677,132.00	3.9361	86	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	771789.1	3.8642	985,618.00	3.8642	78	50 - 150	0.0000	+/-0.50	

Pace Analytical Services, LLC - East Longmeadow, Ma

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SOP-454 PFAS in Water	
Perfluorobutanoic acid (PFBA)	NH-P,PA,NY
Perfluorobutanesulfonic acid (PFBS)	NH-P,PA,NY
Perfluoropentanoic acid (PFPeA)	NH-P,PA,NY
Perfluorohexanoic acid (PFHxA)	NH-P,PA,NY
11Cl-PF3OUdS (F53B Major)	NH-P,PA,NY
9Cl-PF3ONS (F53B Minor)	NH-P,PA
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,PA,NY
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,PA,NY
8:2 Fluorotelomersulfonic acid (8:2FTS A)	NH-P,PA
Perfluorodecanoic acid (PFDA)	NH-P,PA,NY
Perfluorododecanoic acid (PFDoA)	NH-P,PA,NY
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	NH-P,PA,NY
Perfluoroheptanesulfonic acid (PFHpS)	NH-P,PA,NY
N-EtFOSAA (NEtFOSAA)	NH-P,PA,NY
N-MeFOSAA (NMeFOSAA)	NH-P,PA,NY
Perfluorotetradecanoic acid (PFTA)	NH-P,PA,NY
Perfluorotridecanoic acid (PFTrDA)	NH-P,PA,NY
4:2 Fluorotelomersulfonic acid (4:2FTS A)	NH-P,PA,NY
Perfluorodecanesulfonic acid (PFDS)	NH-P,PA
Perfluorooctanesulfonamide (FOSA)	NH-P,PA
Perfluorononanesulfonic acid (PFNS)	NH-P,PA
Perfluoro-1-hexanesulfonamide (FHxSA)	NH-P,PA
Perfluoro-1-butanesulfonamide (FBSA)	NH-P,PA
Perfluorohexanesulfonic acid (PFHxS)	NH-P,PA,NY
Perfluoro-4-oxapentanoic acid (PFMPA)	NH-P,PA,NY
Perfluoro-5-oxahexanoic acid (PFMBA)	NH-P,PA,NY
6:2 Fluorotelomersulfonic acid (6:2FTS A)	NH-P,PA,NY
Perfluoropentanesulfonic acid (PFPeS)	NH-P,PA,NY
Perfluoroundecanoic acid (PFUnA)	NH-P,PA,NY
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NH-P,PA
Perfluoroheptanoic acid (PFHpA)	NH-P,PA,NY
Perfluorooctanoic acid (PFOA)	NH-P,PA,NY
Perfluorooctanesulfonic acid (PFOS)	NH-P,PA,NY
Perfluorononanoic acid (PFNA)	NH-P,PA,NY

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

Code	Description	Number	Expires
NY	New York State Department of Health	10899 NELAP	04/1/2026
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2025
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2026

25E0316KAF

Pace

Phone: 413-525-2332
Fax: 413-525-6405

http://www.pacelabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 2_06262019

Company Name:	KAS, Inc.
Address:	589 Avenue D, Suite 10
Phone:	802-383-0486
Project Name:	Halifax Landfill
Project Location:	Halifax, VT
Project Number:	610110045
Project Manager:	C. Santos
Con-Test Quote Name/Number:	
Invoice Recipient:	
Sampled By:	CS

Requested Turnaround Time
7-Day ☐ 10-Day ☐
PFAS 15-Day (std) ☑ Due Date:

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

Data Delivery
Format: PDF ☑ EXCEL ☐
Other:
CLP Like Data Pkg Required: ☐
Email To: clares@kas-consulting.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Date	Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PFAS Isotope Dilution (full list)	None
1	MW-3	5/1/25	1123	Grab	GW				2			X	
2	MW-3 ERB	↓	1119	Grab	-				2			X	
3	Town Garage		1010	Grab	DW				2			X	
4	Town Garage FB		1009	Grab	-				2			X	
5	SW-1	↓	1210	Grab	SW				2			X	

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Contest is not responsible for missing samples from prepacked coolers

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

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

Relinquished by: (signature)	Date/Time: 5/1/25 1600
Received by: (signature)	Date/Time: 5/2/25 1054
Relinquished by: (signature)	Date/Time: 5/2/25 1615
Received by: (signature)	Date/Time: 5/2/25 1615
Relinquished by: (signature)	Date/Time: 1615
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments:
Only analyze ERB & FB if there is a PFAS detection in the sample.

Detection Limit Requirements
MA
CT
Other: Vermont I-RULE

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

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

NELAC and AIHA-LAP, LLC Accredited

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

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

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

Table of Contents

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

Log In Back-Sheet

Client KAS Inc

Project Halifax Landfill

MCP/RCP Required N/A

Deliverable Package Requirement VT I-RULE

Location Halifax, VT

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☒ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time STM 5/2/25 1615

Back-Sheet By / Date / Time STM 5/5/25 1833

Temperature Method Gun #6

WV samples: Yes (see note*) / (No) (follow normal procedure)

Temp ☒ < 6° C Actual Temperature 2.2

Rush Samples: Yes / (No) Notify

Short Hold: Yes / (No) Notify

Notes regarding Samples/COC outside of SOP:

No options for VT I-RULE

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: (N/A) ☐ ☐

Additional Container Notes

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

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

Sample			
16oz Amb/Clear	Soils Jars	(Circle Amb/Clear)	
8oz Amb/Clear			
4oz Amb/Clear			
2oz Amb/Clear			
Unpreserved	Ambers	1 Liter	
HCL			
Sulfuric			
Sulfuric		250mL	
Phosphoric			
HCl			
Unpreserved		100mL	
Unpreserved	Plastics	1 Liter	
Sulfuric			
Unpreserved		500mL	
Sulfuric			
Unpreserved		250mL	
Trizma			
Sulfuric			
Nitric			
NaOH			
Ammonium Acetate			
NaOH/Zinc			
Unpreserved	VOA Vials		
HCl			
MeOH			
D.I. Water			
BiSulfate			
Col/Bact	Other / Fill in		

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
															12		12		12

Qualtrax ID: 120836

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