Brandon Landfill
31 Corona Street
Brandon, Vermont

VT DEC Project# RU97-0128
Solid Waste Facility ID# RU080
KAS Job# 609210052

SPRING 2024 SEMI-ANNUAL WATER QUALITY MONITORING REPORT

May 23, 2024

Prepared for:

Town of Brandon
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Introduction

KAS, Inc. (KAS) conducted a semi-annual water quality monitoring event on May 7, 2024 at the Brandon Landfill (Site Location Map and Site Map in Appendix A). The spring 2024 groundwater monitoring was conducted in accordance with the current landfill post-closure certification. In addition, as requested by the Vermont Department of Environmental Conservation (VT DEC), the monitoring wells were tested for per-and polyfluoroalkyl substances (PFAS), an emerging group of contaminants, that have been frequently found in landfill leachate.

Background

The 5-acre facility operated as a landfill from 1940 until its closure in 1992, and currently operates as a transfer station. Post-closure groundwater monitoring has been conducted consistently since 2016, although select wells have not been sampled for various reasons (i.e., dry, inaccessible, etc.). Manganese, arsenic, and lead remain at levels above Vermont Groundwater Enforceable Standard (VGES). Other metals that have infrequently exceeded VGES in the past include cadmium and nickel. Volatile organic compounds (VOCs) have generally remained below VGES, with the exception of naphthalene, which was found to be slightly above VGES in June 2022. May 2023 was the first time groundwater was tested for PFAS.

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 historically phased out of production and use.

Groundwater is presumed to flow in a south-southwesterly direction, towards Otter Creek, based on the topography of the area and based on the data collected to date. The current monitoring well network consists of four (4) wells: MW-1 (upgradient), MW-3 (cross-gradient), and MW-2C and MW-5 (both of which are downgradient).

Groundwater Sampling & Results

Field measurements

At the time of sample collection, groundwater was field analyzed for temperature, pH, and specific conductance using a properly calibrated YSI® meter. The depth to groundwater was gauged using a Geotech™ water level indicator. Field measurement data is tabulated in Appendix B.

Laboratory Results

A groundwater sample was collected from all monitoring wells (MW-1, MW-2C, MW-3, and MW-5). Low-flow groundwater purging and sampling techniques were used at MW-2C and MW-5. At MW-1 and MW-3, the sample was collected via a disposable bailer due to the depth of groundwater exceeding the capacity of the peristaltic pump (e.g., >30 feet below top of casing). The groundwater samples were analyzed for:

- Total metals (e.g., arsenic, cadmium, chromium, copper, lead, iron, manganese, mercury, nickel, sodium, and zinc) via EPA Method 6010C/6020B;
- Chemical oxygen demand (COD) via Method 410.4;

- Chloride via Method 300.0;
- VOCs via EPA Method 8260C; and,
- PFAS via isotope dilution.

Total arsenic was reported at 0.0171 mg/L in MW-2C, and 0.0147 mg/L in MW-3, both of which exceed the VGES of 0.010 mg/L. Total manganese exceeded VGES (0.3 mg/L) at all sample locations, ranging from 0.42 mg/L (MW-2C) to 1.8 mg/L (MW-1). Total lead was reported at 0.0311 mg/L in MW-3, which exceeds the VGES of 0.015 mg/L. The other metals were either non-detect or at levels below VGES. Sodium, for which there is no applicable VGES, ranged from 28 mg/L (MW-3) to 210 mg/L (MW-2C). Iron, for which there is also no applicable VGES, ranged from 9.0 mg/L (MW-1) to 38 mg/L (MW-3).

Chloride ranged from 42 mg/L to 300 mg/L, the highest concentration being at MW-2C.

COD ranged from 33 mg/L to 130 mg/L, the highest concentration being at MW-2C.

No VOCs were detected above laboratory method detection limits in the samples collected, except for select VOCs at MW-2C, all of which were below VGES.

Total regulated PFAS was reported at 39 ng/L (MW-5) and 145 ng/L (MW-2C), both of which are above the VGES of 20 ng/L.

Current and historical analytical data are provided in tables and graphs in Appendix B. A copy of the laboratory reports is provided in Appendix C.

Quality Assurance/Quality Control

Quality assurance and quality control (QA/QC) samples included a duplicate sample that was analyzed for VOCs, metals, chloride, and COD. The results of the laboratory analysis of the duplicate sample were analyzed using a relative percent difference (RPD) analysis. The RPD is defined as 100 times the difference in reported concentration between sample and duplicate, divided by the mean of the two samples. A small RPD indicates good correlation between sample and duplicate, with 30% being the EPA Region 1 upper guideline value. The absolute RPD values ranged between 0.0 and 9.0%, which indicates good correlation/precision.

A QA/QC sample also included a trip blank for VOC analysis. No VOCs were detected in the trip blank, which indicates that potential contamination from transit, sample bottles, or laboratory conditions was not a concern.

For PFAS analysis, a QA/QC sample included an equipment rinsate blank (ERB) sample. No PFAS was detected in the ERB sample, which indicates that there was no cross contamination of PFAS from the sampler, equipment, field conditions, and/or laboratory conditions. For the MW-2C sample, there is some uncertainty related to the PFOS concentration based on the laboratory's unexpected QA/QC results. Given that PFOS is one of five PFAS regulated compounds (for which there were no data qualifiers) and that the total regulated PFAS is well above VGES, the uncertainty in the PFOS concentration is not considered significant. As such, KAS considers the PFOS data usable for the purpose of PFAS monitoring.

Trends

For field measurement data, the depth to groundwater measurements were generally lower

(meaning higher groundwater elevations) within the range of fluctuation, and were the lowest to date at MW-2C and MW-5. pH levels appear to be exhibiting a slightly increasing trend overall except at MW-2C where the pH remains fairly stable with an average of approximately 6.51. In general, temperature and specific conductivity continue to fluctuate within their respective historical ranges.

Total arsenic continues to exceed VGES at MW-2C and MW-3, at levels above VGES. However, overall, arsenic levels have decreased and appear to be becoming stable since their respective historical peaks at MW-2C, MW-3, and MW-5.

Total manganese continues to exceed VGES at all sample locations. However, overall, manganese levels appear to be stable even at MW-3, which historically exhibited the highest peak levels.

In general, sodium, chloride, and COD appear to have become more stable, except at MW-2C where levels are highest and continue to fluctuate.

For PFAS, spring 2024 was the third sampling event. Nonetheless, it is clear that PFAS levels are highest at MW-2C, followed by MW-5. Overall, it appears that PFAS levels are decreasing and becoming more stable. Additional data is needed to establish a long-term trend.

Based on non-detect to low levels of VOCs, which are limited to MW-2C, VOCs no longer appear to be a notable contaminant of concern.

Trends/graphs are provided in Appendix B.

Drinking Water Sampling

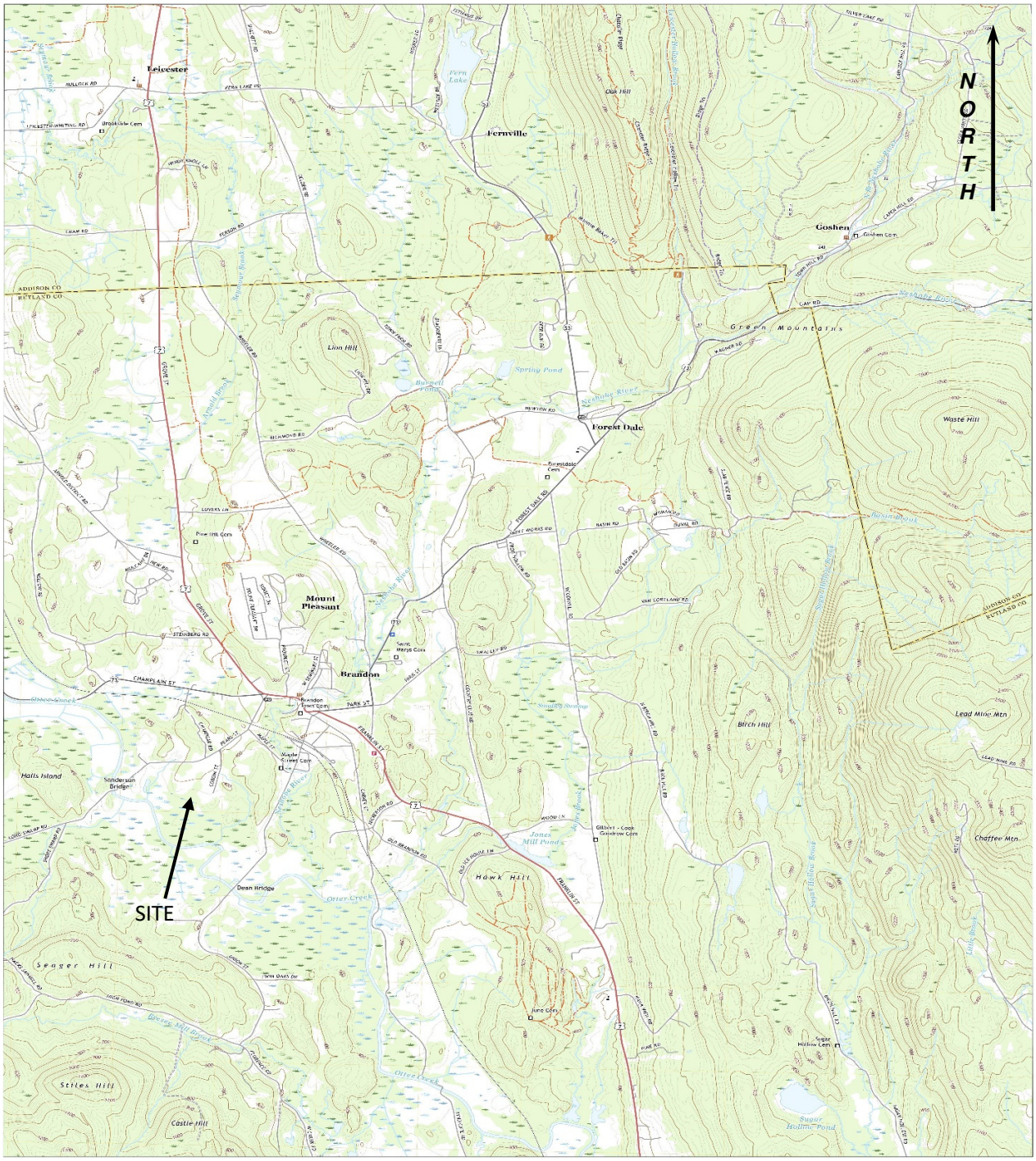
At this time, it is unknown if PFAS has impacted the deeper aquifer. In general, the surrounding residential area is served by municipal water. As shown on the Site Map (Appendix A), there are no private water supply wells downgradient from the landfill in the nearby vicinity. The nearest cross-gradient supply well is approximately 0.16 miles to the west at 806 Pearl Street (shown as WRN# 51 on the Site Map). Based on the distances and locations, the risk of PFAS contamination in the supply wells is considered low at this time. On November 22, 2023, the VT DEC requested that the Town sample the drinking water at this residence to fully rule out the risk. Due to the property owner denying access to the Town, a drinking water sample could not be collected at 806 Pearl Street.

Recommendation

KAS recommends that groundwater monitoring continue in accordance with Brandon Solid Waste Facility Certification – Monitoring Requirements (7), with the next monitoring event to occur in October 2024. Given the preliminary trend in PFAS levels, the persistent nature of PFAS in the environment, and the cost of PFAS analysis, annual monitoring (e.g., every spring) of PFAS is most likely sufficient to track long-term trends. This PFAS sampling approach requires the VT DEC's concurrence.

APPENDIX A

Site Location Map and Site Map



KAS Job Number *609210052*
Source: *USGS*

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Brandon Town Landfill
31 Corona Street, Brandon, Vermont

Site Location Map
USGS Mapping

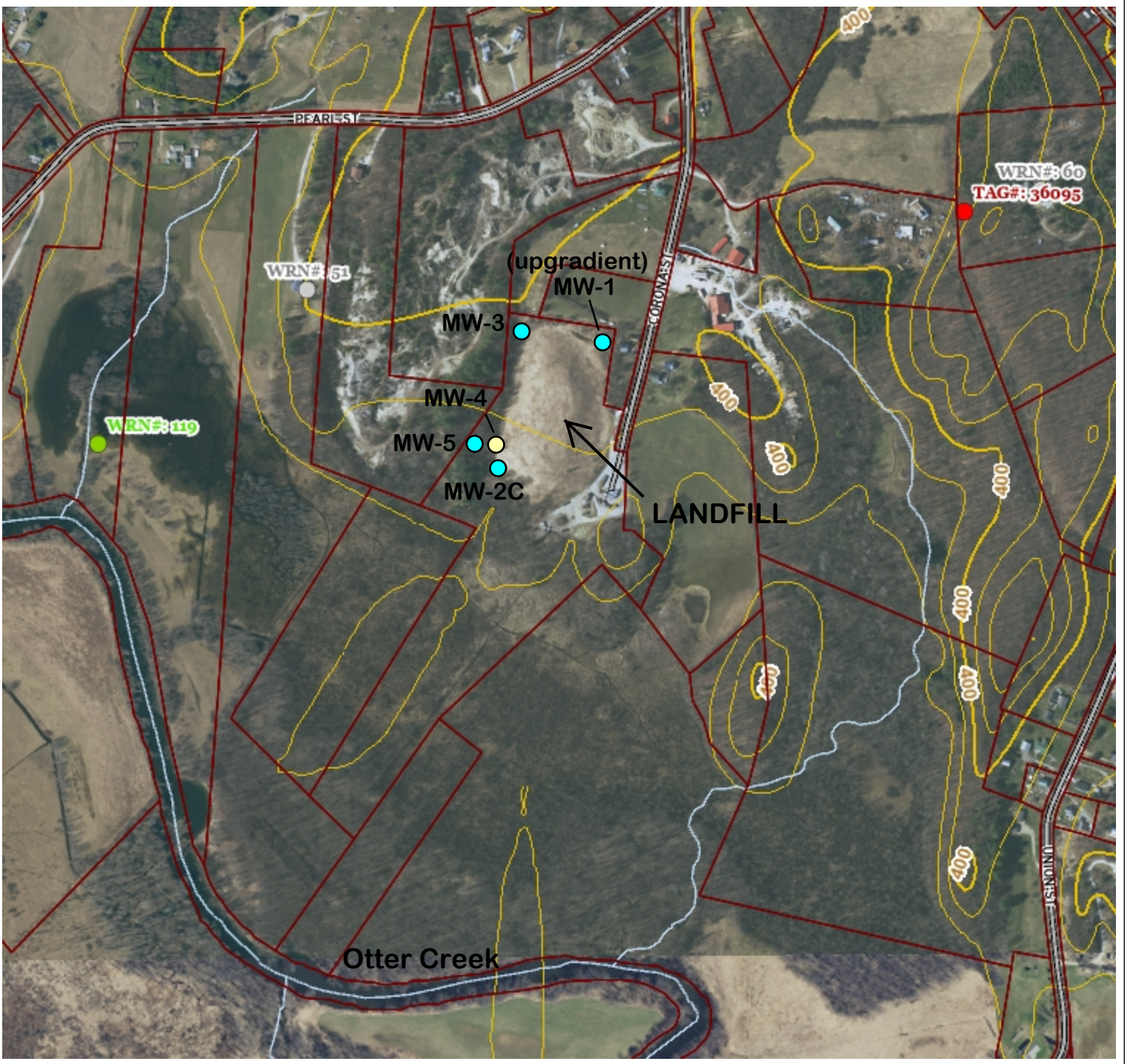
Date: 04/27/22	Drawing No. 0	Scale NTS	By: ML

VERMONT

Brandon Landfill

Vermont Agency of Natural Resources

vermont.gov



LEGEND

Private Wells

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

Public Water Sources

Markups by KAS

- Approx. location of monitoring well
- Inactive monitoring well

NOTES

Map created using ANR GIS mapping techology.

1: 6,916

September 13, 2022

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

Data Summaries

Brandon Closed Landfill

Sampling Date: May 7, 2024

Monitoring Well ID: PARAMETER	MW-1	MW-2C	MW-3	MW-5	VGES	PAL
VOCs (ug/L)						
1,4-dichlorobenzene	ND	**2.4**	ND	ND	75	38
Diethyl Ether	ND	**19.4**	ND	ND	-	-
Benzene	ND	***2.3***	ND	ND	5	0.5
Chlorobenzene	ND	**5.9**	ND	ND	100	50
t-Butanol	ND	<0.020	ND	ND	-	-
Total Metals (mg/L)						
Arsenic	***0.0038***	**0.0171**	**0.0147**	***0.0015***	0.010	0.001
Cadmium	<0.0020	<0.0020	<0.0020	<0.0020	0.005	0.001
Chromium	<0.0050	<0.0050	**0.0197**	<0.0050	0.100	0.050
Copper	<0.020	<0.020	**0.043**	<0.020	1.300	0.650
Iron	**9.0**	**29**	**38**	**11**	-	-
Lead	***0.0042***	<0.0010	**0.0311**	<0.0010	0.015	0.002
Manganese	**1.8**	**0.42**	**0.93**	**1.0**	0.300	0.150
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	0.002	0.0005
Nickel	**0.0080**	**0.0093**	**0.0263**	<0.0050	0.100	0.050
Sodium	**29**	**210**	**28**	**37**	-	-
Zinc	<0.020	<0.020	**0.082**	<0.020	-	-
Other Analytes (mg/L)						
Chloride	**55**	**300**	**42**	**64**	-	-
COD	**40**	**130**	**84**	**33**	-	-
PFAS (ng/L)						
Perfluorohexanesulfonic acid (PFHxS)	<4.0	**17**	<4.0	**13**	-	-
Perfluoroheptanoic acid (PFHpA)	<4.0	**16**	<4.0	<4.0		
Perfluorooctanoic acid (PFOA)	<4.0	**58**	<4.0	**16**		
Perfluorooctanesulfonic acid (PFOS)	<4.0	**54**	<4.0	**10**		
Perfluorononanoic acid (PFNA)	<4.0	<4.1	<4.0	<4.0		
Total Regulated PFAS	ND	**145**	ND	**39**	20	2
Total Non-Regulated PFAS	ND	**61**	ND	**5.5**	-	-
Field Measurements (units as noted)						
pH (std units)	7.67	6.59	7.83	6.84	-	-
Temperature (deg C)	13.1	11.3	12.2	11.6	-	-
Conductivity (uS)	970	2,227	737	1,071	-	-
Water Level (feet btoc)	30.74	7.17	31.17	4.32	-	-

Only detected or targeted VOCs are depicted

All values reported in units noted above

"-" = Not Analyzed, No Information or No Applicable Standard

ND = None Detected

<X = None Detected above Detection Limit (X)

VGES = Vermont Groundwater Enforcement Standard (GWPRS 07/06/2019)

PAL = Vermont Preventive Action Level (GWPRS 07/06/2019)

Detections are **bolded**

>VGES

Bold (italic) indicates value exceeds PAL

Brandon Closed Landfill

MW-1

PARAMETER (*Sample Date:*)	2012	4/22/2013	10/1/2013	5/29/2014	6/9/2015	10/25/2015	7/24/2016	October 2016	5/7/2017	10/28/2017	5/28/2018	10/20/2018	05/27/2019	10/26/2019	VGES	PAL
VOCs (ug/L)																
1,1-dichloroethane	-	-	-	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1	<1	70	35
Total Metals (mg/L)																
Arsenic	Well	Well	Well	Well	Well	Well	Well	Well	**0.001**	<0.0010	***0.0016***	<0.0010	<0.0010	<0.0010	0.010	0.001
Cadmium	Not	Not	Not	Not	Not	Not	Not	Not	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.005	0.001
Chromium	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.100	0.050
Copper	-	-	-	-	-	-	-	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	1.300	0.650
Iron	-	-	-	-	-	-	-	-	**0.79**	**0.51**	**3.0**	**0.62**	**0.091**	**0.26**	-	-
Lead	-	-	-	-	-	-	-	-	<0.001	<0.0010	<0.0021	<0.0010	<0.0010	<0.0010	0.015	0.002
Manganese	-	-	-	-	-	-	-	-	**0.18**	**0.14**	**0.79**	***0.21***	**0.034**	**0.028**	0.300	0.150
Mercury	-	-	-	-	-	-	-	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.002	0.0005
Nickel	-	-	-	-	-	-	-	-	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.100	0.050
Sodium	-	-	-	-	-	-	-	-	**40**	**40**	**38**	**42**	**42**	**38**	-	-
Zinc	-	-	-	-	-	-	-	-	**0.046**	**0.170**	**0.025**	**0.025**	<0.020	<0.020	-	-
Other Analytes (mg/L)																
Chloride	-	-	-	-	-	-	-	-	**74**	**72**	**77**	**82**	**86**	**83**	-	-
COD	-	-	-	-	-	-	-	-	**21**	**24**	**14**	**12**	<10	**39**	-	-
Field Measurements (units as noted)																
pH (std units)	-	-	-	-	-	-	-	-	6.5	6.3	6.6	6.6	6.5	6.7	-	-
Temperature (deg C)	-	-	-	-	-	-	-	-	10.7	11.6	11.8	11.9	11.2	12.1	-	-
Conductivity (uS)	-	-	-	-	-	-	-	-	1050	1030	1020	1000	1100	1050	-	-
Water Level (feet btoc)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

PARAMETER (*Sample Date:*)	10/14/2021	6/3/2022	10/27/2022	5/22/2023	10/17/23	5/7/2024									VGES	PAL
VOCs (ug/L)																
1,1-dichloroethane	-	-	<1.0	<1.0	<1.0	<1.0									70	35
Total Metals (mg/L)																
Arsenic	No	No	***0.0015***	***0.0014***	<0.0010	***0.0038***									0.010	0.001
Cadmium	Sample	Sample	<0.0020	<0.0020	<0.0020	<0.0020									0.005	0.001
Chromium	-	-	<0.0050	<0.0050	<0.0050	<0.0050									0.100	0.050
Copper	Unable	Unable	<0.020	<0.020	<0.020	<0.020									1.300	0.650
Iron	To Locate	To Locate	**2.4**	**2.4**	**2.0**	**9.0**									-	-
Lead	Well	Well	<0.0010	<0.0010	<0.0010	***0.0042***									0.015	0.002
Manganese	-	-	***0.20***	***0.25***	**0.11**	**1.8**									0.300	0.150
Mercury	-	-	<0.0002	<0.0002	<0.0002	<0.0002									0.002	0.0005
Nickel	-	-	<0.0050	<0.0050	<0.0050	0.0080									0.100	0.050
Sodium	-	-	**39**	**41**	**33**	**29**									-	-
Zinc	-	-	**0.024**	<0.020	<0.020	<0.020									-	-
Other Analytes (mg/L)																
Chloride	-	-	**78**	**77**	**72**	**55**									-	-
COD	-	-	**59**	**74**	**25**	**40**									-	-
PFAS (ng/L)																
Perfluorohexanesulfonic acid (PFHxS)	-	-	-	<1.8	<1.9	<4.0									-	-
Perfluoroheptanoic acid (PFHpA)	-	-	-	<1.8	<1.9	<4.0										
Perfluorooctanoic acid (PFOA)	-	-	-	<1.8	<1.9	<4.0										
Perfluorooctanesulfonic acid (PFOS)	-	-	-	**2.4**	<1.9	<4.0										
Perfluorononanoic acid (PFNA)	-	-	-	<1.8	<1.9	<4.0										
Total Regulated PFAS	-	-	-	***2.4***	ND	ND									20	2
Total Non-Regulated PFAS	-	-	-	ND	ND	ND									-	-
Field Measurements (units as noted)																
pH (std units)	-	-	7.21	7.26	7.29	7.67									-	-
Temperature (deg C)	-	-	10.8	14.5	10.8	13.1									-	-
Spec. Conductivity (uS/cm)	-	-	1,039	1,008	995	970									-	-
Water Level (feet btoc)	-	-	31.17	30.67	30.80	30.74									-	-

Notes:

Data prior to 2021 collected by others and obtained from 2019 reports prepared by EIV Technical Services

Data 2021-present collected by KAS, Inc.

Only detected or targeted VOCs are depicted

All values reported in units noted above

"-" = Not Analyzed, No Information or No Applicable Standard

ND = None Detected

<X = None Detected above Detection Limit (X)

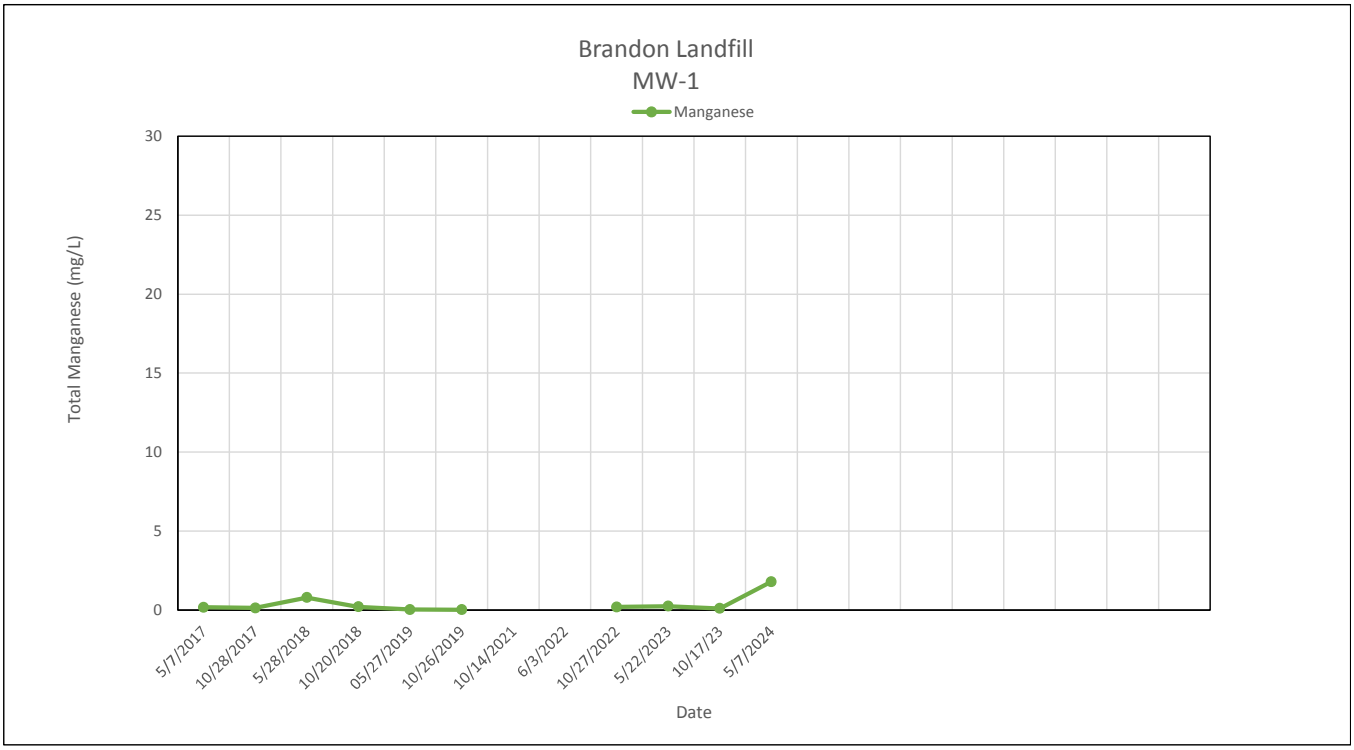
VGES = Vermont Groundwater Enforcement Standard (GWPRS 07/06/2019)

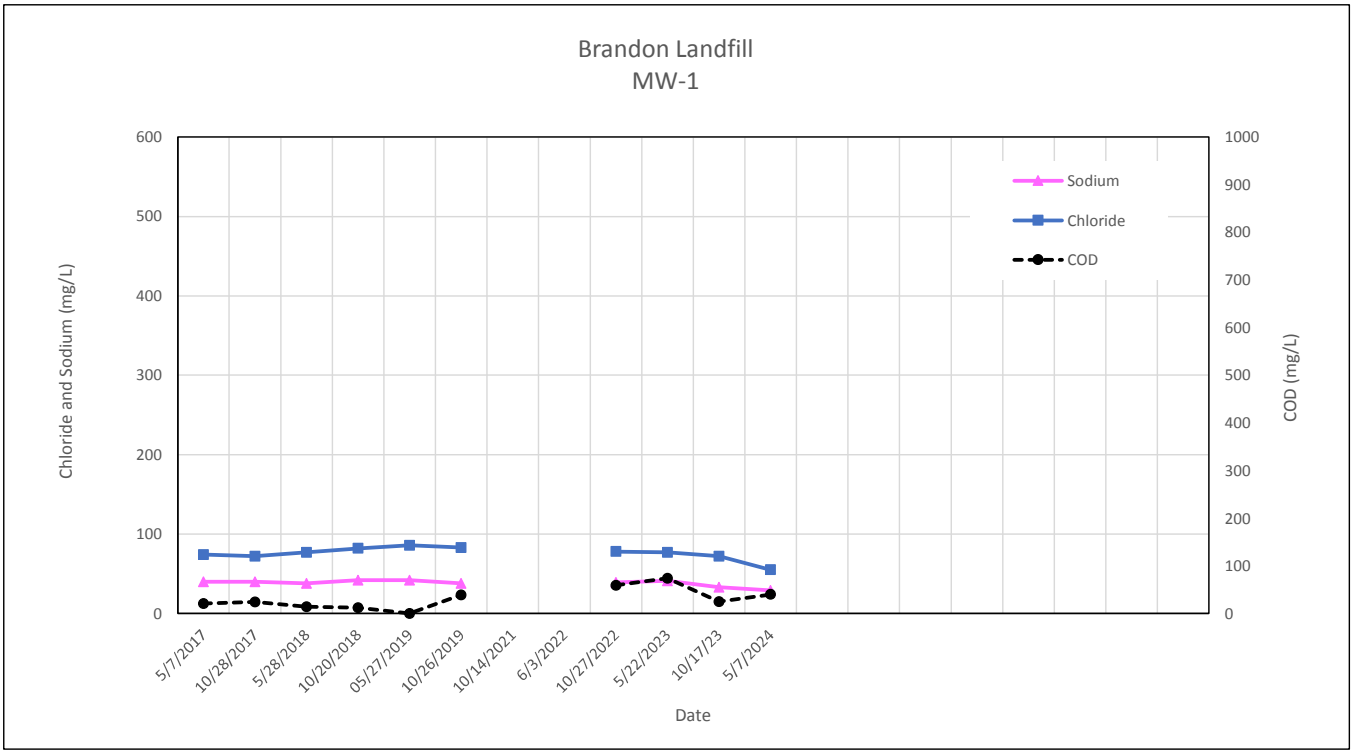
PAL = Vermont Preventive Action Level (GWPRS 07/06/2019)

Detections are **bolded**

>VGES

Bold (italic) indicates value exceeds PAL


Brandon Landfill
MW-1
Manganese
Total Manganese (mg/L)
30
25
20
15
10
5
0
5/7/2017
10/28/2017
5/28/2018
10/20/2018
05/27/2019
10/26/2019
10/14/2021
6/3/2022
10/27/2022
5/22/2023
10/17/23
5/7/2024
Date


Brandon Landfill
MW-1
Chloride and Sodium (mg/L)
600
500
400
300
200
100
0
COD (mg/L)
1000
900
800
700
600
500
400
300
200
100
0
Sodium
Chloride
COD
5/7/2017
10/28/2017
5/28/2018
10/20/2018
05/27/2019
10/26/2019
10/14/2021
6/3/2022
10/27/2022
5/22/2023
10/17/23
5/7/2024
Date

Brandon Closed Landfill
MW-2C

Sample Date: / PARAMETER	2012	4/22/2013	10/1/2013	5/29/2014	6/9/2015	10/25/2015	7/24/2016	October 2016	5/7/2017	10/28/2017	5/28/2018	10/20/2018	05/27/2019	10/26/2019	VGES	PAL
VOCs (ug/L)																
Dichlorodifluoromethane	-	<5.0	<5.0	<5.0	<5.0	<5.0	**7.2**	-	<5.0	<5.0	<5.0	**5.0**	**1.8**	<1	-	-
Vinyl Chloride	-	<2.0	<2.0	<2.0	<2.0	<2.0	***0.7***	-	<0.5	<0.5	<0.5	<0.5	-	-	2	0.5
1,4-dichlorobenzene	**2.3**	**2.4**	**2.5**	**2.3**	**2.1**	**2.0**	**2.6**	<1.0	**2.4**	**2.2**	**1.7**	**2.7**	-	-	75	38
Acetone	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	**15.8**	<10.0	950	475
Benzene	***2.0***	***2.3***	***3.3***	***2.6***	***2.3***	***1.9***	***3.4***	<0.5	***2.9***	***2.9***	***1.3***	***3.5***	***1.2***	<0.5	5	0.5
Chlorobenzene	**5.4**	**5.3**	**4.8**	**6.0**	**5.9**	**5.0**	**7.6**	<1.0	**8.3**	**7.2**	**4.1**	**7.4**	**4.9**	<1.0	100	50
Diethyl Ether	-	**22.5**	**36.2**	**24.0**	**23.9**	**19.5**	**26.3**	-	**19.4**	**25.2**	**17.5**	**30.5**	-	-	-	-
Total Metals (mg/L)																
Arsenic	-	-	-	**0.074**	**0.026**	**0.025**	**0.027**	Data	**0.034**	**0.0409**	**0.071**	**0.0200**	**0.0213**	<0.0010	0.010	0.001
Cadmium	-	-	-	<0.002	<0.002	<0.002	**0.021**	Not	***0.0027***	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.005	0.001
Chromium	-	-	-	**0.012**	<0.005	<0.005	<0.0050	Available	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.100	0.050
Copper	-	-	-	<0.020	<0.020	<0.020	<0.020	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	1.300	0.650
Iron	-	-	-	**56**	**28**	**22**	**33**	-	**32**	**33**	**65**	**33**	**28**	**0.28**	-	-
Lead	-	-	-	***0.007***	<0.001	<0.001	<0.001	-	<0.001	<0.0010	**0.0013**	<0.0010	<0.0010	<0.0010	0.015	0.002
Manganese	-	-	-	**0.92**	**0.54**	**0.45**	**0.67**	-	**0.54**	**0.58**	**0.57**	**0.58**	**0.53**	**0.077**	0.300	0.150
Mercury	-	-	-	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.002	0.0005
Nickel	-	-	-	**0.022**	**0.013**	**0.012**	<0.0050	-	**0.0088**	**0.0074**	**0.0091**	**0.0095**	**0.0092**	<0.0050	0.100	0.050
Sodium	-	-	-	**170**	**160**	**130**	**230**	-	**270**	**230**	**270**	**290**	**240**	**18**	-	-
Zinc	-	-	-	**0.043**	<0.02	<0.02	<0.020	-	<0.020	<0.020	**0.025**	<0.020	<0.020	<0.020	-	-
Other Analytes (mg/L)																
Chloride	-	-	-	**203**	**280**	**290**	**380**	-	**480**	**440**	**450**	**500**	**420**	**32**	-	-
COD	-	-	-	**57**	**100**	**63**	**62**	-	**52**	**67**	**41**	**53**	**62**	**32**	-	-
Field Measurements (units as noted)																
pH (std units)	-	-	-	-	-	-	6.5	-	6.5	6.4	6.4	6.3	6.6	6.5	-	-
Temperature (deg C)	-	-	-	-	-	-	13	-	9.8	10.2	10.2	11.2	10.9	11.3	-	-
Spec. Conductivity (uS/cm)	-	-	-	-	-	-	3,010	-	2,800	2,900	2,800	2,300	2,100	2,210	-	-
Water Level (feet btoc)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sample Date: / PARAMETER	10/14/2021	6/3/2022	10/27/2022	5/22/2023	10/17/2023	5/7/2024									VGES	PAL
VOCs (ug/L)																
1,4-dichlorobenzene	-	<1	-	<1.0	**2.7**	**2.4**									75	38
Diethyl Ether	-	**21**	-	**14.6**	**22.6**	**19.4**									-	-
Acetone	-	**67**	-	<10.0	<10.0	<10.0									950	475
Methyl-t-butyl ether (MTBE)	-	**1.4**	-	<2.0	<2.0	<2.0									11	5
Tetrahydrofuran	-	**17**	-	<10.0	<10.0	<10.0									-	-
Benzene	-	<1	-	<0.5	***2.8***	***2.3***									5	0.5
Chlorobenzene	-	<1	-	<1.0	**6.8**	**5.9**									100	50
Naphthalene	-	**0.56**	-	<0.5	<0.5	<0.5									0.5	0.5
t-Butanol	-	-	-	-	**21.9**	<20.0									-	-
Total Metals (mg/L)																
Arsenic	No	**0.016**	No	<0.0010	**0.0189**	**0.0171**									0.010	0.001
Cadmium	Sample	***0.0022***	Sample	<0.0020	<0.0020	<0.0020									0.005	0.001
Chromium	-	**0.0093**	-	<0.0050	<0.0050	<0.0050									0.100	0.050
Copper	Well	**0.084**	Well	<0.020	<0.020	<0.020									1.300	0.650
Iron	Dry	**22**	Dry	**2.4**	**29**	**29**									-	-
Lead	-	**0.17**	-	***0.0036***	<0.0010	<0.0010									0.015	0.002
Manganese	-	**1.9**	-	**1.3**	**0.33**	**0.42**									0.300	0.150
Mercury	-	<0.0001	-	<0.0002	<0.0002	<0.0002									0.002	0.0005
Nickel	-	**0.033**	-	**0.0081**	**0.0099**	**0.0093**									0.100	0.050
Sodium	-	**38**	-	**28**	**230**	**210**									-	-
Zinc	-	**0.094**	-	<0.020	<0.020	<0.020									-	-
Other Analytes (mg/L)																
Chloride	-	**41**	-	**24**	**350**	**300**									-	-
COD	-	**900**	-	**77**	**53**	**130**									-	-
PFAS (ng/L)																
Perfluorohexanesulfonic acid (PFHxS)	-	-	-	**36**	**15**	**17**										
Perfluoroheptanoic acid (PFHpA)	-	-	-	**18**	**22**	**16**										
Perfluorooctanoic acid (PFOA)	-	-	-	**97**	**55**	**58**									-	-
Perfluorooctanesulfonic acid (PFOS)	-	-	-	**150**	**43**	**54**										
Perfluorononanoic acid (PFNA)	-	-	-	**4.7**	<4.1	<4.1										
Total Regulated PFAS	-	-	-	**305.7**	**135**	**145**									20	2
Total Non-Regulated PFAS	-	-	-	**68.7**	**125**	**61**									-	-
Field Measurements (units as noted)																
pH (std units)	-	6.51	-	6.96	6.35	6.59									-	-
Temperature (deg C)	-	18.1	-	11.3	11.4	11.3									-	-
Spec. Conductivity (uS/cm)	-	1,643	-	1,487	2,319	2,227									-	-
Water Level (feet btoc)	-	8.20	-	8.36	9.80	7.17									-	-

Notes:

Data prior to 2021 collected by others and obtained from 2019 reports prepared by EIV Technical Services

Data 2021-present collected by KAS, Inc.

Only detected or targeted VOCs are depicted

All values reported in units noted above

"-" = Not Analyzed, No Information or No Applicable Standard

ND = None Detected

<X = None Detected above Detection Limit (X)

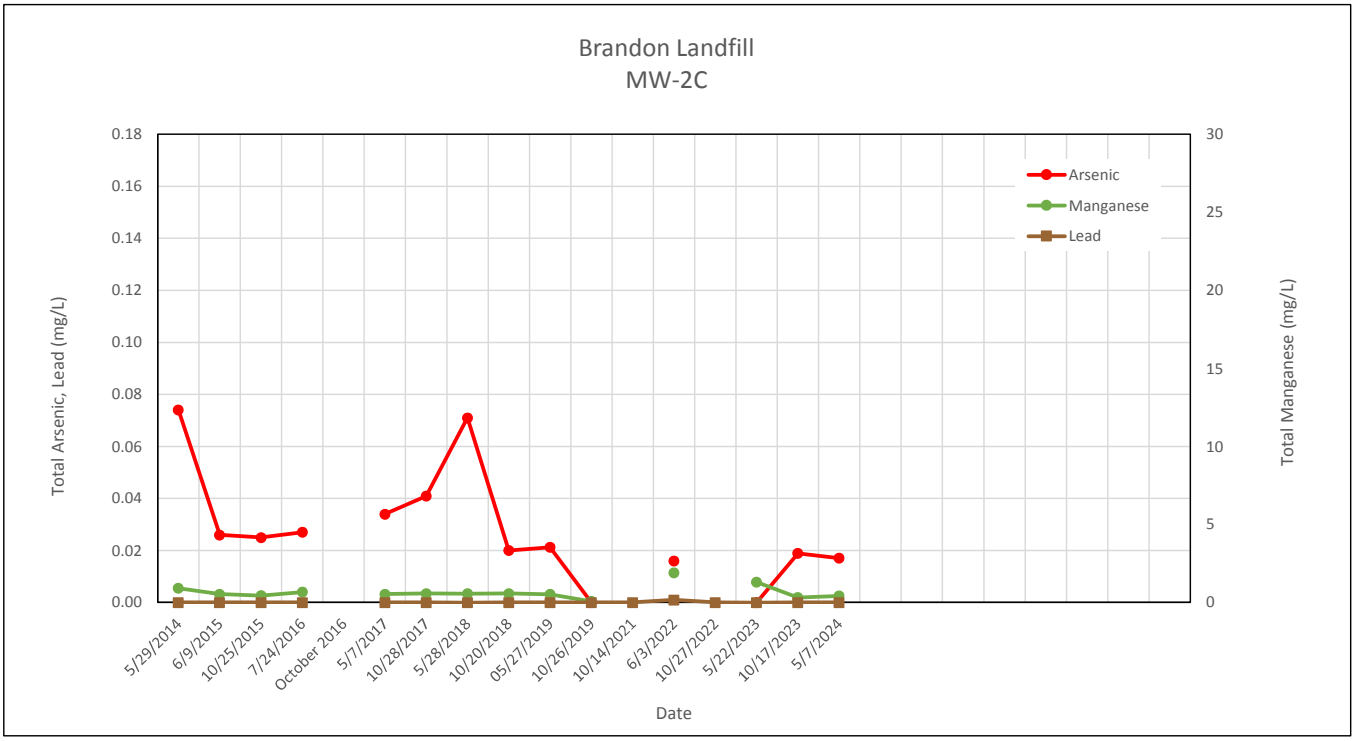
VGES = Vermont Groundwater Enforcement Standard (GWPRS 07/06/2019)

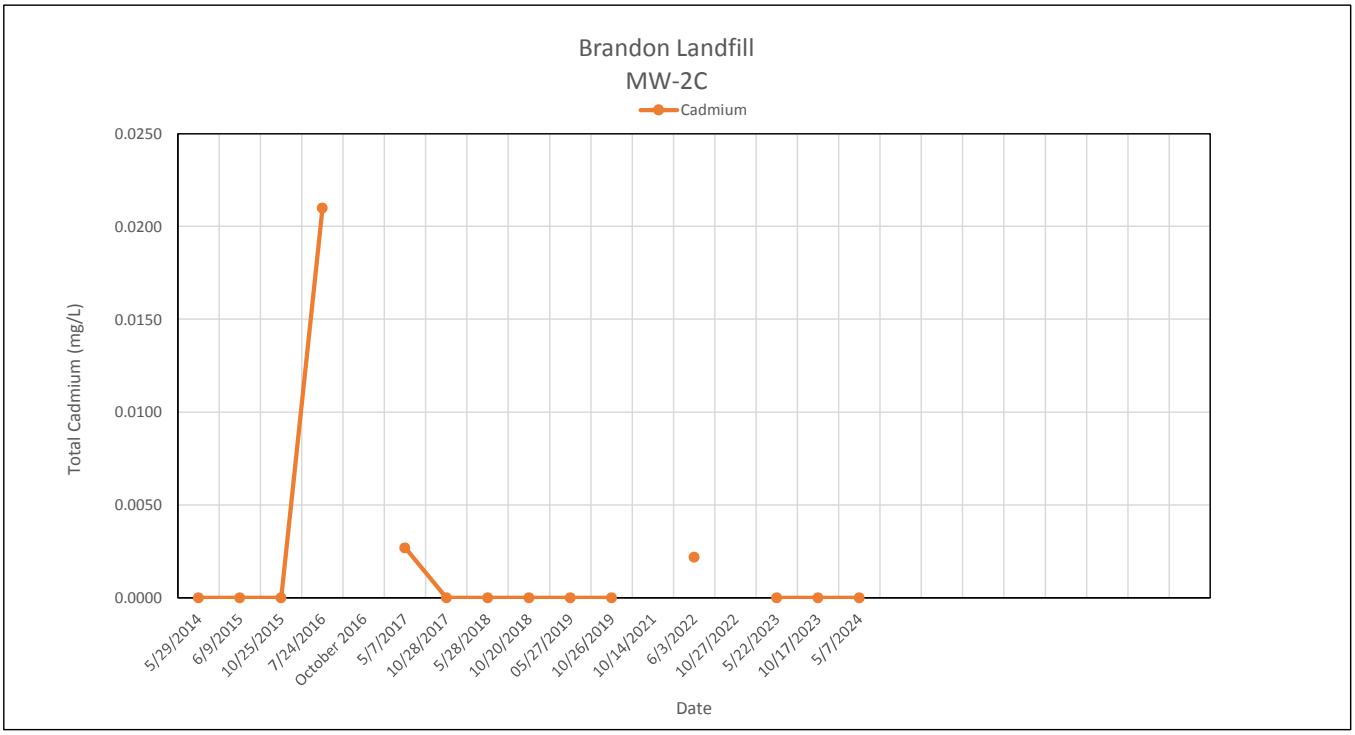
PAL = Vermont Preventive Action Level (GWPRS 07/06/2019)

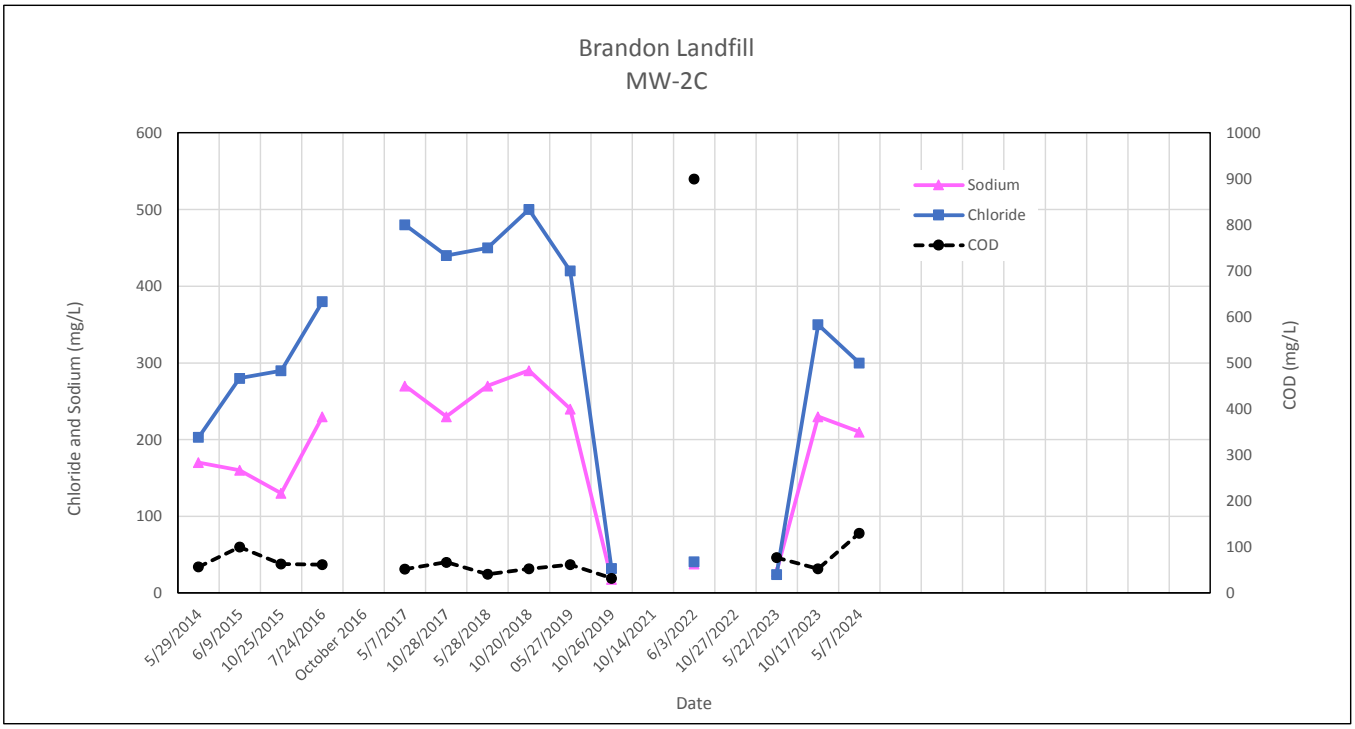
Detections are **bolded**

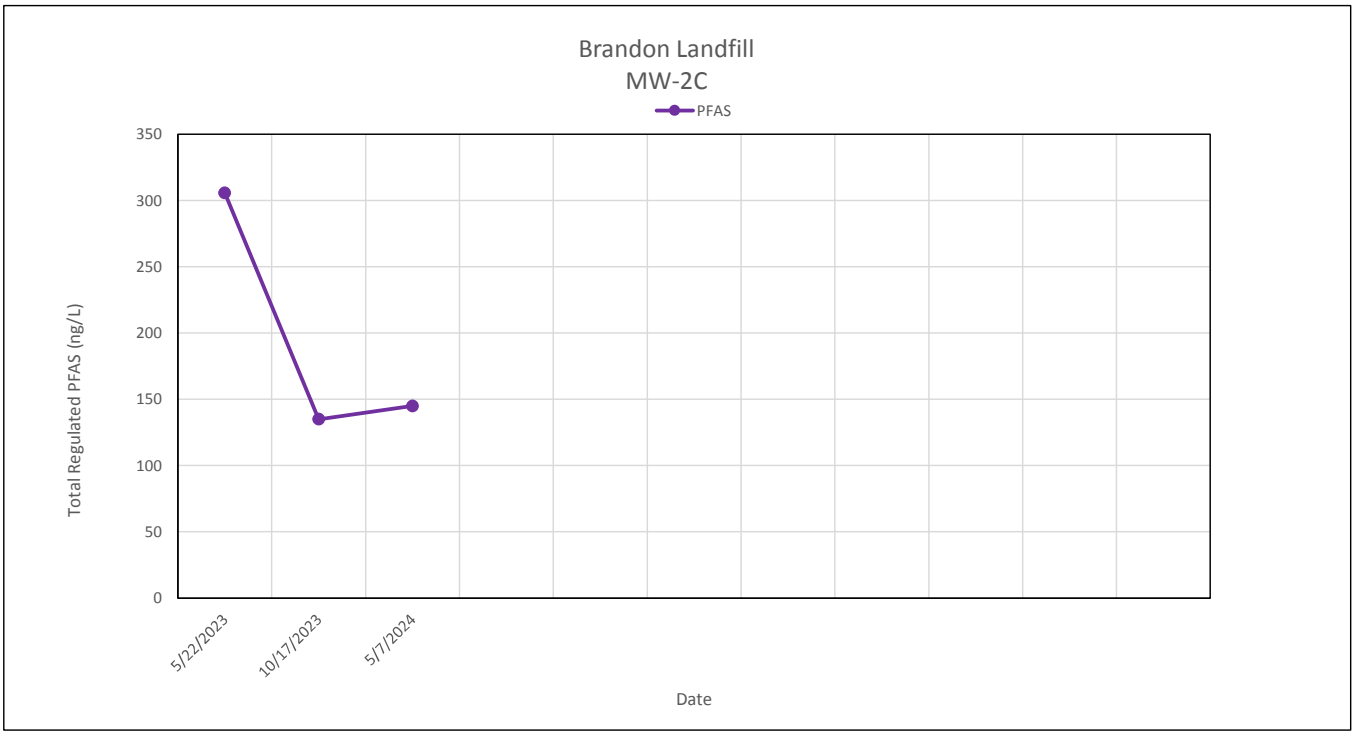
>VGES

Bold (italic) indicates value exceeds PAL


Brandon Landfill
MW-2C
Arsenic
Manganese
Lead
Total Arsenic, Lead (mg/L)
Total Manganese (mg/L)
0.18
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
30
25
20
15
10
5
0
5/29/2014
6/9/2015
10/25/2015
7/24/2016
October 2016
5/7/2017
10/28/2017
5/28/2018
10/20/2018
05/27/2019
10/26/2019
10/14/2021
6/3/2022
10/27/2022
5/22/2023
10/17/2023
5/7/2024
Date


Brandon Landfill
MW-2C
Cadmium
Total Cadmium (mg/L)
0.0250
0.0200
0.0150
0.0100
0.0050
0.0000
5/29/2014
6/9/2015
10/25/2015
7/24/2016
October 2016
5/7/2017
10/28/2017
5/28/2018
10/20/2018
05/27/2019
10/26/2019
10/14/2021
6/3/2022
10/27/2022
5/22/2023
10/17/2023
5/7/2024
Date


Brandon Landfill
MW-2C
Chloride and Sodium (mg/L)
COD (mg/L)
Sodium
Chloride
COD
600
500
400
300
200
100
0
1000
900
800
700
600
500
400
300
200
100
0
5/29/2014
6/9/2015
10/25/2015
7/24/2016
October 2016
5/7/2017
10/28/2017
5/28/2018
10/20/2018
05/27/2019
10/26/2019
10/14/2021
6/3/2022
10/27/2022
5/22/2023
10/17/2023
5/7/2024
Date


Brandon Landfill
MW-2C
PFAS
Total Regulated PFAS (ng/L)
350
300
250
200
150
100
50
0
5/22/2023
10/17/2023
5/7/2024
Date

Brandon Closed Landfill

MW-3

Sample Date: / PARAMETER	2012	4/22/2013	10/1/2013	5/29/2014	6/9/2015	10/25/2015	7/24/2016	October 2016	5/7/2017	10/28/2017	5/28/2018	10/20/2018	05/27/2019	10/26/2019	VGES	PAL
VOCs (ug/L)																
1,1-dichloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	-	-	-	-	-	-	-	70	35
Total Metals (mg/L)																
Arsenic	-	-	-	<0.001	***0.002***	***0.009***	Well	Well	Well	Well	Well	Well	No	No	0.010	0.001
Cadmium	-	-	-	<0.002	<0.002	<0.002	not	not	not	not	not	not	Sample	Sample	0.005	0.001
Chromium	-	-	-	<0.005	<0.005	<0.0052	sampled	sampled	sampled	sampled	sampled	sampled	-	-	0.100	0.050
Copper	-	-	-	<0.020	<0.020	<0.022	-	-	-	-	-	-	Insufficient	Insufficient	1.300	0.650
Iron	-	-	-	**0.41**	**9.1**	**29**	-	-	-	-	-	-	Amount	Amount	-	-
Lead	-	-	-	<0.001	<0.001	***0.008***	-	-	-	-	-	-	of Water	of Water	0.015	0.002
Manganese	-	-	-	<0.020	**1.1**	**1.2**	-	-	-	-	-	-	in Well	in Well	0.300	0.150
Mercury	-	-	-	<0.0002	<0.0002	<0.0002	-	-	-	-	-	-	Column	Column	0.002	0.0005
Nickel	-	-	-	**0.005**	<0.005	**0.016**	-	-	-	-	-	-	-	-	0.100	0.050
Sodium	-	-	-	**23**	**20**	**15**	-	-	-	-	-	-	-	-	-	-
Zinc	-	-	-	**0.020**	<0.020	**0.024**	-	-	-	-	-	-	-	-	-	-
Other Analytes (mg/L)																
Chloride	-	-	-	**34**	**31**	**30**	-	-	-	-	-	-	-	-	-	-
COD	-	-	-	**11**	**34**	**34**	-	-	-	-	-	-	-	-	-	-
Field Measurements (units as noted)																
pH (std units)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Temperature (deg C)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Conductivity (uS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Level (feet btoc)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sample Date: / PARAMETER	10/14/2021	6/3/2022	10/27/2022	5/22/2023	10/17/2023	5/7/2024									VGES	PAL
VOCs (ug/L)																
1,1-dichloroethane	<0.5	<0.5	<1.0	<1.0	<1.0	<1.0									70	35
Total Metals (mg/L)																
Arsenic	**0.17**	**0.015**	**0.030**	***0.0075***	***0.0028***	**0.0147**									0.010	0.001
Cadmium	<0.005	<0.001	<0.0020	<0.0020	<0.0020	<0.0020									0.005	0.001
Chromium	**0.32**	**0.022**	<0.050	**0.0110**	<0.050	0.0197									0.100	0.050
Copper	***0.82***	**0.062**	<0.20	**0.021**	<0.20	0.043									1.300	0.650
Iron	**370**	**47**	**57**	**18**	**7.4**	**38**									-	-
Lead	**0.51**	**0.036**	**0.0505**	**0.0151**	***0.0069***	**0.0311**									0.015	0.002
Manganese	**25**	**1.5**	**2.5**	**0.55**	***0.21***	**0.93**									0.300	0.150
Mercury	<0.001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002									0.002	0.0005
Nickel	**0.49**	**0.036**	***0.0538***	**0.0140**	**0.0055**	0.0263									0.100	0.050
Sodium	**26**	**28**	**23**	**26**	**27**	**28**									-	-
Zinc	**1.4**	**0.11**	<0.20	**0.042**	<0.020	0.082									-	-
Other Analytes (mg/L)																
Chloride	**34**	**56**	**98**	**44**	**48**	**42**									-	-
COD	<10	<10	**220**	**79**	**28**	**84**									-	-
PFAS (ng/L)																
Perfluorohexanesulfonic acid (PFHxS)	-	-	-	<1.8	<4.1	<4.0										
Perfluoroheptanoic acid (PFHpA)	-	-	-	<1.8	<4.1	<4.0										
Perfluorooctanoic acid (PFOA)	-	-	-	<1.8	<4.1	<4.0									-	-
Perfluorooctanesulfonic acid (PFOS)	-	-	-	**5.2**	<4.1	<4.0										
Perfluorononanoic acid (PFNA)	-	-	-	<1.8	<4.1	<4.0										
Total Regulated PFAS	-	-	-	***5.2***	ND	ND									20	2
Total Non-Regulated PFAS	-	-	-	ND	ND	ND									-	-
Field Measurements (units as noted)																
pH (std units)	6.8	7.14	7.27	7.57	7.48	7.83									-	-
Temperature (deg C)	11.9	12.3	10.7	13.0	10.5	12.2									-	-
Spec. Conductivity (uS/cm)	740	773	378.6	715	759	737									-	-
Water Level (feet btoc)	33.69	30.78	33.60	31.50	32.00	31.17									-	-

Notes:

Data prior to 2021 collected by others and obtained from 2019 reports prepared by EIV Technical Services

Data 2021-present collected by KAS, Inc.

Only detected or targeted VOCs are depicted

All values reported in units noted above

"-" = Not Analyzed, No Information or No Applicable Standard

ND = None Detected

<X = None Detected above Detection Limit (X)

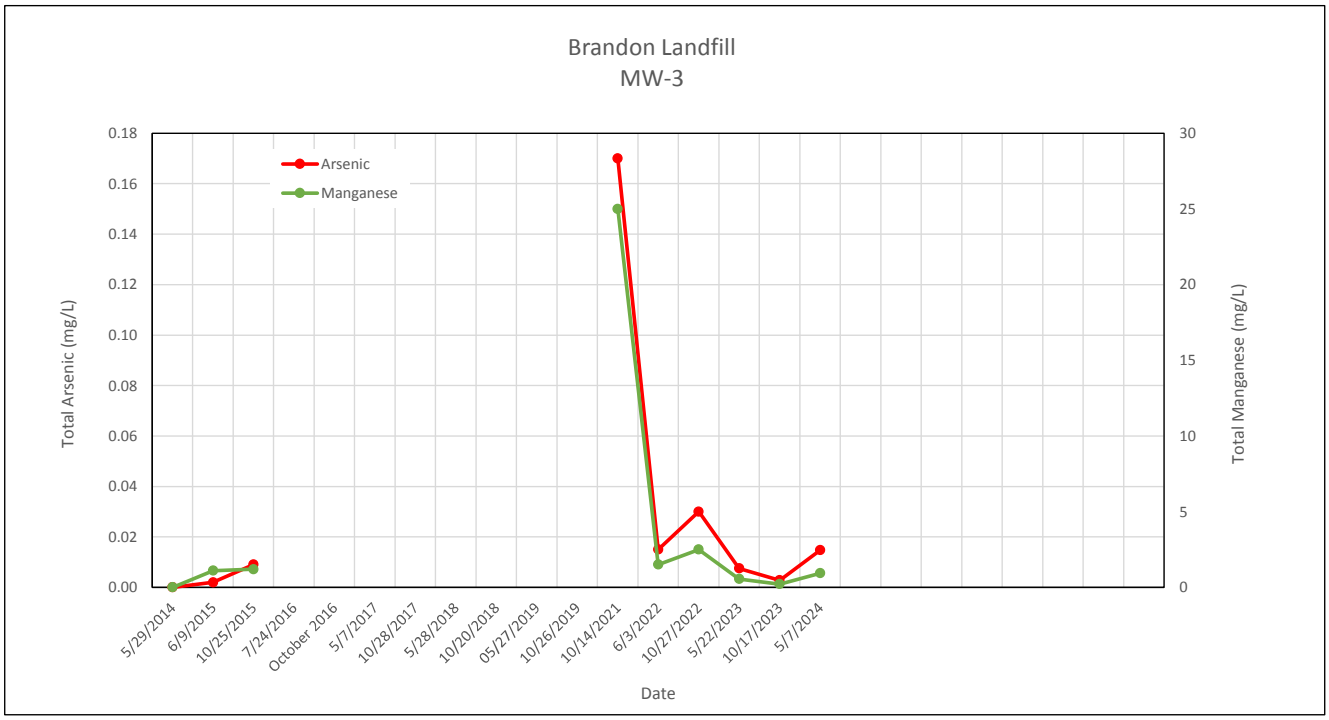
VGES = Vermont Groundwater Enforcement Standard (GWPRS 07/06/2019)

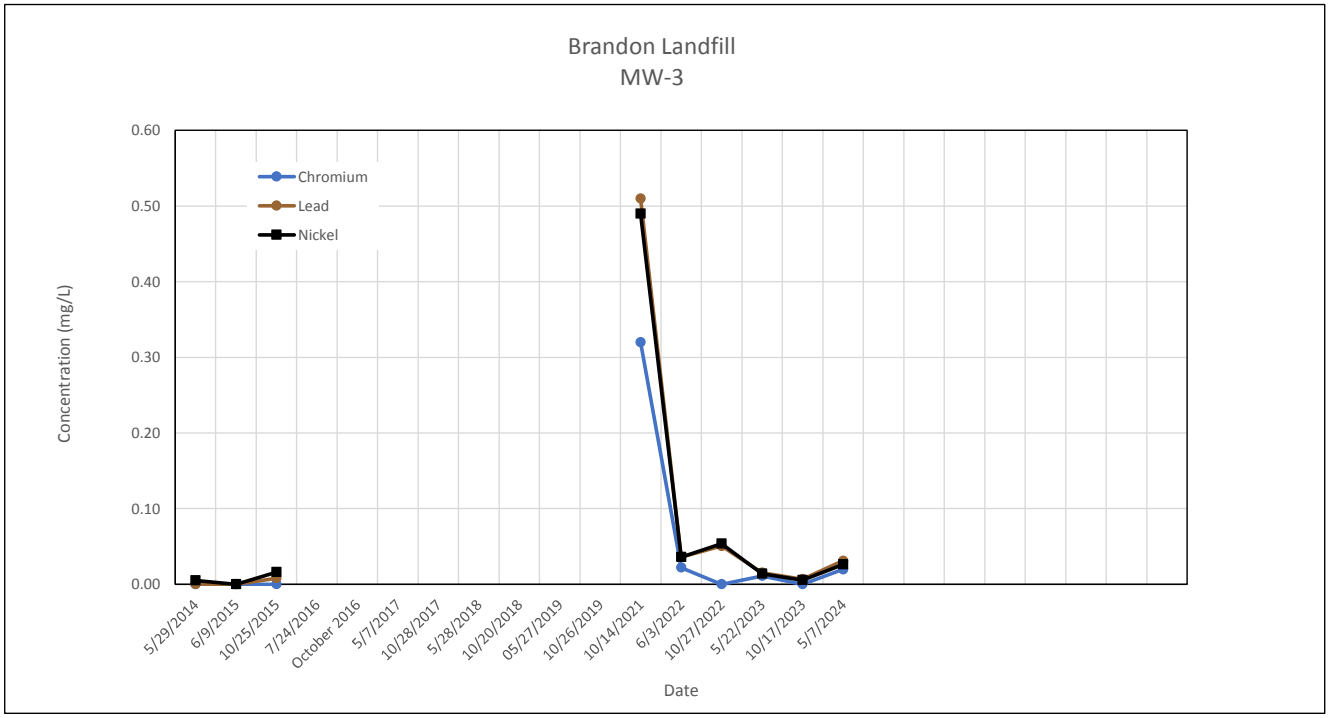
PAL = Vermont Preventive Action Level (GWPRS 07/06/2019)

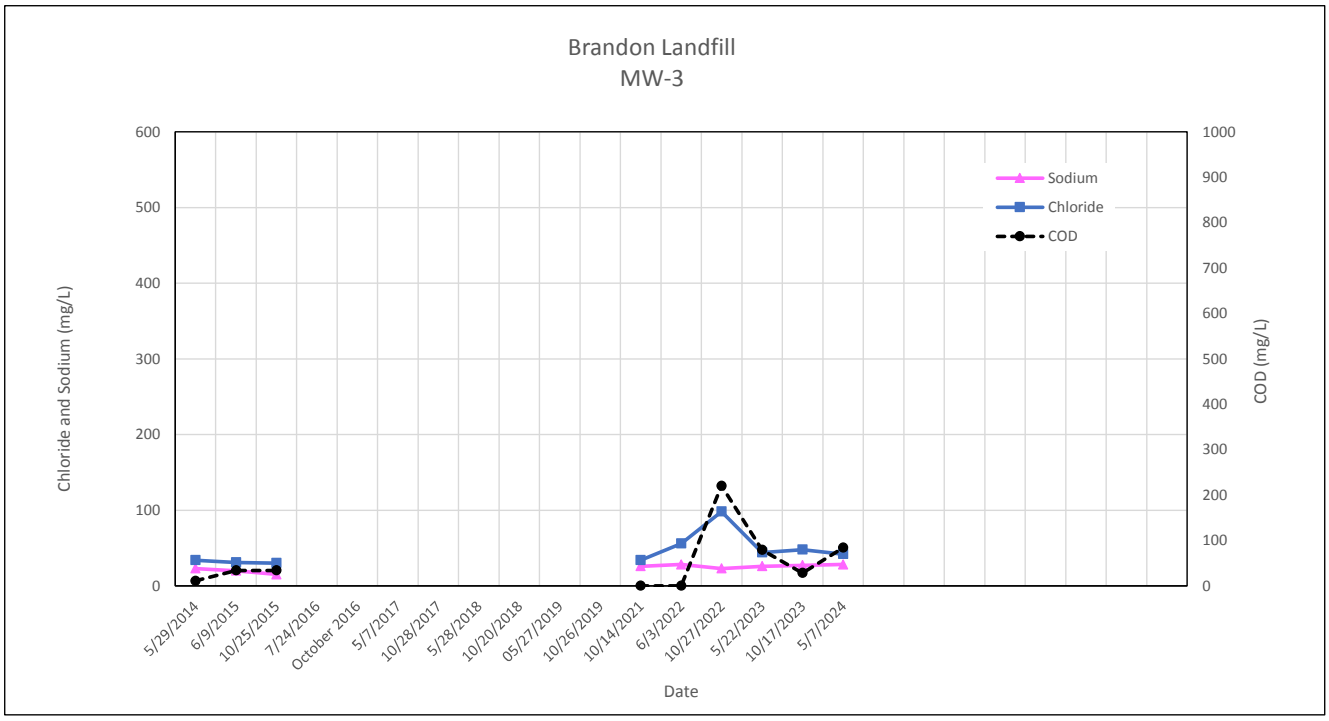
Detections are **bolded**

>VGES

Bold (italic) indicates value exceeds PAL


Brandon Landfill
MW-3
Arsenic
Manganese
Total Arsenic (mg/L)
Total Manganese (mg/L)
0.18
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
30
25
20
15
10
5
0
5/29/2014
6/9/2015
10/25/2015
7/24/2016
October 2016
5/7/2017
10/28/2017
5/28/2018
10/20/2018
05/27/2019
10/26/2019
10/14/2021
6/3/2022
10/27/2022
5/22/2023
10/17/2023
5/7/2024
Date


Brandon Landfill
MW-3
Chromium
Lead
Nickel
Concentration (mg/L)
0.60
0.50
0.40
0.30
0.20
0.10
0.00
5/29/2014
6/9/2015
10/25/2015
7/24/2016
October 2016
5/7/2017
10/28/2017
5/28/2018
10/20/2018
05/27/2019
10/26/2019
10/14/2021
6/3/2022
10/27/2022
5/22/2023
10/17/2023
5/7/2024
Date


Brandon Landfill
MW-3
Chloride and Sodium (mg/L)
COD (mg/L)
Date
Sodium
Chloride
COD
600
500
400
300
200
100
0
1000
900
800
700
600
500
400
300
200
100
0
5/29/2014
6/9/2015
10/25/2015
7/24/2016
October 2016
5/7/2017
10/28/2017
5/28/2018
10/20/2018
05/27/2019
10/26/2019
10/14/2021
6/3/2022
10/27/2022
5/22/2023
10/17/2023
5/7/2024

Brandon Closed Landfill

MW-5

Sample Date: / PARAMETER	2012	4/22/2013	10/1/2013	5/29/2014	6/9/2015	10/25/2015	7/24/2016	October 2016	5/7/2017	10/28/2017	5/28/2018	10/20/2018	05/27/2019	10/26/2019	VGES	PAL
VOCs (ug/L)																
1,1-dichloroethane	<1.0	-	**1.1**	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	70	35
Diethyl Ether	-	-	**6.0**	<5.0	<5.0	-	<5.0	-	<5.0	-	-	-	-	-	-	-
Total Metals (mg/L)																
Arsenic	-	Well	-	***0.004***	***0.003***	Well	***0.032***	Data	***0.006***	***0.006***	***0.0040***	***0.0011***	<0.0010	**0.121**	0.010	0.001
Cadmium	-	Not	-	<0.002	<0.002	not	**0.010**	not	**0.0061**	**0.0061**	**0.0083**	***0.0027***	<0.0020	<0.0020	0.005	0.001
Chromium	-	Sampled	-	<0.005	<0.005	sampled	**0.020**	available	**0.0056**	**0.0056**	<0.0050	<0.0050	<0.0050	<0.0050	0.100	0.050
Copper	-	-	-	<0.020	<0.020		**0.076**		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	1.300	0.650
Iron	-	-	-	**31**	**16**		**120**		**21**	**21**	**13**	**4**	**0.22**	**48**	-	-
Lead	-	-	-	***0.003***	***0.003***	-	**0.044**	-	***0.0080***	***0.0080***	***0.0080***	***0.0022***	<0.0010	<0.0010	0.015	0.002
Manganese	-	-	-	**1.4**	**1.3**	-	**2.6**	-	**0.78**	**0.78**	**1.2**	**0.38**	**1.0**	**0.89**	0.300	0.150
Mercury	-	-	-	<0.0002	<0.0002	-	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.002	0.0005
Nickel	-	-	-	**0.007**	**0.0066**	-	**0.025**	-	**0.0084**	**0.0084**	**0.0082**	<0.0050	<0.0050	**0.0077**	0.100	0.050
Sodium	-	-	-	**26**	**21**	-	**18**	-	**24**	**24**	**25**	**31**	**33**	**150**	-	-
Zinc	-	-	-	**0.020**	**0.020**	-	**0.11**	-	**0.026**	**0.026**	<0.020	<0.020	<0.020	<0.020	-	-
Other Analytes (mg/L)																
Chloride	-	-	-	**38**	**32**	-	**33**	-	**42**	**43**	**40**	**64**	**64**	**260**	-	-
COD	-	-	-	**30**	**25**	-	**54**	-	**31**	**13**	**30**	<10	<10	**45**	-	-
Field Measurements (units as noted)																
pH (std units)	-	-	-	-	-	-	6.4	-	6.0	6.1	6.2	6.2	6.3	6.4	-	-
Temperature (deg C)	-	-	-	-	-	-	15	-	10.7	10.6	10.8	12.0	11.8	11.9	-	-
Conductivity (uS)	-	-	-	-	-	-	-	-	1,160	1,090	1,080	1,120	1,080	1,100	-	-
Water Level (feet btoc)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sample Date: / PARAMETER	10/14/2021	6/3/2022	10/27/2022	5/22/2023	10/17/2023	5/7/2024									VGES	PAL
VOCs (ug/L)																
1,1-dichloroethane	-	<0.5	<1.0	<1.0	<1.0	<1.0									70	35
Total Metals (mg/L)																
Arsenic	No	**0.0042**	**0.0170**	<0.0010	<0.0010	***0.0015***									0.010	0.001
Cadmium	Sample	***0.0016***	<0.0020	<0.0020	<0.0020	<0.0020									0.005	0.001
Chromium		**0.0013**	**0.0052**	<0.0050	<0.0050	<0.0050									0.100	0.050
Copper	Well	**0.0053**	**0.024**	<0.020	<0.020	<0.020									1.300	0.650
Iron	Inaccessible	**8.0**	**30**	**0.52**	**5.8**	**11**									-	-
Lead	Due to	***0.0029***	**0.0175**	<0.0010	<0.0010	<0.0010									0.015	0.002
Manganese	Lock	**1.9**	**1.3**	**2.1**	**1.2**	**1.0**									0.300	0.150
Mercury		<0.0001	<0.0002	<0.0002	<0.0002	<0.0002									0.002	0.0005
Nickel		**0.0074**	**0.0197**	<0.0050	<0.0050	<0.0050									0.100	0.050
Sodium		**30**	**34**	**34**	**31**	**37**									-	-
Zinc		**0.014**	**0.047**	<0.020	<0.020	<0.020									-	-
Other Analytes (mg/L)																
Chloride	-	**52**	**59**	**59**	**63**	**64**									-	-
COD	-	<10	**58**	**35**	**10**	**33**									-	-
PFAS (ng/L)																
Perfluorohexanesulfonic acid (PFHxS)	-	-	-	**17**	**8.5**	**13**										
Perfluoroheptanoic acid (PFHpA)	-	-	-	**5.1**	**3.7**	<4.0										
Perfluorooctanoic acid (PFOA)	-	-	-	**30**	**15**	**16**									-	-
Perfluorooctanesulfonic acid (PFOS)	-	-	-	**14**	**11**	**10**										
Perfluorononanoic acid (PFNA)	-	-	-	<1.9	<1.9	<4.0										
Total Regulated PFAS	-	-	-	**66.1**	**38.2**	**39**									20	2
Total Non-Regulated PFAS	-	-	-	**14.8**	**16.5**	**5.5**									-	-
Field Measurements (units as noted)																
pH (std units)	-	6.58	7.18	6.69	6.71	6.84									-	-
Temperature (deg C)	-	13.2	11.7	10.1	10.7	11.6									-	-
Spec. Conductivity (uS/cm)	-	1,109	-	826	1,098	1,071									-	-
Water Level (feet btoc)	-	4.79	4.97	4.79	5.10	4.32									-	-

Notes:

Data prior to 2021 collected by others and obtained from 2019 reports prepared by EIV Technical Services

Data 2021-present collected by KAS, Inc.

Only detected or targeted VOCs are depicted

All values reported in units noted above

"-" = Not Analyzed, No Information or No Applicable Standard

ND = None Detected

<X = None Detected above Detection Limit (X)

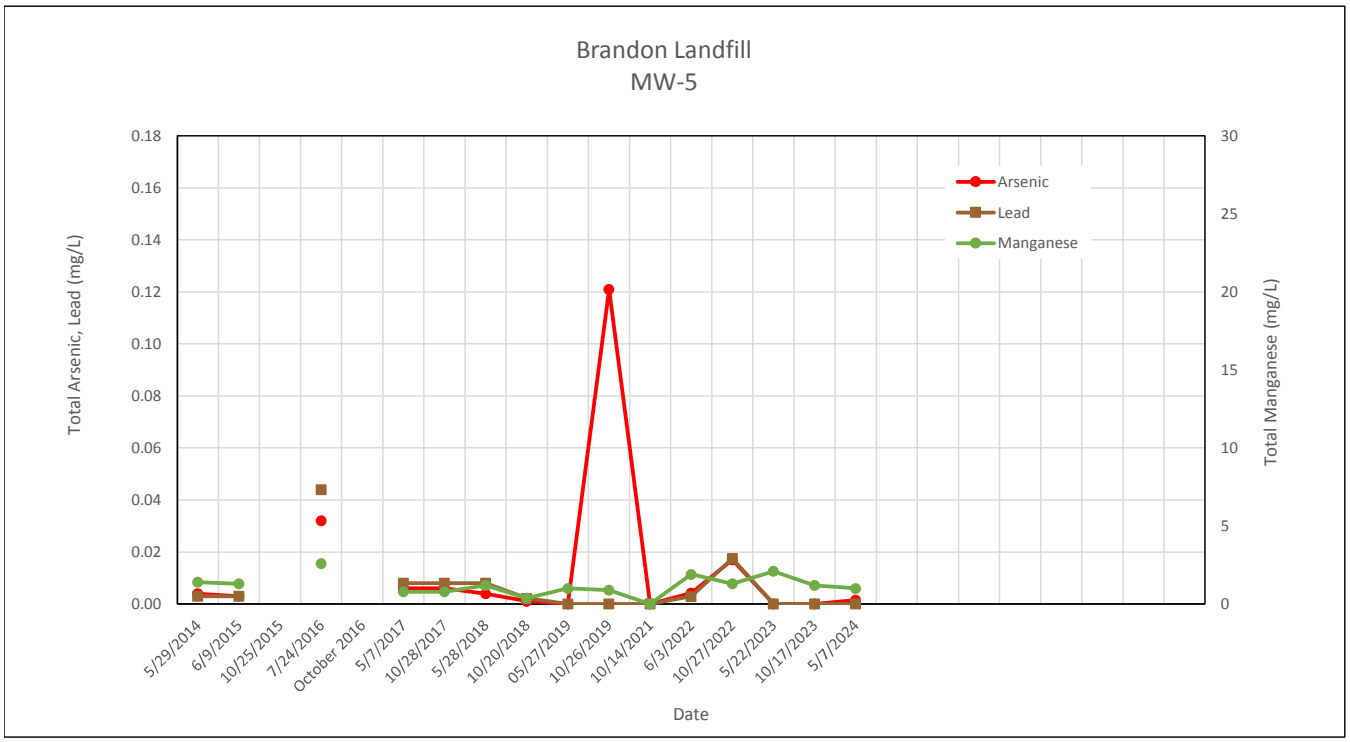
VGES = Vermont Groundwater Enforcement Standard (GWPRS 07/06/2019)

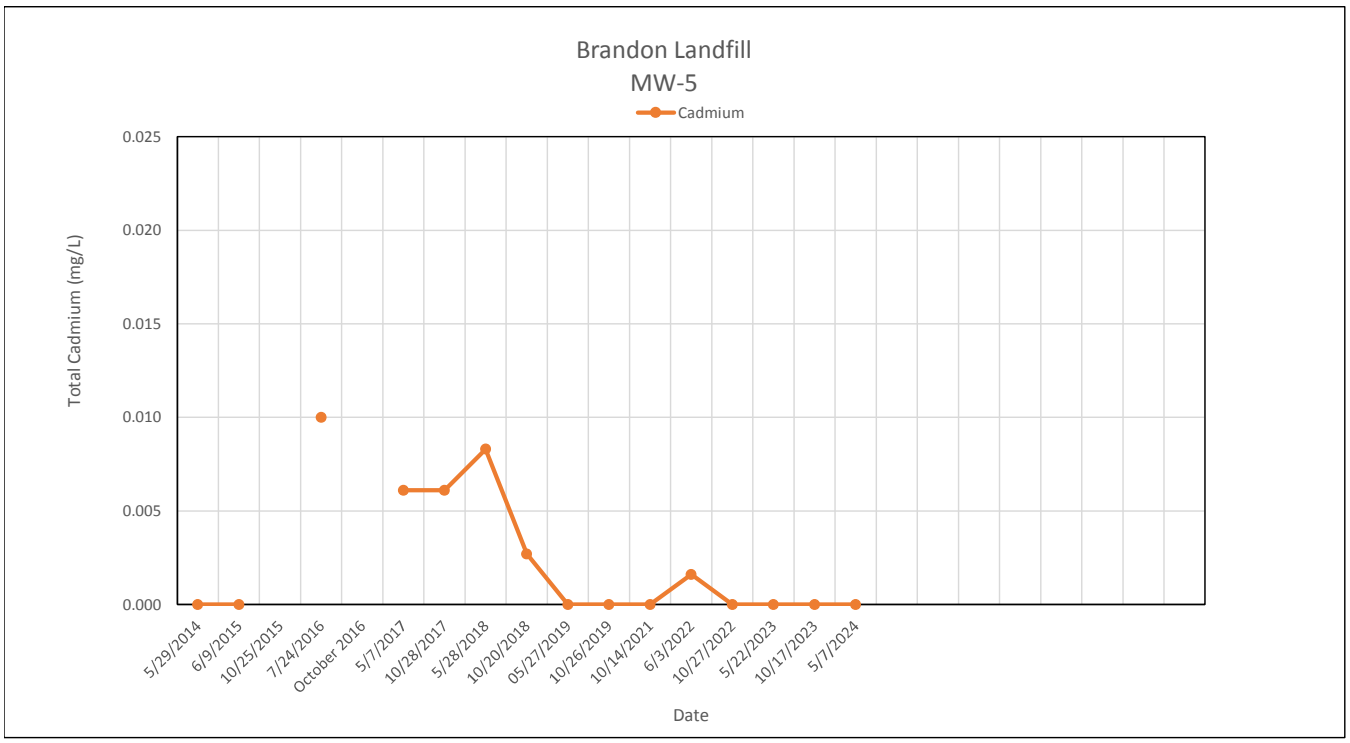
PAL = Vermont Preventive Action Level (GWPRS 07/06/2019)

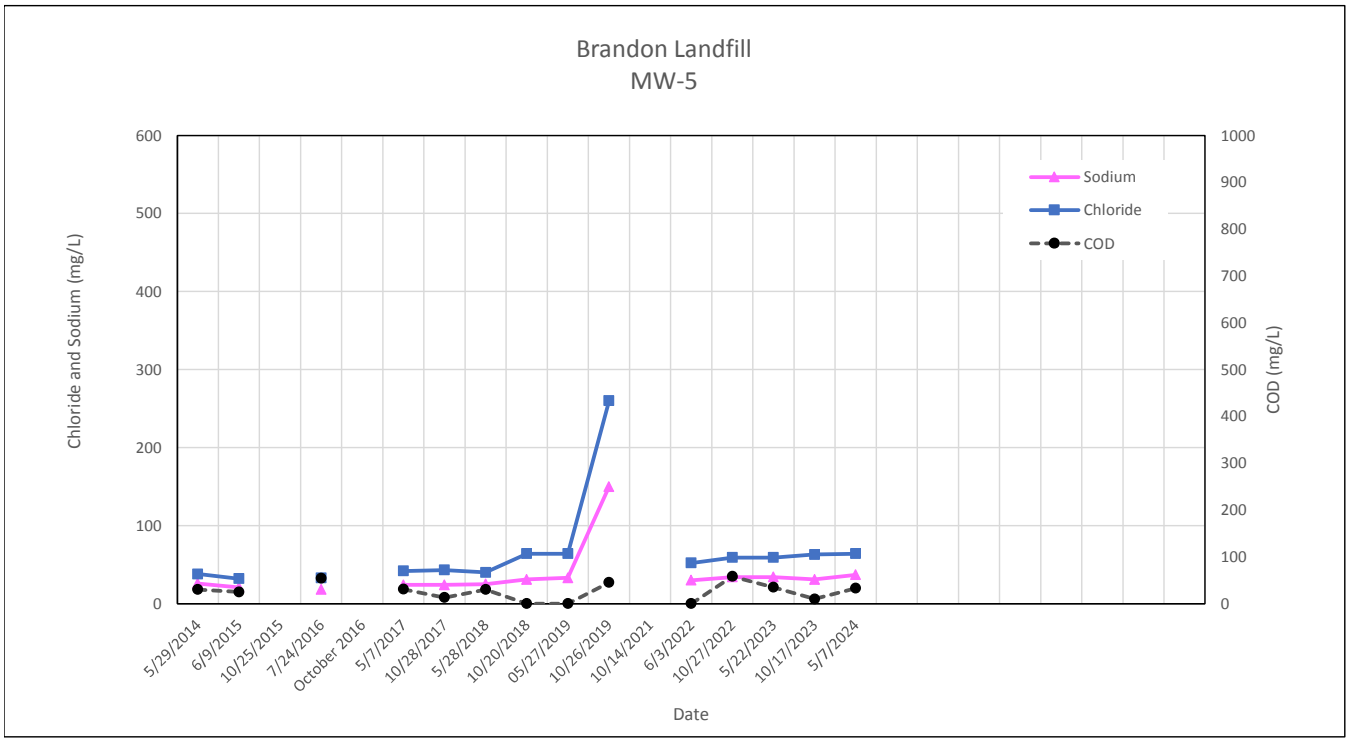
Detections are **bolded**

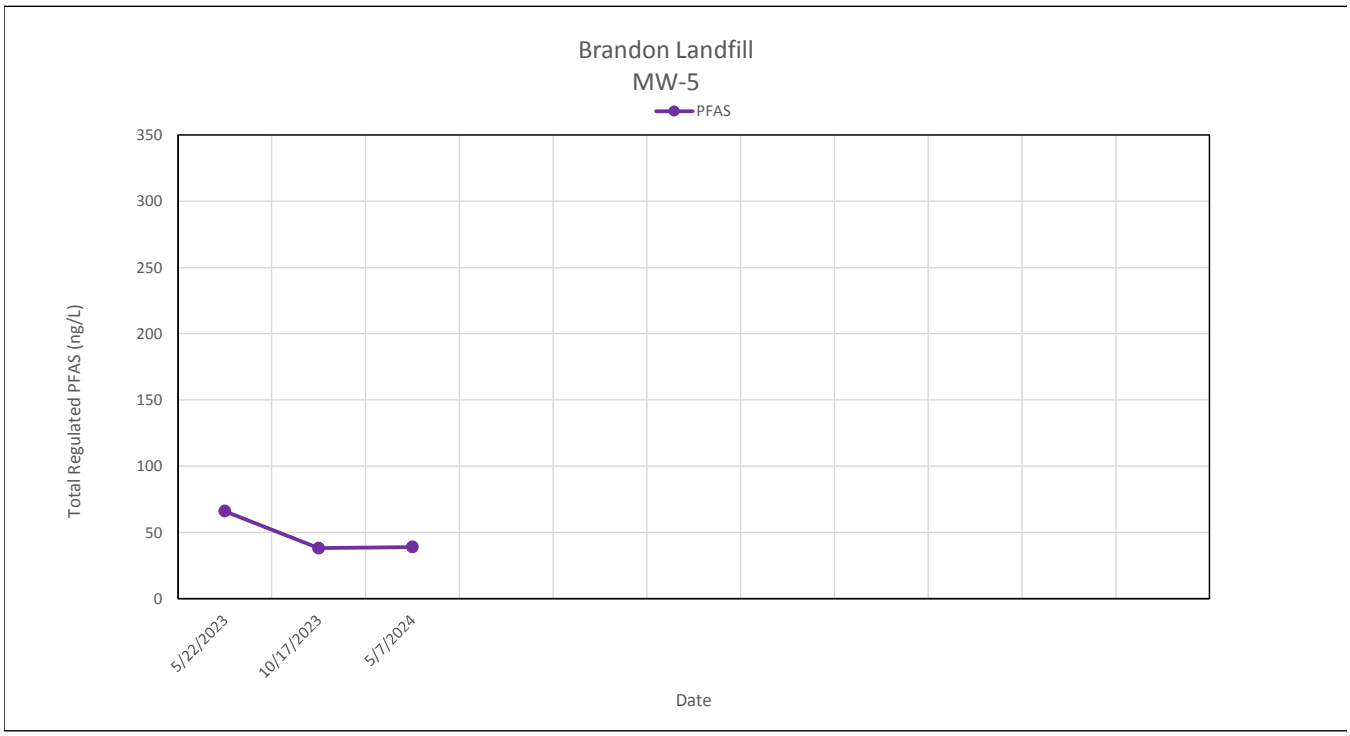
>VGES

Bold (italic) indicates value exceeds PAL


Brandon Landfill
MW-5
Arsenic
Lead
Manganese
Total Arsenic, Lead (mg/L)
Total Manganese (mg/L)
0.18
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
30
25
20
15
10
5
0
5/29/2014
6/9/2015
10/25/2015
7/24/2016
October 2016
5/7/2017
10/28/2017
5/28/2018
10/20/2018
05/27/2019
10/26/2019
10/14/2021
6/3/2022
10/27/2022
5/22/2023
10/17/2023
5/7/2024
Date


Brandon Landfill
MW-5
Cadmium
Total Cadmium (mg/L)
0.025
0.020
0.015
0.010
0.005
0.000
5/29/2014
6/9/2015
10/25/2015
7/24/2016
October 2016
5/7/2017
10/28/2017
5/28/2018
10/20/2018
05/27/2019
10/26/2019
10/14/2021
6/3/2022
10/27/2022
5/22/2023
10/17/2023
5/7/2024
Date


Brandon Landfill
MW-5
Chloride and Sodium (mg/L)
COD (mg/L)
Sodium
Chloride
COD
600
500
400
300
200
100
0
1000
900
800
700
600
500
400
300
200
100
0
5/29/2014
6/9/2015
10/25/2015
7/24/2016
October 2016
5/7/2017
10/28/2017
5/28/2018
10/20/2018
05/27/2019
10/26/2019
10/14/2021
6/3/2022
10/27/2022
5/22/2023
10/17/2023
5/7/2024
Date


Brandon Landfill
MW-5
PFAS
Total Regulated PFAS (ng/L)
350
300
250
200
150
100
50
0
5/22/2023
10/17/2023
5/7/2024
Date

Brandon Closed Landfill

Quality Assurance/Quality Control Samples

Sample ID: *Sample Date:* PARAMETER	Trip Blank 5/7/2024	Duplicate 5/7/2024	MW-3 5/7/2024	RPD (%)
VOCs (ug/L)				
1,4-dichlorobenzene	ND	ND	ND	-
Diethyl Ether	ND	ND	ND	-
Acetone	ND	ND	ND	-
Methyl-t-butyl ether (MTBE)	ND	ND	ND	-
Tetrahydrofuran	ND	ND	ND	-
Benzene	ND	ND	ND	-
Chlorobenzene	ND	ND	ND	-
Naphthalene	ND	ND	ND	-
t-Butanol	ND	ND	ND	-
Total VOCs	ND	ND	ND	-
Total Metals (mg/L)				
Arsenic	-	0.0137	0.0147	7.0
Cadmium	-	<0.0020	<0.0020	-
Chromium	-	0.0165	0.0197	-
Copper	-	0.040	0.043	-
Iron	-	35	38	8.2
Lead	-	0.0284	0.0311	-
Manganese	-	0.85	0.93	9.0
Mercury	-	<0.0002	<0.0002	-
Nickel	-	0.0243	0.0263	7.9
Sodium	-	27	28	3.6
Zinc	-	0.076	0.082	-
Other Analytes (mg/L)				
Chloride	-	42	42	0.0
COD	-	81	84	3.6

Only detected or targeted VOCs are depicted

All values reported in units noted above

"-" = Not Analyzed, RPD could not be calculated due to non-detects or No Applicable Standard

ND = None Detected

<X = None Detected above Detection Limit (X)

RPD = The results of the laboratory analysis of the duplicate sample were analyzed using a relative percent difference (RPD) analysis. The RPD is defined as 100 times the difference in reported concentration between sample and duplicate, divided by the mean of the two samples. A small RPD indicates good correlation between sample and duplicate.

APPENDIX C

Laboratory Reports

ENDYNE Inc.
Environmental Laboratories

Laboratory Report

KAS, Inc 100306
PO Box 787
Williston, VT 05495

Atten: Clare Santos

PROJECT: Brandon Landfill
WORK ORDER: **2405-12545**
DATE RECEIVED: May 08, 2024
DATE REPORTED: May 20, 2024
SAMPLER: WR

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 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

CLIENT: KAS, Inc
PROJECT: Brandon Landfill

WORK ORDER: **2405-12545**
DATE RECEIVED: 05/08/2024

001 Site: MW-1 Date Sampled: 5/7/24 Time: 10:40

Parameter	Result	Units	Method	Analysis Date		Lab/Tech	NELAC	Qual.
Chloride	55	mg/L	EPA 300.0	5/9/24	0:58	W CM	A	
COD	40	mg/L	EPA 410.4	5/16/24		N WEP	A	
Metals Digestion	Digested		EPA 3015A	5/10/24		W MLR	A	
Arsenic, Total	0.0038	mg/L	EPA 6020B	5/14/24	14:32	W MGT	A	
Cadmium, Total	< 0.0020	mg/L	EPA 6020B	5/14/24	14:32	W MGT	A	
Chromium, Total	< 0.0050	mg/L	EPA 6020B	5/14/24	14:32	W MGT	A	
Copper, Total	< 0.020	mg/L	EPA 6020B	5/14/24	14:32	W MGT	A	
Iron, Total	9.0	mg/L	EPA 6010C	5/13/24	13:43	W MLR	A	
Lead, Total	0.0042	mg/L	EPA 6020B	5/14/24	14:32	W MGT	A	
Manganese, Total	1.8	mg/L	EPA 6020B	5/14/24	14:32	W MGT	A	
Mercury, Total	< 0.0002	mg/L	EPA 6020B	5/14/24	14:32	W MGT	N	
Nickel, Total	0.0080	mg/L	EPA 6020B	5/14/24	14:32	W MGT	A	
Sodium, Total	29	mg/L	EPA 6010C	5/13/24	13:43	W MLR	A	
Zinc, Total	< 0.020	mg/L	EPA 6020B	5/14/24	14:32	W MGT	A	

002 Site: MW-2C Date Sampled: 5/7/24 Time: 12:56

Parameter	Result	Units	Method	Analysis Date		Lab/Tech	NELAC	Qual.
Chloride	300	mg/L	EPA 300.0	5/9/24	1:58	W CM	A	
COD	130	mg/L	EPA 410.4	5/16/24		N WEP	A	
Metals Digestion	Digested		EPA 3015A	5/10/24		W MLR	A	
Arsenic, Total	0.0171	mg/L	EPA 6020B	5/14/24	14:37	W MGT	A	
Cadmium, Total	< 0.0020	mg/L	EPA 6020B	5/14/24	14:37	W MGT	A	
Chromium, Total	< 0.0050	mg/L	EPA 6020B	5/14/24	14:37	W MGT	A	
Copper, Total	< 0.020	mg/L	EPA 6020B	5/14/24	14:37	W MGT	A	
Iron, Total	29	mg/L	EPA 6010C	5/13/24	13:57	W MLR	A	
Lead, Total	< 0.0010	mg/L	EPA 6020B	5/14/24	14:37	W MGT	A	
Manganese, Total	0.42	mg/L	EPA 6020B	5/14/24	14:37	W MGT	A	
Mercury, Total	< 0.0002	mg/L	EPA 6020B	5/14/24	14:37	W MGT	N	
Nickel, Total	0.0093	mg/L	EPA 6020B	5/14/24	14:37	W MGT	A	
Sodium, Total	210	mg/L	EPA 6010C	5/13/24	18:14	W MLR	A	
Zinc, Total	< 0.020	mg/L	EPA 6020B	5/14/24	14:37	W MGT	A	

003 Site: MW-3 Date Sampled: 5/7/24 Time: 11:40

Parameter	Result	Units	Method	Analysis Date		Lab/Tech	NELAC	Qual.
Chloride	42	mg/L	EPA 300.0	5/9/24	2:18	W CM	A	
COD	84	mg/L	EPA 410.4	5/16/24		N WEP	A	
Metals Digestion	Digested		EPA 3015A	5/10/24		W MLR	A	
Arsenic, Total	0.0147	mg/L	EPA 6020B	5/14/24	14:55	W MGT	A	
Cadmium, Total	< 0.0020	mg/L	EPA 6020B	5/14/24	14:55	W MGT	A	
Chromium, Total	0.0197	mg/L	EPA 6020B	5/14/24	14:55	W MGT	A	
Copper, Total	0.043	mg/L	EPA 6020B	5/14/24	14:55	W MGT	A	
Iron, Total	38	mg/L	EPA 6010C	5/13/24	14:07	W MLR	A	
Lead, Total	0.0311	mg/L	EPA 6020B	5/14/24	14:55	W MGT	A	
Manganese, Total	0.93	mg/L	EPA 6020B	5/14/24	14:55	W MGT	A	

CLIENT: KAS, Inc
PROJECT: Brandon Landfill

WORK ORDER: **2405-12545**
DATE RECEIVED: 05/08/2024

003 Site: MW-3 Date Sampled: 5/7/24 Time: 11:40

Parameter	Result	Units	Method	Analysis Date		Lab/Tech	NELAC	Qual.
Mercury, Total	< 0.0002	mg/L	EPA 6020B	5/14/24	14:55	W MGT	N	
Nickel, Total	0.0263	mg/L	EPA 6020B	5/14/24	14:55	W MGT	A	
Sodium, Total	28	mg/L	EPA 6010C	5/13/24	14:07	W MLR	A	
Zinc, Total	0.082	mg/L	EPA 6020B	5/14/24	14:55	W MGT	A	

004 Site: MW-5 Date Sampled: 5/7/24 Time: 13:53

Parameter	Result	Units	Method	Analysis Date		Lab/Tech	NELAC	Qual.
Chloride	64	mg/L	EPA 300.0	5/9/24	2:38	W CM	A	
COD	33	mg/L	EPA 410.4	5/16/24		N WEP	A	
Metals Digestion	Digested		EPA 3015A	5/10/24		W MLR	A	
Arsenic, Total	0.0015	mg/L	EPA 6020B	5/14/24	15:00	W MGT	A	
Cadmium, Total	< 0.0020	mg/L	EPA 6020B	5/14/24	15:00	W MGT	A	
Chromium, Total	< 0.0050	mg/L	EPA 6020B	5/14/24	15:00	W MGT	A	
Copper, Total	< 0.020	mg/L	EPA 6020B	5/14/24	15:00	W MGT	A	
Iron, Total	11	mg/L	EPA 6010C	5/13/24	14:12	W MLR	A	
Lead, Total	< 0.0010	mg/L	EPA 6020B	5/14/24	15:00	W MGT	A	
Manganese, Total	1.0	mg/L	EPA 6020B	5/14/24	15:00	W MGT	A	
Mercury, Total	< 0.0002	mg/L	EPA 6020B	5/14/24	15:00	W MGT	N	
Nickel, Total	< 0.0050	mg/L	EPA 6020B	5/14/24	15:00	W MGT	A	
Sodium, Total	37	mg/L	EPA 6010C	5/13/24	14:12	W MLR	A	
Zinc, Total	< 0.020	mg/L	EPA 6020B	5/14/24	15:00	W MGT	A	

005 Site: Duplicate Date Sampled: 5/7/24 Time: 11:40

Parameter	Result	Units	Method	Analysis Date		Lab/Tech	NELAC	Qual.
Chloride	42	mg/L	EPA 300.0	5/9/24	2:58	W CM	A	
COD	81	mg/L	EPA 410.4	5/16/24		N WEP	A	
Metals Digestion	Digested		EPA 3015A	5/10/24		W MLR	A	
Arsenic, Total	0.0137	mg/L	EPA 6020B	5/14/24	15:05	W MGT	A	
Cadmium, Total	< 0.0020	mg/L	EPA 6020B	5/14/24	15:05	W MGT	A	
Chromium, Total	0.0165	mg/L	EPA 6020B	5/14/24	15:05	W MGT	A	
Copper, Total	0.040	mg/L	EPA 6020B	5/14/24	15:05	W MGT	A	
Iron, Total	35	mg/L	EPA 6010C	5/13/24	14:17	W MLR	A	
Lead, Total	0.0284	mg/L	EPA 6020B	5/14/24	15:05	W MGT	A	
Manganese, Total	0.85	mg/L	EPA 6020B	5/14/24	15:05	W MGT	A	
Mercury, Total	< 0.0002	mg/L	EPA 6020B	5/14/24	15:05	W MGT	N	
Nickel, Total	0.0243	mg/L	EPA 6020B	5/14/24	15:05	W MGT	A	
Sodium, Total	27	mg/L	EPA 6010C	5/13/24	14:17	W MLR	A	
Zinc, Total	0.076	mg/L	EPA 6020B	5/14/24	15:05	W MGT	A	

CLIENT: KAS, Inc
PROJECT: Brandon Landfill

WORK ORDER: **2405-12545**
DATE RECEIVED: 05/08/2024

TEST METHOD: EPA 8260C

001 Site: MW-1 Sampled: 5/7/24 10:40 Test Date: 5/13/24 W TRP

Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Dichlorodifluoromethane	< 5.0	ug/L	A		Chloromethane	< 3.0	ug/L	A	
Vinyl chloride	< 0.5	ug/L	A		Bromomethane	< 0.5	ug/L	A	
Chloroethane	< 5.0	ug/L	A		Trichlorofluoromethane	< 2.0	ug/L	A	
Diethyl ether	< 5.0	ug/L	N		1,1-Dichloroethene	< 0.7	ug/L	A	
Acetone	< 10.0	ug/L	A		Carbon disulfide	< 5.0	ug/L	A	
Methylene chloride	< 5.0	ug/L	A		t-Butanol	< 20.0	ug/L	N	
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	A		trans-1,2-Dichloroethene	< 1.0	ug/L	A	
Di-isopropyl ether (DIPE)	< 2.0	ug/L	N		1,1-Dichloroethane	< 1.0	ug/L	A	
Ethyl-t-butyl ether (ETBE)	< 2.0	ug/L	N		2-Butanone	< 10.0	ug/L	A	
2,2-Dichloropropane	< 1.0	ug/L	N		cis-1,2-Dichloroethene	< 1.0	ug/L	A	
Bromochloromethane	< 0.8	ug/L	A		Chloroform	< 1.0	ug/L	A	
Tetrahydrofuran	< 10.0	ug/L	N		1,1,1-Trichloroethane	< 1.0	ug/L	A	
Carbon tetrachloride	< 0.5	ug/L	A		1,1-Dichloropropene	< 1.0	ug/L	N	
Benzene	< 0.5	ug/L	A		t-Amylmethyl ether (TAME)	< 2.0	ug/L	N	
1,2-Dichloroethane	< 0.5	ug/L	A		Trichloroethene	< 0.5	ug/L	A	
1,2-Dichloropropane	< 0.5	ug/L	A		Dibromomethane	< 2.0	ug/L	A	
Bromodichloromethane	< 0.5	ug/L	A		cis-1,3-Dichloropropene	< 1.0	ug/L	A	
4-Methyl-2-pentanone (MIBK)	< 10.0	ug/L	A		Toluene	< 1.0	ug/L	A	
trans-1,3-Dichloropropene	< 1.0	ug/L	A		1,1,2-Trichloroethane	< 1.0	ug/L	A	
Tetrachloroethene	< 0.5	ug/L	A		1,3-Dichloropropane	< 1.0	ug/L	N	
2-Hexanone	< 10.0	ug/L	A		Dibromochloromethane	< 1.0	ug/L	A	
1,2-Dibromoethane	< 2.0	ug/L	A		Chlorobenzene	< 1.0	ug/L	A	
Ethylbenzene	< 1.0	ug/L	A		1,1,1,2-Tetrachloroethane	< 2.0	ug/L	A	
Xylenes, Total	< 2.0	ug/L	A		Styrene	< 1.0	ug/L	A	
Bromoform	< 2.0	ug/L	A		Isopropylbenzene	< 1.0	ug/L	A	
1,1,2,2-Tetrachloroethane	< 2.0	ug/L	A		Bromobenzene	< 1.0	ug/L	A	
n-Propylbenzene	< 1.0	ug/L	A		1,2,3-Trichloropropane	< 2.0	ug/L	A	
2-Chlorotoluene	< 1.0	ug/L	A		1,3,5-Trimethylbenzene	< 1.0	ug/L	A	
4-Chlorotoluene	< 1.0	ug/L	A		t-Butylbenzene	< 1.0	ug/L	A	
1,2,4-Trimethylbenzene	< 1.0	ug/L	A		s-Butylbenzene	< 1.0	ug/L	A	
4-Isopropyltoluene	< 1.0	ug/L	A		1,3-Dichlorobenzene	< 1.0	ug/L	A	
1,4-Dichlorobenzene	< 1.0	ug/L	A		1,2,3-Trimethylbenzene	< 1.0	ug/L	U	
n-Butylbenzene	< 1.0	ug/L	A		1,2-Dichlorobenzene	< 1.0	ug/L	A	
1,2-Dibromo-3-Chloropropane	< 2.0	ug/L	A		1,2,4-Trichlorobenzene	< 2.0	ug/L	A	
1,3,5-Trichlorobenzene	< 2.0	ug/L	N		Hexachlorobutadiene	< 0.5	ug/L	A	
Naphthalene	< 0.5	ug/L	A		1,2,3-Trichlorobenzene	< 2.0	ug/L	A	
Surr. 1 (Dibromofluoromethane)	100	%	A		Surr. 2 (Toluene d8)	100	%	A	
Surr. 3 (4-Bromofluorobenzene)	99	%	A		Unidentified Peaks	0		U	

CLIENT: KAS, Inc
PROJECT: Brandon Landfill

WORK ORDER: **2405-12545**
DATE RECEIVED: 05/08/2024

TEST METHOD: EPA 8260C

002 Site: MW-2C Sampled: 5/7/24 12:56 Test Date: 5/14/24 W TRP

Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Dichlorodifluoromethane	< 5.0	ug/L	A		Chloromethane	< 3.0	ug/L	A	
Vinyl chloride	< 0.5	ug/L	A		Bromomethane	< 0.5	ug/L	A	
Chloroethane	< 5.0	ug/L	A		Trichlorofluoromethane	< 2.0	ug/L	A	
Diethyl ether	19.4	ug/L	N		1,1-Dichloroethene	< 0.7	ug/L	A	
Acetone	< 10.0	ug/L	A		Carbon disulfide	< 5.0	ug/L	A	
Methylene chloride	< 5.0	ug/L	A		t-Butanol	< 20.0	ug/L	N	
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	A		trans-1,2-Dichloroethene	< 1.0	ug/L	A	
Di-isopropyl ether (DIPE)	< 2.0	ug/L	N		1,1-Dichloroethane	< 1.0	ug/L	A	
Ethyl-t-butyl ether (ETBE)	< 2.0	ug/L	N		2-Butanone	< 10.0	ug/L	A	
2,2-Dichloropropane	< 1.0	ug/L	N		cis-1,2-Dichloroethene	< 1.0	ug/L	A	
Bromochloromethane	< 0.8	ug/L	A		Chloroform	< 1.0	ug/L	A	
Tetrahydrofuran	< 10.0	ug/L	N		1,1,1-Trichloroethane	< 1.0	ug/L	A	
Carbon tetrachloride	< 0.5	ug/L	A		1,1-Dichloropropene	< 1.0	ug/L	N	
Benzene	2.3	ug/L	A		t-Amylmethyl ether (TAME)	< 2.0	ug/L	N	
1,2-Dichloroethane	< 0.5	ug/L	A		Trichloroethene	< 0.5	ug/L	A	
1,2-Dichloropropane	< 0.5	ug/L	A		Dibromomethane	< 2.0	ug/L	A	
Bromodichloromethane	< 0.5	ug/L	A		cis-1,3-Dichloropropene	< 1.0	ug/L	A	
4-Methyl-2-pentanone (MIBK)	< 10.0	ug/L	A		Toluene	< 1.0	ug/L	A	
trans-1,3-Dichloropropene	< 1.0	ug/L	A		1,1,2-Trichloroethane	< 1.0	ug/L	A	
Tetrachloroethene	< 0.5	ug/L	A		1,3-Dichloropropane	< 1.0	ug/L	N	
2-Hexanone	< 10.0	ug/L	A		Dibromochloromethane	< 1.0	ug/L	A	
1,2-Dibromoethane	< 2.0	ug/L	A		Chlorobenzene	5.9	ug/L	A	
Ethylbenzene	< 1.0	ug/L	A		1,1,1,2-Tetrachloroethane	< 2.0	ug/L	A	
Xylenes, Total	< 2.0	ug/L	A		Styrene	< 1.0	ug/L	A	
Bromoform	< 2.0	ug/L	A		Isopropylbenzene	< 1.0	ug/L	A	
1,1,2,2-Tetrachloroethane	< 2.0	ug/L	A		Bromobenzene	< 1.0	ug/L	A	
n-Propylbenzene	< 1.0	ug/L	A		1,2,3-Trichloropropane	< 2.0	ug/L	A	
2-Chlorotoluene	< 1.0	ug/L	A		1,3,5-Trimethylbenzene	< 1.0	ug/L	A	
4-Chlorotoluene	< 1.0	ug/L	A		t-Butylbenzene	< 1.0	ug/L	A	
1,2,4-Trimethylbenzene	< 1.0	ug/L	A		s-Butylbenzene	< 1.0	ug/L	A	
4-Isopropyltoluene	< 1.0	ug/L	A		1,3-Dichlorobenzene	< 1.0	ug/L	A	
1,4-Dichlorobenzene	2.4	ug/L	A		1,2,3-Trimethylbenzene	< 1.0	ug/L	U	
n-Butylbenzene	< 1.0	ug/L	A		1,2-Dichlorobenzene	< 1.0	ug/L	A	
1,2-Dibromo-3-Chloropropane	< 2.0	ug/L	A		1,2,4-Trichlorobenzene	< 2.0	ug/L	A	
1,3,5-Trichlorobenzene	< 2.0	ug/L	N		Hexachlorobutadiene	< 0.5	ug/L	A	
Naphthalene	< 0.5	ug/L	A		1,2,3-Trichlorobenzene	< 2.0	ug/L	A	
Surr. 1 (Dibromofluoromethane)	101	%	A		Surr. 2 (Toluene d8)	100	%	A	
Surr. 3 (4-Bromofluorobenzene)	101	%	A		Unidentified Peaks	3		U	

CLIENT: KAS, Inc
PROJECT: Brandon Landfill

WORK ORDER: **2405-12545**
DATE RECEIVED: 05/08/2024

TEST METHOD: EPA 8260C

003 Site: MW-3 Sampled: 5/7/24 11:40 Test Date: 5/14/24 W TRP

Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Dichlorodifluoromethane	< 5.0	ug/L	A		Chloromethane	< 3.0	ug/L	A	
Vinyl chloride	< 0.5	ug/L	A		Bromomethane	< 0.5	ug/L	A	
Chloroethane	< 5.0	ug/L	A		Trichlorofluoromethane	< 2.0	ug/L	A	
Diethyl ether	< 5.0	ug/L	N		1,1-Dichloroethene	< 0.7	ug/L	A	
Acetone	< 10.0	ug/L	A		Carbon disulfide	< 5.0	ug/L	A	
Methylene chloride	< 5.0	ug/L	A		t-Butanol	< 20.0	ug/L	N	
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	A		trans-1,2-Dichloroethene	< 1.0	ug/L	A	
Di-isopropyl ether (DIPE)	< 2.0	ug/L	N		1,1-Dichloroethane	< 1.0	ug/L	A	
Ethyl-t-butyl ether (ETBE)	< 2.0	ug/L	N		2-Butanone	< 10.0	ug/L	A	
2,2-Dichloropropane	< 1.0	ug/L	N		cis-1,2-Dichloroethene	< 1.0	ug/L	A	
Bromochloromethane	< 0.8	ug/L	A		Chloroform	< 1.0	ug/L	A	
Tetrahydrofuran	< 10.0	ug/L	N		1,1,1-Trichloroethane	< 1.0	ug/L	A	
Carbon tetrachloride	< 0.5	ug/L	A		1,1-Dichloropropene	< 1.0	ug/L	N	
Benzene	< 0.5	ug/L	A		t-Amylmethyl ether (TAME)	< 2.0	ug/L	N	
1,2-Dichloroethane	< 0.5	ug/L	A		Trichloroethene	< 0.5	ug/L	A	
1,2-Dichloropropane	< 0.5	ug/L	A		Dibromomethane	< 2.0	ug/L	A	
Bromodichloromethane	< 0.5	ug/L	A		cis-1,3-Dichloropropene	< 1.0	ug/L	A	
4-Methyl-2-pentanone (MIBK)	< 10.0	ug/L	A		Toluene	< 1.0	ug/L	A	
trans-1,3-Dichloropropene	< 1.0	ug/L	A		1,1,2-Trichloroethane	< 1.0	ug/L	A	
Tetrachloroethene	< 0.5	ug/L	A		1,3-Dichloropropane	< 1.0	ug/L	N	
2-Hexanone	< 10.0	ug/L	A		Dibromochloromethane	< 1.0	ug/L	A	
1,2-Dibromoethane	< 2.0	ug/L	A		Chlorobenzene	< 1.0	ug/L	A	
Ethylbenzene	< 1.0	ug/L	A		1,1,1,2-Tetrachloroethane	< 2.0	ug/L	A	
Xylenes, Total	< 2.0	ug/L	A		Styrene	< 1.0	ug/L	A	
Bromoform	< 2.0	ug/L	A		Isopropylbenzene	< 1.0	ug/L	A	
1,1,2,2-Tetrachloroethane	< 2.0	ug/L	A		Bromobenzene	< 1.0	ug/L	A	
n-Propylbenzene	< 1.0	ug/L	A		1,2,3-Trichloropropane	< 2.0	ug/L	A	
2-Chlorotoluene	< 1.0	ug/L	A		1,3,5-Trimethylbenzene	< 1.0	ug/L	A	
4-Chlorotoluene	< 1.0	ug/L	A		t-Butylbenzene	< 1.0	ug/L	A	
1,2,4-Trimethylbenzene	< 1.0	ug/L	A		s-Butylbenzene	< 1.0	ug/L	A	
4-Isopropyltoluene	< 1.0	ug/L	A		1,3-Dichlorobenzene	< 1.0	ug/L	A	
1,4-Dichlorobenzene	< 1.0	ug/L	A		1,2,3-Trimethylbenzene	< 1.0	ug/L	U	
n-Butylbenzene	< 1.0	ug/L	A		1,2-Dichlorobenzene	< 1.0	ug/L	A	
1,2-Dibromo-3-Chloropropane	< 2.0	ug/L	A		1,2,4-Trichlorobenzene	< 2.0	ug/L	A	
1,3,5-Trichlorobenzene	< 2.0	ug/L	N		Hexachlorobutadiene	< 0.5	ug/L	A	
Naphthalene	< 0.5	ug/L	A		1,2,3-Trichlorobenzene	< 2.0	ug/L	A	
Surr. 1 (Dibromofluoromethane)	100	%	A		Surr. 2 (Toluene d8)	100	%	A	
Surr. 3 (4-Bromofluorobenzene)	101	%	A		Unidentified Peaks	0		U	

CLIENT: KAS, Inc
PROJECT: Brandon Landfill

WORK ORDER: **2405-12545**
DATE RECEIVED: 05/08/2024

TEST METHOD: EPA 8260C

004 Site: MW-5 Sampled: 5/7/24 13:53 Test Date: 5/14/24 W TRP

Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Dichlorodifluoromethane	< 5.0	ug/L	A		Chloromethane	< 3.0	ug/L	A	
Vinyl chloride	< 0.5	ug/L	A		Bromomethane	< 0.5	ug/L	A	
Chloroethane	< 5.0	ug/L	A		Trichlorofluoromethane	< 2.0	ug/L	A	
Diethyl ether	< 5.0	ug/L	N		1,1-Dichloroethene	< 0.7	ug/L	A	
Acetone	< 10.0	ug/L	A		Carbon disulfide	< 5.0	ug/L	A	
Methylene chloride	< 5.0	ug/L	A		t-Butanol	< 20.0	ug/L	N	
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	A		trans-1,2-Dichloroethene	< 1.0	ug/L	A	
Di-isopropyl ether (DIPE)	< 2.0	ug/L	N		1,1-Dichloroethane	< 1.0	ug/L	A	
Ethyl-t-butyl ether (ETBE)	< 2.0	ug/L	N		2-Butanone	< 10.0	ug/L	A	
2,2-Dichloropropane	< 1.0	ug/L	N		cis-1,2-Dichloroethene	< 1.0	ug/L	A	
Bromochloromethane	< 0.8	ug/L	A		Chloroform	< 1.0	ug/L	A	
Tetrahydrofuran	< 10.0	ug/L	N		1,1,1-Trichloroethane	< 1.0	ug/L	A	
Carbon tetrachloride	< 0.5	ug/L	A		1,1-Dichloropropene	< 1.0	ug/L	N	
Benzene	< 0.5	ug/L	A		t-Amylmethyl ether (TAME)	< 2.0	ug/L	N	
1,2-Dichloroethane	< 0.5	ug/L	A		Trichloroethene	< 0.5	ug/L	A	
1,2-Dichloropropane	< 0.5	ug/L	A		Dibromomethane	< 2.0	ug/L	A	
Bromodichloromethane	< 0.5	ug/L	A		cis-1,3-Dichloropropene	< 1.0	ug/L	A	
4-Methyl-2-pentanone (MIBK)	< 10.0	ug/L	A		Toluene	< 1.0	ug/L	A	
trans-1,3-Dichloropropene	< 1.0	ug/L	A		1,1,2-Trichloroethane	< 1.0	ug/L	A	
Tetrachloroethene	< 0.5	ug/L	A		1,3-Dichloropropane	< 1.0	ug/L	N	
2-Hexanone	< 10.0	ug/L	A		Dibromochloromethane	< 1.0	ug/L	A	
1,2-Dibromoethane	< 2.0	ug/L	A		Chlorobenzene	< 1.0	ug/L	A	
Ethylbenzene	< 1.0	ug/L	A		1,1,1,2-Tetrachloroethane	< 2.0	ug/L	A	
Xylenes, Total	< 2.0	ug/L	A		Styrene	< 1.0	ug/L	A	
Bromoform	< 2.0	ug/L	A		Isopropylbenzene	< 1.0	ug/L	A	
1,1,2,2-Tetrachloroethane	< 2.0	ug/L	A		Bromobenzene	< 1.0	ug/L	A	
n-Propylbenzene	< 1.0	ug/L	A		1,2,3-Trichloropropane	< 2.0	ug/L	A	
2-Chlorotoluene	< 1.0	ug/L	A		1,3,5-Trimethylbenzene	< 1.0	ug/L	A	
4-Chlorotoluene	< 1.0	ug/L	A		t-Butylbenzene	< 1.0	ug/L	A	
1,2,4-Trimethylbenzene	< 1.0	ug/L	A		s-Butylbenzene	< 1.0	ug/L	A	
4-Isopropyltoluene	< 1.0	ug/L	A		1,3-Dichlorobenzene	< 1.0	ug/L	A	
1,4-Dichlorobenzene	< 1.0	ug/L	A		1,2,3-Trimethylbenzene	< 1.0	ug/L	U	
n-Butylbenzene	< 1.0	ug/L	A		1,2-Dichlorobenzene	< 1.0	ug/L	A	
1,2-Dibromo-3-Chloropropane	< 2.0	ug/L	A		1,2,4-Trichlorobenzene	< 2.0	ug/L	A	
1,3,5-Trichlorobenzene	< 2.0	ug/L	N		Hexachlorobutadiene	< 0.5	ug/L	A	
Naphthalene	< 0.5	ug/L	A		1,2,3-Trichlorobenzene	< 2.0	ug/L	A	
Surr. 1 (Dibromofluoromethane)	100	%	A		Surr. 2 (Toluene d8)	100	%	A	
Surr. 3 (4-Bromofluorobenzene)	100	%	A		Unidentified Peaks	0		U	

CLIENT: KAS, Inc
PROJECT: Brandon Landfill

WORK ORDER: **2405-12545**
DATE RECEIVED: 05/08/2024

TEST METHOD: EPA 8260C

005 Site: Duplicate Sampled: 5/7/24 11:40 Test Date: 5/14/24 W TRP

Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Dichlorodifluoromethane	< 5.0	ug/L	A		Chloromethane	< 3.0	ug/L	A	
Vinyl chloride	< 0.5	ug/L	A		Bromomethane	< 0.5	ug/L	A	
Chloroethane	< 5.0	ug/L	A		Trichlorofluoromethane	< 2.0	ug/L	A	
Diethyl ether	< 5.0	ug/L	N		1,1-Dichloroethene	< 0.7	ug/L	A	
Acetone	< 10.0	ug/L	A		Carbon disulfide	< 5.0	ug/L	A	
Methylene chloride	< 5.0	ug/L	A		t-Butanol	< 20.0	ug/L	N	
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	A		trans-1,2-Dichloroethene	< 1.0	ug/L	A	
Di-isopropyl ether (DIPE)	< 2.0	ug/L	N		1,1-Dichloroethane	< 1.0	ug/L	A	
Ethyl-t-butyl ether (ETBE)	< 2.0	ug/L	N		2-Butanone	< 10.0	ug/L	A	
2,2-Dichloropropane	< 1.0	ug/L	N		cis-1,2-Dichloroethene	< 1.0	ug/L	A	
Bromochloromethane	< 0.8	ug/L	A		Chloroform	< 1.0	ug/L	A	
Tetrahydrofuran	< 10.0	ug/L	N		1,1,1-Trichloroethane	< 1.0	ug/L	A	
Carbon tetrachloride	< 0.5	ug/L	A		1,1-Dichloropropene	< 1.0	ug/L	N	
Benzene	< 0.5	ug/L	A		t-Amylmethyl ether (TAME)	< 2.0	ug/L	N	
1,2-Dichloroethane	< 0.5	ug/L	A		Trichloroethene	< 0.5	ug/L	A	
1,2-Dichloropropane	< 0.5	ug/L	A		Dibromomethane	< 2.0	ug/L	A	
Bromodichloromethane	< 0.5	ug/L	A		cis-1,3-Dichloropropene	< 1.0	ug/L	A	
4-Methyl-2-pentanone (MIBK)	< 10.0	ug/L	A		Toluene	< 1.0	ug/L	A	
trans-1,3-Dichloropropene	< 1.0	ug/L	A		1,1,2-Trichloroethane	< 1.0	ug/L	A	
Tetrachloroethene	< 0.5	ug/L	A		1,3-Dichloropropane	< 1.0	ug/L	N	
2-Hexanone	< 10.0	ug/L	A		Dibromochloromethane	< 1.0	ug/L	A	
1,2-Dibromoethane	< 2.0	ug/L	A		Chlorobenzene	< 1.0	ug/L	A	
Ethylbenzene	< 1.0	ug/L	A		1,1,1,2-Tetrachloroethane	< 2.0	ug/L	A	
Xylenes, Total	< 2.0	ug/L	A		Styrene	< 1.0	ug/L	A	
Bromoform	< 2.0	ug/L	A		Isopropylbenzene	< 1.0	ug/L	A	
1,1,2,2-Tetrachloroethane	< 2.0	ug/L	A		Bromobenzene	< 1.0	ug/L	A	
n-Propylbenzene	< 1.0	ug/L	A		1,2,3-Trichloropropane	< 2.0	ug/L	A	
2-Chlorotoluene	< 1.0	ug/L	A		1,3,5-Trimethylbenzene	< 1.0	ug/L	A	
4-Chlorotoluene	< 1.0	ug/L	A		t-Butylbenzene	< 1.0	ug/L	A	
1,2,4-Trimethylbenzene	< 1.0	ug/L	A		s-Butylbenzene	< 1.0	ug/L	A	
4-Isopropyltoluene	< 1.0	ug/L	A		1,3-Dichlorobenzene	< 1.0	ug/L	A	
1,4-Dichlorobenzene	< 1.0	ug/L	A		1,2,3-Trimethylbenzene	< 1.0	ug/L	U	
n-Butylbenzene	< 1.0	ug/L	A		1,2-Dichlorobenzene	< 1.0	ug/L	A	
1,2-Dibromo-3-Chloropropane	< 2.0	ug/L	A		1,2,4-Trichlorobenzene	< 2.0	ug/L	A	
1,3,5-Trichlorobenzene	< 2.0	ug/L	N		Hexachlorobutadiene	< 0.5	ug/L	A	
Naphthalene	< 0.5	ug/L	A		1,2,3-Trichlorobenzene	< 2.0	ug/L	A	
Surr. 1 (Dibromofluoromethane)	101	%	A		Surr. 2 (Toluene d8)	99	%	A	
Surr. 3 (4-Bromofluorobenzene)	100	%	A		Unidentified Peaks	0		U	

CLIENT: KAS, Inc
PROJECT: Brandon Landfill

WORK ORDER: **2405-12545**
DATE RECEIVED: 05/08/2024

TEST METHOD: EPA 8260C

006 Site: Trip Blank Sampled: 4/30/24 11:53 Test Date: 5/14/24 W TRP

Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Dichlorodifluoromethane	< 5.0	ug/L	A		Chloromethane	< 3.0	ug/L	A	
Vinyl chloride	< 0.5	ug/L	A		Bromomethane	< 0.5	ug/L	A	
Chloroethane	< 5.0	ug/L	A		Trichlorofluoromethane	< 2.0	ug/L	A	
Diethyl ether	< 5.0	ug/L	N		1,1-Dichloroethene	< 0.7	ug/L	A	
Acetone	< 10.0	ug/L	A		Carbon disulfide	< 5.0	ug/L	A	
Methylene chloride	< 5.0	ug/L	A		t-Butanol	< 20.0	ug/L	N	
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	A		trans-1,2-Dichloroethene	< 1.0	ug/L	A	
Di-isopropyl ether (DIPE)	< 2.0	ug/L	N		1,1-Dichloroethane	< 1.0	ug/L	A	
Ethyl-t-butyl ether (ETBE)	< 2.0	ug/L	N		2-Butanone	< 10.0	ug/L	A	
2,2-Dichloropropane	< 1.0	ug/L	N		cis-1,2-Dichloroethene	< 1.0	ug/L	A	
Bromochloromethane	< 0.8	ug/L	A		Chloroform	< 1.0	ug/L	A	
Tetrahydrofuran	< 10.0	ug/L	N		1,1,1-Trichloroethane	< 1.0	ug/L	A	
Carbon tetrachloride	< 0.5	ug/L	A		1,1-Dichloropropene	< 1.0	ug/L	N	
Benzene	< 0.5	ug/L	A		t-Amylmethyl ether (TAME)	< 2.0	ug/L	N	
1,2-Dichloroethane	< 0.5	ug/L	A		Trichloroethene	< 0.5	ug/L	A	
1,2-Dichloropropane	< 0.5	ug/L	A		Dibromomethane	< 2.0	ug/L	A	
Bromodichloromethane	< 0.5	ug/L	A		cis-1,3-Dichloropropene	< 1.0	ug/L	A	
4-Methyl-2-pentanone (MIBK)	< 10.0	ug/L	A		Toluene	< 1.0	ug/L	A	
trans-1,3-Dichloropropene	< 1.0	ug/L	A		1,1,2-Trichloroethane	< 1.0	ug/L	A	
Tetrachloroethene	< 0.5	ug/L	A		1,3-Dichloropropane	< 1.0	ug/L	N	
2-Hexanone	< 10.0	ug/L	A		Dibromochloromethane	< 1.0	ug/L	A	
1,2-Dibromoethane	< 2.0	ug/L	A		Chlorobenzene	< 1.0	ug/L	A	
Ethylbenzene	< 1.0	ug/L	A		1,1,1,2-Tetrachloroethane	< 2.0	ug/L	A	
Xylenes, Total	< 2.0	ug/L	A		Styrene	< 1.0	ug/L	A	
Bromoform	< 2.0	ug/L	A		Isopropylbenzene	< 1.0	ug/L	A	
1,1,2,2-Tetrachloroethane	< 2.0	ug/L	A		Bromobenzene	< 1.0	ug/L	A	
n-Propylbenzene	< 1.0	ug/L	A		1,2,3-Trichloropropane	< 2.0	ug/L	A	
2-Chlorotoluene	< 1.0	ug/L	A		1,3,5-Trimethylbenzene	< 1.0	ug/L	A	
4-Chlorotoluene	< 1.0	ug/L	A		t-Butylbenzene	< 1.0	ug/L	A	
1,2,4-Trimethylbenzene	< 1.0	ug/L	A		s-Butylbenzene	< 1.0	ug/L	A	
4-Isopropyltoluene	< 1.0	ug/L	A		1,3-Dichlorobenzene	< 1.0	ug/L	A	
1,4-Dichlorobenzene	< 1.0	ug/L	A		1,2,3-Trimethylbenzene	< 1.0	ug/L	U	
n-Butylbenzene	< 1.0	ug/L	A		1,2-Dichlorobenzene	< 1.0	ug/L	A	
1,2-Dibromo-3-Chloropropane	< 2.0	ug/L	A		1,2,4-Trichlorobenzene	< 2.0	ug/L	A	
1,3,5-Trichlorobenzene	< 2.0	ug/L	N		Hexachlorobutadiene	< 0.5	ug/L	A	
Naphthalene	< 0.5	ug/L	A		1,2,3-Trichlorobenzene	< 2.0	ug/L	A	
Surr. 1 (Dibromofluoromethane)	100	%	A		Surr. 2 (Toluene d8)	99	%	A	
Surr. 3 (4-Bromofluorobenzene)	100	%	A		Unidentified Peaks	0		U	

Brandon Landfill

Endyne Inc. COC 2405-12545

Prepared: 4/29/24

KAS, Inc
Brandon Landfill

Bill to:	Report to:		
Amy King	Clare Santos	Customer #	
KAS, Inc.	KAS, Inc		
P.O. Box 787	PO Box 787	BRAI	
Williston VT 05495	Williston VT 05495		
Ph: (802) 383-0486	info@kas-consulting.com;clares@ka	W-1	

MW-1	Sampled Date/Time: 5/7/24@10:40	Sampler: WR	
COD	✓	1 - 40mL Vial	H2SO4 pH<2
Chloride	✓	1 -2 oz-Plastics Anion	<6C
Arsenic, Total	✓	1 - 16 oz Plastic Total Metal	HNO3 pH< 2 ____
Cadmium, Total			
Chromium, Total			
Copper, Total			
Iron, Total			
Lead, Total			
Manganese, Total			
Mercury, Total			
Nickel, Total			
Sodium, Total			
Zinc, Total			
VOC w/Oxygenates,Water 8260	✓	2 - 40ml vials	<6C, HCl

MW-2C	Sampled Date/Time: 5/7/24@12:56	Sampler: WR	
COD	✓	1 - 40mL Vial	H2SO4 pH<2
Chloride	✓	1 -2 oz-Plastics Anion	<6C
Arsenic, Total	✓	1 - 16 oz Plastic Total Metal	HNO3 pH< 2 ____
Cadmium, Total			
Chromium, Total			
Copper, Total			
Iron, Total			
Lead, Total			
Manganese, Total			
Mercury, Total			
Nickel, Total			
Sodium, Total			
Zinc, Total			
VOC w/Oxygenates,Water 8260	✓	2 - 40ml vials	<6C, HCl

MW-3	Sampled Date/Time: 5/7/24@11:40	Sampler: WR	
COD	✓	1 - 40mL Vial	H2SO4 pH<2
Chloride	✓	1 -2 oz-Plastics Anion	<6C
Arsenic, Total	✓	1 - 16 oz Plastic Total Metal	HNO3 pH< 2 ____
Cadmium, Total			
Chromium, Total			
Copper, Total			
Iron, Total			
Lead, Total			
Manganese, Total			
Mercury, Total			
Nickel, Total			
Sodium, Total			
Zinc, Total			
VOC w/Oxygenates,Water 8260	✓	2 - 40ml vials	<6C, HCl

MW-5	Sampled Date/Time: 5/7/24@13:53		Sampler: WR
COD	✓	1 - 40mL Vial	H2SO4 pH<2
Chloride	✓	1 -2 oz-Plastics Anion	<6C
Arsenic, Total	✓	1 - 16 oz Plastic Total Metal	HNO3 pH< 2 ____
Cadmium, Total			
Chromium, Total			
Copper, Total			
Iron, Total			
Lead, Total			
Manganese, Total			
Mercury, Total			
Nickel, Total			
Sodium, Total			
Zinc, Total			
VOC w/Oxygenates,Water 8260	✓	2 - 40ml vials	<6C, HCl

Duplicate	Sampled Date/Time: 5/7/24@11:40		Sampler: WR
COD	✓	1 - 40mL Vial	H2SO4 pH<2
Chloride	✓	1 -2 oz-Plastics Anion	<6C
Arsenic, Total	✓	1 - 16 oz Plastic Total Metal	HNO3 pH< 2 ____
Cadmium, Total			
Chromium, Total			
Copper, Total			
Iron, Total			
Lead, Total			
Manganese, Total			
Mercury, Total			
Nickel, Total			
Sodium, Total			
Zinc, Total			
VOC w/Oxygenates,Water 8260	✓	2 - 40ml vials	<6C, HCl

Trip Blank	Sampled Date/Time: 4/30/24@11:53am		Sampler: TR
VOC w/Oxygenates,Water 8260	✓	2 - 40ml vials	<6C, HCl

Relinquished by: [signature] 5/7/2024 16:00 Date Time — Accepted by: ____ Date Time

Relinquished by: [signature] 5/8/24 1105*m Date Time — Received by: TR 5-8-24 11:16am Date Time

Sites/Parameters correct as listed. Client Initials WR

Client Authorization to use Subcontract lab Client Initials WR

Sample origin: VT ✓ NH ☐ NY ☐ Other ☐

Special reporting instructions: (PO#) ____

Requested Turnaround Time: Routine: Rush Due Date ____

Delv: Client
Temp C: 6.5c
Comment:

Tmpl Ck
Log by

Lab use Only

One or more sample bottles in this project must be kept refrigerated or on ice until delivery at the laboratory.

Initial here allow Endyne to proceed with analysis if the temperature preservation requirements are not satisfied. ____

Samples were received in the lab on ice. Y / N

ENDYNE Inc.
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

315 New York Rd.
Plattsburgh, NY 12903
Ph 518-563-1720
Fax 518-563-0052

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

May 14, 2024

Clare Santos
KAS Environmental
589 Avenue D
Williston, VT 05495

Project Location: BRANDON, VT
Client Job Number:
Project Number: 609210052
Laboratory Work Order Number: 24E1248

Enclosed are results of analyses for samples as received by the laboratory on May 8, 2024. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kaitlyn A. Feliciano
Project Manager

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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: 5/14/2024

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 609210052

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 24E1248

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: BRANDON, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
ERB	24E1248-01	Field Blank		SOP-454 PFAS	
MW-2C	24E1248-02	Ground Water		SOP-454 PFAS	
MW-1	24E1248-03	Ground Water		SOP-454 PFAS	
MW-3	24E1248-04	Ground Water		SOP-454 PFAS	
MW-5	24E1248-05	Ground Water		SOP-454 PFAS	

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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:

D-01

Sample extracted/prepared at a dilution due to sample matrix.

Analyte & Samples(s) Qualified:

24E1248-02[MW-2C], 24E1248-03[MW-1], 24E1248-04[MW-3], 24E1248-05[MW-5]

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:

M2-4:2FTS
24E1248-02[MW-2C]

M2-6:2FTS
24E1248-02[MW-2C]

PF-20

Quantifying ion signal to noise ratio is <10. Detection is suspect.

Analyte & Samples(s) Qualified:

Perfluorobutanoic acid (PFBA)
24E1248-02[MW-2C]

PF-23

Qualifier ion ratio <50% of associated calibration. Detection is suspect.

Analyte & Samples(s) Qualified:

Perfluorooctanesulfonic acid (PFOS)
24E1248-02[MW-2C]

S-29

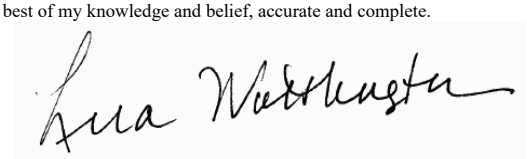
Extracted Internal Standard is outside of control limits.

Analyte & Samples(s) Qualified:

MPFBA
24E1248-02[MW-2C]

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

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, 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.



Lisa A. Worthington
Technical Representative

con-test® A Pace Analytical® Laboratory

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

Project Location: BRANDON, VT | Sample Description: | Work Order: 24E1248

Date Received: 5/8/2024

Field Sample #: ERB | Sampled: 5/7/2024 10:12

Sample ID: 24E1248-01

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	5/9/24	5/10/24 13:34	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Perfluoropentanoic acid (PFPeA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Perfluorohexanoic acid (PFHxA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
11Cl-PF3OUdS (F53B Major)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
9Cl-PF3ONS (F53B Minor)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Perfluorodecanoic acid (PFDA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Perfluorododecanoic acid (PFDoA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
N-EtFOSAA (NEtFOSAA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
N-MeFOSAA (NMeFOSAA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Perfluorotetradecanoic acid (PFTA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Perfluorooctanesulfonamide (FOSA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Perfluorononanesulfonic acid (PFNS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Perfluoroundecanoic acid (PFUnA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Perfluoroheptanoic acid (PFHpA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Perfluorooctanoic acid (PFOA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Perfluorooctanesulfonic acid (PFOS)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW
Perfluorononanoic acid (PFNA)	ND	1.9	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:34	QNW

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Project Location: BRANDON, VT | Sample Description: | Work Order: 24E1248

Date Received: 5/8/2024

Field Sample #: MW-2C | Sampled: 5/7/2024 12:56

Sample ID: 24E1248-02

Sample Matrix: Ground Water

Sample Flags: D-01

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	12	4.1	ng/L	1	PF-20	SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluoropentanoic acid (PFPeA)	15	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluorohexanoic acid (PFHxA)	29	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
11Cl-PF3OUdS (F53B Major)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
9Cl-PF3ONS (F53B Minor)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluorodecanoic acid (PFDA)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluorododecanoic acid (PFDoA)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
N-EtFOSAA (NEtFOSAA)	5.0	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
N-MeFOSAA (NMeFOSAA)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluorotetradecanoic acid (PFTA)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluorooctanesulfonamide (FOSA)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluorononanesulfonic acid (PFNS)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluorohexanesulfonic acid (PFHxS)	17	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluoroundecanoic acid (PFUnA)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluoroheptanoic acid (PFHpA)	16	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluorooctanoic acid (PFOA)	58	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluorooctanesulfonic acid (PFOS)	54	4.1	ng/L	1	PF-23	SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW
Perfluorononanoic acid (PFNA)	ND	4.1	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:42	QNW

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Project Location: BRANDON, VT | Sample Description: | Work Order: 24E1248

Date Received: 5/8/2024

Field Sample #: MW-1 | Sampled: 5/7/2024 10:40

Sample ID: 24E1248-03

Sample Matrix: Ground Water

Sample Flags: D-01

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	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluoropentanoic acid (PFPeA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluorohexanoic acid (PFHxA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
11Cl-PF3OUdS (F53B Major)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
9Cl-PF3ONS (F53B Minor)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluorodecanoic acid (PFDA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluorododecanoic acid (PFDoA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
N-EtFOSAA (NEtFOSAA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
N-MeFOSAA (NMeFOSAA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluorotetradecanoic acid (PFTA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluorooctanesulfonamide (FOSA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluorononanesulfonic acid (PFNS)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluoroundecanoic acid (PFUnA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluoroheptanoic acid (PFHpA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluorooctanoic acid (PFOA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluorooctanesulfonic acid (PFOS)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW
Perfluorononanoic acid (PFNA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:49	QNW

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Project Location: BRANDON, VT | Sample Description: | Work Order: 24E1248

Date Received: 5/8/2024

Field Sample #: MW-3 | Sampled: 5/7/2024 11:40

Sample ID: 24E1248-04

Sample Matrix: Ground Water

Sample Flags: D-01

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	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluoropentanoic acid (PFPeA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluorohexanoic acid (PFHxA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
11Cl-PF3OUdS (F53B Major)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
9Cl-PF3ONS (F53B Minor)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluorodecanoic acid (PFDA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluorododecanoic acid (PFDoA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
N-EtFOSAA (NEtFOSAA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
N-MeFOSAA (NMeFOSAA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluorotetradecanoic acid (PFTA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluorooctanesulfonamide (FOSA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluorononanesulfonic acid (PFNS)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluorohexanesulfonic acid (PFHxS)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluoroundecanoic acid (PFUnA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluoroheptanoic acid (PFHpA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluorooctanoic acid (PFOA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluorooctanesulfonic acid (PFOS)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW
Perfluorononanoic acid (PFNA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 13:56	QNW

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Project Location: BRANDON, VT | Sample Description: | Work Order: 24E1248

Date Received: 5/8/2024

Field Sample #: MW-5 | Sampled: 5/7/2024 13:53

Sample ID: 24E1248-05

Sample Matrix: Ground Water

Sample Flags: D-01

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanoic acid (PFBA)	5.5	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluorobutanesulfonic acid (PFBS)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluoropentanoic acid (PFPeA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluorohexanoic acid (PFHxA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
11Cl-PF3OUdS (F53B Major)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
9Cl-PF3ONS (F53B Minor)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
8:2 Fluorotelomersulfonic acid (8:2FTS A)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluorodecanoic acid (PFDA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluorododecanoic acid (PFDoA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluoroheptanesulfonic acid (PFHpS)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
N-EtFOSAA (NEtFOSAA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
N-MeFOSAA (NMeFOSAA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluorotetradecanoic acid (PFTA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluorotridecanoic acid (PFTrDA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
4:2 Fluorotelomersulfonic acid (4:2FTS A)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluorodecanesulfonic acid (PFDS)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluorooctanesulfonamide (FOSA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluorononanesulfonic acid (PFNS)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluoro-1-hexanesulfonamide (FHxSA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluoro-1-butanesulfonamide (FBSA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluorohexanesulfonic acid (PFHxS)	13	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluoro-4-oxapentanoic acid (PFMPA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluoro-5-oxahexanoic acid (PFMBA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
6:2 Fluorotelomersulfonic acid (6:2FTS A)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluoropentanesulfonic acid (PFPeS)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluoroundecanoic acid (PFUnA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluoroheptanoic acid (PFHpA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluorooctanoic acid (PFOA)	16	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluorooctanesulfonic acid (PFOS)	10	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW
Perfluorononanoic acid (PFNA)	ND	4.0	ng/L	1		SOP-454 PFAS	5/9/24	5/10/24 14:03	QNW

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Sample Extraction Data

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
24E1248-01 [ERB]	B373844	263	1.00	05/09/24
24E1248-02 [MW-2C]	B373844	123	1.00	05/09/24
24E1248-03 [MW-1]	B373844	125	1.00	05/09/24
24E1248-04 [MW-3]	B373844	125	1.00	05/09/24
24E1248-05 [MW-5]	B373844	126	1.00	05/09/24

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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 B373844 - SOP 454-PFAAS										
Blank (B373844-BLK1)				Prepared: 05/09/24 Analyzed: 05/10/24						
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							
LCS (B373844-BS1)				Prepared: 05/09/24 Analyzed: 05/10/24						
Perfluorobutanoic acid (PFBA)	9.16	1.9	ng/L	9.64		95.0	73-129			
Perfluorobutanesulfonic acid (PFBS)	7.97	1.9	ng/L	8.53		93.4	72-130			
Perfluoropentanoic acid (PFPeA)	9.31	1.9	ng/L	9.64		96.5	72-129			
Perfluorohexanoic acid (PFHxA)	9.30	1.9	ng/L	9.64		96.4	72-129			
11Cl-PF3OUdS (F53B Major)	9.83	1.9	ng/L	9.08		108	43.3-138			
9Cl-PF3ONS (F53B Minor)	8.59	1.9	ng/L	8.99		95.6	52-140			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.82	1.9	ng/L	9.08		86.1	53.7-152			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	9.96	1.9	ng/L	9.64		103	42.1-145			
8:2 Fluorotelomersulfonic acid (8:2FTS A)	7.52	1.9	ng/L	9.25		81.2	67-138			
Perfluorodecanoic acid (PFDA)	9.72	1.9	ng/L	9.64		101	71-129			
Perfluorododecanoic acid (PFDoA)	6.95	1.9	ng/L	9.64		72.1	72-134			
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	8.31	1.9	ng/L	8.58		96.8	52.7-147			

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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 B373844 - SOP 454-PFAAS										
LCS (B373844-BS1)				Prepared: 05/09/24 Analyzed: 05/10/24						
Perfluoroheptanesulfonic acid (PFHpS)	9.08	1.9	ng/L	9.21		98.6	69-134			
N-EtFOSAA (NEtFOSAA)	9.04	1.9	ng/L	9.64		93.8	61-135			
N-MeFOSAA (NMeFOSAA)	10.7	1.9	ng/L	9.64		111	65-136			
Perfluorotetradecanoic acid (PFTA)	8.53	1.9	ng/L	9.64		88.5	71-132			
Perfluorotridecanoic acid (PFTrDA)	7.45	1.9	ng/L	9.64		77.3	65-144			
4:2 Fluorotelomersulfonic acid (4:2FTS A)	7.93	1.9	ng/L	9.01		88.0	63-143			
Perfluorodecanesulfonic acid (PFDS)	7.80	1.9	ng/L	9.30		83.8	53-142			
Perfluorooctanesulfonamide (FOSA)	9.44	1.9	ng/L	9.64		97.9	67-137			
Perfluorononanesulfonic acid (PFNS)	7.57	1.9	ng/L	9.25		81.8	69-127			
Perfluoro-1-hexanesulfonamide (FHxSA)	9.34	1.9	ng/L	9.64		96.8	50-150			
Perfluoro-1-butanesulfonamide (FBSA)	9.07	1.9	ng/L	9.64		94.1	50-150			
Perfluorohexanesulfonic acid (PFHxS)	8.50	1.9	ng/L	8.82		96.3	68-131			
Perfluoro-4-oxapentanoic acid (PFMPA)	9.66	1.9	ng/L	9.64		100	53.8-150			
Perfluoro-5-oxahexanoic acid (PFMBA)	9.05	1.9	ng/L	9.64		93.9	54.5-152			
6:2 Fluorotelomersulfonic acid (6:2FTS A)	9.93	1.9	ng/L	9.16		108	64-140			
Perfluoropentanesulfonic acid (PFPeS)	8.71	1.9	ng/L	9.06		96.1	71-127			
Perfluoroundecanoic acid (PFUnA)	8.49	1.9	ng/L	9.64		88.0	69-133			
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	9.61	1.9	ng/L	9.64		99.7	50.5-159			
Perfluoroheptanoic acid (PFHpA)	8.40	1.9	ng/L	9.64		87.1	72-130			
Perfluorooctanoic acid (PFOA)	9.03	1.9	ng/L	9.64		93.7	71-133			
Perfluorooctanesulfonic acid (PFOS)	9.21	1.9	ng/L	8.92		103	65-140			
Perfluorononanoic acid (PFNA)	9.59	1.9	ng/L	9.64		99.5	69-130			
LCS Dup (B373844-BSD1)				Prepared: 05/09/24 Analyzed: 05/10/24						
Perfluorobutanoic acid (PFBA)	9.25	1.9	ng/L	9.59		96.4	73-129	0.955	30	
Perfluorobutanesulfonic acid (PFBS)	7.95	1.9	ng/L	8.48		93.7	72-130	0.240	30	
Perfluoropentanoic acid (PFPeA)	9.16	1.9	ng/L	9.59		95.6	72-129	1.55	30	
Perfluorohexanoic acid (PFHxA)	9.45	1.9	ng/L	9.59		98.6	72-129	1.62	30	
11Cl-PF3OUdS (F53B Major)	9.59	1.9	ng/L	9.03		106	43.3-138	2.55	30	
9Cl-PF3ONS (F53B Minor)	8.75	1.9	ng/L	8.93		97.9	52-140	1.89	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.74	1.9	ng/L	9.03		85.7	53.7-152	1.07	30	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	10.7	1.9	ng/L	9.59		112	42.1-145	7.24	30	
8:2 Fluorotelomersulfonic acid (8:2FTS A)	7.40	1.9	ng/L	9.20		80.4	67-138	1.58	30	
Perfluorodecanoic acid (PFDA)	9.20	1.9	ng/L	9.59		95.9	71-129	5.53	30	
Perfluorododecanoic acid (PFDoA)	7.17	1.9	ng/L	9.59		74.8	72-134	3.10	30	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	8.18	1.9	ng/L	8.53		95.9	52.7-147	1.52	30	
Perfluoroheptanesulfonic acid (PFHpS)	8.99	1.9	ng/L	9.16		98.2	69-134	0.961	30	
N-EtFOSAA (NEtFOSAA)	9.00	1.9	ng/L	9.59		93.9	61-135	0.496	30	
N-MeFOSAA (NMeFOSAA)	9.60	1.9	ng/L	9.59		100	65-136	11.2	30	
Perfluorotetradecanoic acid (PFTA)	7.46	1.9	ng/L	9.59		77.8	71-132	13.4	30	
Perfluorotridecanoic acid (PFTrDA)	7.12	1.9	ng/L	9.59		74.2	65-144	4.60	30	
4:2 Fluorotelomersulfonic acid (4:2FTS A)	8.52	1.9	ng/L	8.96		95.1	63-143	7.19	30	
Perfluorodecanesulfonic acid (PFDS)	8.17	1.9	ng/L	9.25		88.4	53-142	4.70	30	
Perfluorooctanesulfonamide (FOSA)	8.76	1.9	ng/L	9.59		91.3	67-137	7.53	30	
Perfluorononanesulfonic acid (PFNS)	8.01	1.9	ng/L	9.20		87.0	69-127	5.57	30	
Perfluoro-1-hexanesulfonamide (FHxSA)	9.31	1.9	ng/L	9.59		97.2	50-150	0.226	30	
Perfluoro-1-butanesulfonamide (FBSA)	8.99	1.9	ng/L	9.59		93.7	50-150	0.953	30	
Perfluorohexanesulfonic acid (PFHxS)	8.30	1.9	ng/L	8.77		94.6	68-131	2.37	30	
Perfluoro-4-oxapentanoic acid (PFMPA)	9.77	1.9	ng/L	9.59		102	53.8-150	1.12	30	
Perfluoro-5-oxahexanoic acid (PFMBA)	8.88	1.9	ng/L	9.59		92.6	54.5-152	1.96	30	

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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 B373844 - SOP 454-PFAAS										
LCS Dup (B373844-BSD1)				Prepared: 05/09/24 Analyzed: 05/10/24						
6:2 Fluorotelomersulfonic acid (6:2FTS A)	9.31	1.9	ng/L	9.11		102	64-140	6.44	30	
Perfluoropentanesulfonic acid (PFPeS)	8.29	1.9	ng/L	9.01		92.0	71-127	4.90	30	
Perfluoroundecanoic acid (PFUnA)	7.82	1.9	ng/L	9.59		81.6	69-133	8.17	30	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	9.80	1.9	ng/L	9.59		102	50.5-159	1.93	30	
Perfluoroheptanoic acid (PFHpA)	8.27	1.9	ng/L	9.59		86.3	72-130	1.53	30	
Perfluorooctanoic acid (PFOA)	9.09	1.9	ng/L	9.59		94.8	71-133	0.632	30	
Perfluorooctanesulfonic acid (PFOS)	9.26	1.9	ng/L	8.87		104	65-140	0.575	30	
Perfluorononanoic acid (PFNA)	9.13	1.9	ng/L	9.59		95.2	69-130	4.95	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.
D-01	Sample extracted/prepared at a dilution due to sample matrix.
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.
PF-20	Quantifying ion signal to noise ratio is <10. Detection is suspect.
PF-23	Qualifier ion ratio <50% of associated calibration. Detection is suspect.
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
ERB (24E1248-01)			Lab File ID: 24E1248-01.d			Analyzed: 05/10/24 13:34			
M8FOSA	674004.5	3.708783	800,454.00	3.716767	84	50 - 150	-0.0080	+/-0.50	
M2-4:2FTS	224401.3	2.28015	332,053.00	2.296567	68	50 - 150	-0.0164	+/-0.50	
M2PFTA	2725154	4.073333	3,235,477.00	4.081367	84	50 - 150	-0.0080	+/-0.50	
M2-8:2FTS	205445.8	3.54685	248,868.00	3.546833	83	50 - 150	0.0000	+/-0.50	
MPFBA	1016347	0.8678	1,103,573.00	0.8678	92	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	204206.3	2.59805	197,711.00	2.606233	103	50 - 150	-0.0082	+/-0.50	
M6PFDA	1683547	3.5394	1,646,177.00	3.54735	102	50 - 150	-0.0079	+/-0.50	
M3PFBS	341253.9	1.670617	352,168.00	1.687167	97	50 - 150	-0.0166	+/-0.50	
M7PFUnA	2020459	3.68995	1,996,710.00	3.697917	101	50 - 150	-0.0080	+/-0.50	
M2-6:2FTS	197425.3	3.180483	222,903.00	3.188533	89	50 - 150	-0.0080	+/-0.50	
M5PFPeA	1017490	1.507433	1,045,334.00	1.5157	97	50 - 150	-0.0083	+/-0.50	
M5PFHxA	1958243	2.363767	1,939,905.00	2.380183	101	50 - 150	-0.0164	+/-0.50	
M3PFHxS	240044.5	2.95305	254,933.00	2.96115	94	50 - 150	-0.0081	+/-0.50	
M4PFHpA	2095378	2.921683	2,155,763.00	2.929767	97	50 - 150	-0.0081	+/-0.50	
M8PFOA	1997406	3.197283	2,080,042.00	3.197283	96	50 - 150	0.0000	+/-0.50	
M8PFOS	246975.4	3.380167	258,368.00	3.388133	96	50 - 150	-0.0080	+/-0.50	
M9PFNA	1537194	3.3812	1,496,939.00	3.389167	103	50 - 150	-0.0080	+/-0.50	
MPFDoA	1767173	3.832833	2,136,189.00	3.832817	83	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	471595	3.697417	487,396.00	3.705567	97	50 - 150	-0.0081	+/-0.50	
D3-NMeFOSAA	440427.9	3.61765	513,644.00	3.625583	86	50 - 150	-0.0079	+/-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-2C (24E1248-02)			Lab File ID: 24E1248-02.d			Analyzed: 05/10/24 13:42			
M8FOSA	552905.7	3.708767	800,454.00	3.716767	69	50 - 150	-0.0080	+/-0.50	
M2-4:2FTS	544850.9	2.26375	332,053.00	2.296567	164	50 - 150	-0.0328	+/-0.50	*
M2PFTA	2355742	4.073317	3,235,477.00	4.081367	73	50 - 150	-0.0080	+/-0.50	
M2-8:2FTS	323850.8	3.538867	248,868.00	3.546833	130	50 - 150	-0.0080	+/-0.50	
MPFBA	408418.9	0.8511834	1,103,573.00	0.8678	37	50 - 150	-0.0166	+/-0.50	*
M3HFPO-DA	100144.4	2.581683	197,711.00	2.606233	51	50 - 150	-0.0246	+/-0.50	
M6PFDA	1393020	3.539383	1,646,177.00	3.54735	85	50 - 150	-0.0080	+/-0.50	
M3PFBS	279416.2	1.65405	352,168.00	1.687167	79	50 - 150	-0.0331	+/-0.50	
M7PFUnA	1662198	3.689933	1,996,710.00	3.697917	83	50 - 150	-0.0080	+/-0.50	
M2-6:2FTS	396009.9	3.180483	222,903.00	3.188533	178	50 - 150	-0.0080	+/-0.50	*
M5PFPeA	694989.3	1.490883	1,045,334.00	1.5157	66	50 - 150	-0.0248	+/-0.50	
M5PFHxA	1648534	2.34735	1,939,905.00	2.380183	85	50 - 150	-0.0328	+/-0.50	
M3PFHxS	207180.6	2.94495	254,933.00	2.96115	81	50 - 150	-0.0162	+/-0.50	
M4PFHpA	1780676	2.913583	2,155,763.00	2.929767	83	50 - 150	-0.0162	+/-0.50	
M8PFOA	1386979	3.189217	2,080,042.00	3.197283	67	50 - 150	-0.0081	+/-0.50	
M8PFOS	193890.8	3.38015	258,368.00	3.388133	75	50 - 150	-0.0080	+/-0.50	
M9PFNA	1245609	3.381183	1,496,939.00	3.389167	83	50 - 150	-0.0080	+/-0.50	
MPFDoA	1857216	3.824817	2,136,189.00	3.832817	87	50 - 150	-0.0080	+/-0.50	
D5-NEtFOSAA	416896.7	3.6974	487,396.00	3.705567	86	50 - 150	-0.0082	+/-0.50	
D3-NMeFOSAA	383888.4	3.617633	513,644.00	3.625583	75	50 - 150	-0.0079	+/-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-1 (24E1248-03)			Lab File ID: 24E1248-03.d			Analyzed: 05/10/24 13:49			
M8FOSA	580139.7	3.708767	800,454.00	3.716767	72	50 - 150	-0.0080	+/-0.50	
M2-4:2FTS	183483.4	2.27195	332,053.00	2.296567	55	50 - 150	-0.0246	+/-0.50	
M2PFTA	2251240	4.073317	3,235,477.00	4.081367	70	50 - 150	-0.0080	+/-0.50	
M2-8:2FTS	141445.8	3.546833	248,868.00	3.546833	57	50 - 150	0.0000	+/-0.50	
MPFBA	776189.7	0.8594834	1,103,573.00	0.8678	70	50 - 150	-0.0083	+/-0.50	
M3HFPO-DA	163475.7	2.589867	197,711.00	2.606233	83	50 - 150	-0.0164	+/-0.50	
M6PFDA	1293270	3.539383	1,646,177.00	3.54735	79	50 - 150	-0.0080	+/-0.50	
M3PFBS	293313.6	1.670617	352,168.00	1.687167	83	50 - 150	-0.0166	+/-0.50	
M7PFUnA	1529677	3.689933	1,996,710.00	3.697917	77	50 - 150	-0.0080	+/-0.50	
M2-6:2FTS	188068.5	3.180483	222,903.00	3.188533	84	50 - 150	-0.0080	+/-0.50	
M5PFPeA	864386.7	1.49915	1,045,334.00	1.5157	83	50 - 150	-0.0166	+/-0.50	
M5PFHxA	1659508	2.355567	1,939,905.00	2.380183	86	50 - 150	-0.0246	+/-0.50	
M3PFHxS	212578.8	2.95305	254,933.00	2.96115	83	50 - 150	-0.0081	+/-0.50	
M4PFHpA	1869742	2.921683	2,155,763.00	2.929767	87	50 - 150	-0.0081	+/-0.50	
M8PFOA	1673810	3.189217	2,080,042.00	3.197283	80	50 - 150	-0.0081	+/-0.50	
M8PFOS	196732.6	3.38015	258,368.00	3.388133	76	50 - 150	-0.0080	+/-0.50	
M9PFNA	1286432	3.381183	1,496,939.00	3.389167	86	50 - 150	-0.0080	+/-0.50	
MPFDoA	1572594	3.824817	2,136,189.00	3.832817	74	50 - 150	-0.0080	+/-0.50	
D5-NEtFOSAA	428891.4	3.6974	487,396.00	3.705567	88	50 - 150	-0.0082	+/-0.50	
D3-NMeFOSAA	398151.1	3.617633	513,644.00	3.625583	78	50 - 150	-0.0079	+/-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 (24E1248-04)			Lab File ID: 24E1248-04.d			Analyzed: 05/10/24 13:56			
M8FOSA	641571.9	3.708783	800,454.00	3.716767	80	50 - 150	-0.0080	+/-0.50	
M2-4:2FTS	174307.4	2.271967	332,053.00	2.296567	52	50 - 150	-0.0246	+/-0.50	
M2PFTA	1802978	4.073317	3,235,477.00	4.081367	56	50 - 150	-0.0080	+/-0.50	
M2-8:2FTS	132416.4	3.54685	248,868.00	3.546833	53	50 - 150	0.0000	+/-0.50	
MPFBA	915361.1	0.8594834	1,103,573.00	0.8678	83	50 - 150	-0.0083	+/-0.50	
M3HFPO-DA	177799.3	2.598067	197,711.00	2.606233	90	50 - 150	-0.0082	+/-0.50	
M6PFDA	1369435	3.5394	1,646,177.00	3.54735	83	50 - 150	-0.0079	+/-0.50	
M3PFBS	315048.2	1.670617	352,168.00	1.687167	89	50 - 150	-0.0166	+/-0.50	
M7PFUnA	1561915	3.689933	1,996,710.00	3.697917	78	50 - 150	-0.0080	+/-0.50	
M2-6:2FTS	135332	3.1805	222,903.00	3.188533	61	50 - 150	-0.0080	+/-0.50	
M5PFPeA	966079.8	1.507433	1,045,334.00	1.5157	92	50 - 150	-0.0083	+/-0.50	
M5PFHxA	1823133	2.363783	1,939,905.00	2.380183	94	50 - 150	-0.0164	+/-0.50	
M3PFHxS	235558.5	2.953067	254,933.00	2.96115	92	50 - 150	-0.0081	+/-0.50	
M4PFHpA	1914623	2.9217	2,155,763.00	2.929767	89	50 - 150	-0.0081	+/-0.50	
M8PFOA	1852740	3.1973	2,080,042.00	3.197283	89	50 - 150	0.0000	+/-0.50	
M8PFOS	232241.1	3.38815	258,368.00	3.388133	90	50 - 150	0.0000	+/-0.50	
M9PFNA	1398667	3.389183	1,496,939.00	3.389167	93	50 - 150	0.0000	+/-0.50	
MPFDoA	1762161	3.832833	2,136,189.00	3.832817	82	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	349558.4	3.697417	487,396.00	3.705567	72	50 - 150	-0.0081	+/-0.50	
D3-NMeFOSAA	409926.5	3.61765	513,644.00	3.625583	80	50 - 150	-0.0079	+/-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-5 (24E1248-05)			Lab File ID: 24E1248-05.d			Analyzed: 05/10/24 14:03			
M8FOSA	589618.9	3.716767	800,454.00	3.716767	74	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	189588.1	2.280167	332,053.00	2.296567	57	50 - 150	-0.0164	+/-0.50	
M2PFTA	2292397	4.073317	3,235,477.00	4.081367	71	50 - 150	-0.0080	+/-0.50	
M2-8:2FTS	141802.9	3.54685	248,868.00	3.546833	57	50 - 150	0.0000	+/-0.50	
MPFBA	724285.4	0.8594834	1,103,573.00	0.8678	66	50 - 150	-0.0083	+/-0.50	
M3HFPO-DA	172092	2.59805	197,711.00	2.606233	87	50 - 150	-0.0082	+/-0.50	
M6PFDA	1373785	3.5394	1,646,177.00	3.54735	83	50 - 150	-0.0079	+/-0.50	
M3PFBS	277187.2	1.670617	352,168.00	1.687167	79	50 - 150	-0.0166	+/-0.50	
M7PFUnA	1579823	3.689933	1,996,710.00	3.697917	79	50 - 150	-0.0080	+/-0.50	
M2-6:2FTS	244569.2	3.18855	222,903.00	3.188533	110	50 - 150	0.0000	+/-0.50	
M5PFPeA	866844	1.507433	1,045,334.00	1.5157	83	50 - 150	-0.0083	+/-0.50	
M5PFHxA	1682290	2.363767	1,939,905.00	2.380183	87	50 - 150	-0.0164	+/-0.50	
M3PFHxS	200107.8	2.95305	254,933.00	2.96115	78	50 - 150	-0.0081	+/-0.50	
M4PFHpA	1791803	2.921683	2,155,763.00	2.929767	83	50 - 150	-0.0081	+/-0.50	
M8PFOA	1760004	3.197283	2,080,042.00	3.197283	85	50 - 150	0.0000	+/-0.50	
M8PFOS	201399.6	3.38815	258,368.00	3.388133	78	50 - 150	0.0000	+/-0.50	
M9PFNA	1334585	3.389183	1,496,939.00	3.389167	89	50 - 150	0.0000	+/-0.50	
MPFDoA	1682033	3.832833	2,136,189.00	3.832817	79	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	360427.2	3.6974	487,396.00	3.705567	74	50 - 150	-0.0082	+/-0.50	
D3-NMeFOSAA	390570.3	3.617633	513,644.00	3.625583	76	50 - 150	-0.0079	+/-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 (B373844-BLK1)			Lab File ID: B373844-BLK1.d			Analyzed: 05/10/24 11:17			
M8FOSA	636746.8	3.716767	800,454.00	3.716767	80	50 - 150	0.0000	+/-0.50	
M2-4:2FTS	266486.3	2.304783	332,053.00	2.312983	80	50 - 150	-0.0082	+/-0.50	
M2PFTA	2877292	4.081383	3,235,477.00	4.081367	89	50 - 150	0.0000	+/-0.50	
M2-8:2FTS	242230	3.5548	248,868.00	3.5548	97	50 - 150	0.0000	+/-0.50	
MPFBA	980033.1	0.8678	1,103,573.00	0.8678	89	50 - 150	0.0000	+/-0.50	
M3HFPO-DA	166153.9	2.614417	197,711.00	2.6226	84	50 - 150	-0.0082	+/-0.50	
M6PFDA	1603519	3.555333	1,646,177.00	3.555317	97	50 - 150	0.0000	+/-0.50	
M3PFBS	333377.9	1.687167	352,168.00	1.69545	95	50 - 150	-0.0083	+/-0.50	
M7PFUnA	1854137	3.697917	1,996,710.00	3.697917	93	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	201559.2	3.1966	222,903.00	3.1966	90	50 - 150	0.0000	+/-0.50	
M5PFPeA	976685.6	1.523983	1,045,334.00	1.523967	93	50 - 150	0.0000	+/-0.50	
M5PFHxA	1838977	2.389	1,939,905.00	2.397233	95	50 - 150	-0.0082	+/-0.50	
M3PFHxS	240629.3	2.96115	254,933.00	2.969233	94	50 - 150	-0.0081	+/-0.50	
M4PFHpA	2011703	2.929767	2,155,763.00	2.938133	93	50 - 150	-0.0084	+/-0.50	
M8PFOA	1978696	3.206017	2,080,042.00	3.206017	95	50 - 150	0.0000	+/-0.50	
M8PFOS	233086.6	3.396133	258,368.00	3.396117	90	50 - 150	0.0000	+/-0.50	
M9PFNA	1536736	3.397167	1,496,939.00	3.39715	103	50 - 150	0.0000	+/-0.50	
MPFDoA	1963772	3.840817	2,136,189.00	3.840817	92	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	441675.3	3.705567	487,396.00	3.713567	91	50 - 150	-0.0080	+/-0.50	
D3-NMeFOSAA	472709.9	3.63355	513,644.00	3.633533	92	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 (B373844-BS1)			Lab File ID: B373844-BS1R.d			Analyzed: 05/10/24 12:29			
M8FOSA	594104.4	3.716767	800,454.00	3.708783	74	50 - 150	0.0080	+/-0.50	
M2-4:2FTS	210088.9	2.296567	332,053.00	2.28015	63	50 - 150	0.0164	+/-0.50	
M2PFTA	2646488	4.081383	3,235,477.00	4.073333	82	50 - 150	0.0080	+/-0.50	
M2-8:2FTS	160173.5	3.5548	248,868.00	3.54685	64	50 - 150	0.0080	+/-0.50	
MPFBA	959119.7	0.8678	1,103,573.00	0.8594834	87	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	185301.2	2.614417	197,711.00	2.59805	94	50 - 150	0.0164	+/-0.50	
M6PFDA	1365168	3.54735	1,646,177.00	3.547383	83	50 - 150	0.0000	+/-0.50	
M3PFBS	316878.5	1.687167	352,168.00	1.670617	90	50 - 150	0.0166	+/-0.50	
M7PFUnA	1689740	3.697917	1,996,710.00	3.697933	85	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	146909.2	3.188533	222,903.00	3.188567	66	50 - 150	0.0000	+/-0.50	
M5PFPeA	945981.9	1.523967	1,045,334.00	1.507433	90	50 - 150	0.0165	+/-0.50	
M5PFHxA	1810960	2.380183	1,939,905.00	2.363783	93	50 - 150	0.0164	+/-0.50	
M3PFHxS	226667.1	2.96115	254,933.00	2.953067	89	50 - 150	0.0081	+/-0.50	
M4PFHpA	1993708	2.929767	2,155,763.00	2.9217	92	50 - 150	0.0081	+/-0.50	
M8PFOA	1807864	3.206017	2,080,042.00	3.1973	87	50 - 150	0.0087	+/-0.50	
M8PFOS	222812.5	3.388133	258,368.00	3.388167	86	50 - 150	0.0000	+/-0.50	
M9PFNA	1402778	3.389167	1,496,939.00	3.3892	94	50 - 150	0.0000	+/-0.50	
MPFDoA	1814463	3.832817	2,136,189.00	3.83285	85	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	372503.6	3.705567	487,396.00	3.705583	76	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	408624.8	3.625583	513,644.00	3.6256	80	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 (B373844-BSD1)			Lab File ID: B373844-BSD1R.d			Analyzed: 05/10/24 12:58			
M8FOSA	610736.2	3.716767	800,454.00	3.708783	76	50 - 150	0.0080	+/-0.50	
M2-4:2FTS	221990.3	2.296567	332,053.00	2.28015	67	50 - 150	0.0164	+/-0.50	
M2PFTA	2667139	4.081383	3,235,477.00	4.073333	82	50 - 150	0.0080	+/-0.50	
M2-8:2FTS	175663.6	3.5548	248,868.00	3.54685	71	50 - 150	0.0080	+/-0.50	
MPFBA	967349.3	0.8678	1,103,573.00	0.8594834	88	50 - 150	0.0083	+/-0.50	
M3HFPO-DA	180781.7	2.606233	197,711.00	2.59805	91	50 - 150	0.0082	+/-0.50	
M6PFDA	1433062	3.54735	1,646,177.00	3.547383	87	50 - 150	0.0000	+/-0.50	
M3PFBS	321529.4	1.687167	352,168.00	1.670617	91	50 - 150	0.0166	+/-0.50	
M7PFUnA	1712016	3.697917	1,996,710.00	3.697933	86	50 - 150	0.0000	+/-0.50	
M2-6:2FTS	167293.3	3.188533	222,903.00	3.188567	75	50 - 150	0.0000	+/-0.50	
M5PFPeA	972830.9	1.5157	1,045,334.00	1.507433	93	50 - 150	0.0083	+/-0.50	
M5PFHxA	1826285	2.380183	1,939,905.00	2.363783	94	50 - 150	0.0164	+/-0.50	
M3PFHxS	233005.2	2.96115	254,933.00	2.953067	91	50 - 150	0.0081	+/-0.50	
M4PFHpA	2038747	2.929767	2,155,763.00	2.9217	95	50 - 150	0.0081	+/-0.50	
M8PFOA	1873624	3.197283	2,080,042.00	3.1973	90	50 - 150	0.0000	+/-0.50	
M8PFOS	226232.2	3.388133	258,368.00	3.388167	88	50 - 150	0.0000	+/-0.50	
M9PFNA	1450113	3.389167	1,496,939.00	3.3892	97	50 - 150	0.0000	+/-0.50	
MPFDoA	1837879	3.832833	2,136,189.00	3.83285	86	50 - 150	0.0000	+/-0.50	
D5-NEtFOSAA	385748.7	3.705567	487,396.00	3.705583	79	50 - 150	0.0000	+/-0.50	
D3-NMeFOSAA	468010.1	3.625583	513,644.00	3.6256	91	50 - 150	0.0000	+/-0.50	

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

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

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
NY	New York State Department of Health	10899 NELAP	04/1/2025
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2024
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

24E1248 KAF

Pace Analytical

Phone: 413-525-2332
Fax: 413-525-6405
Access COC's and Support Requests

http://www.pacelabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 5_07/13/2021

Page 1 of 1

Company Name:	KAS INC.
Address:	589 Ave. D, Suite 10 Williston VT 05495
Phone:	8023030480
Project Name:	BRANDON LANDFILL
Project Location:	BRANDON ~~LANDFILL~~ VT
Project Number:	1069210052
Project Manager:	Clare Santos
Pace Quote Name/Number:	
Invoice Recipient:	
Sampled By:	EW/WR

Requested Turnaround Time
7-Day ☐ 10-Day ☐
PFAS 10-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

Pace Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	N/A	PFAS Isotope Dilution (Full List)	[2] Preservation Code
1	ERB	~~1012~~ 1010	N/A	G	GW				1				X	
2	MW-2C	1250							2					
3	MW-1	1040												
4	MW-3	1140												
5	MW-5	1353												

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

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 5/7/24 1620	
Received by: (signature)	Date/Time: 5/8/24 1045	
Relinquished by: (signature)	Date/Time: 5/8/24 1510	
Received by: (signature)	Date/Time: 5/8/24 1510	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: Analyze ERB only if there's a detection in the other samples.

Detection Limit Requirements
MA
GT
Other: VT

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

NELAC and AIHA-LAP, LLC Accredited

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

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

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

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

[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)

Comments:

Disclaimer: Pace Analytical 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. Pace Analytical 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 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client KAS Inc.

Project Brandon Landfill

MCP/RCP Required N/A

Deliverable Package Requirement VT

Location Brandon, VT

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☒ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time EGR 5/8 1510

Back-Sheet By / Date / Time DWW 5/8 2141

Temperature Method GUN # 5

Temp ☒ < 6° C Actual Temperature 3.0

Rush Samples: Yes (No) Notify

Short Hold: Yes (No) Notify

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: (N/A) ☐ ☐

Additional Container Notes

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

Qualtrax ID: 120836

Pace ANALYTICAL SERVICES

DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist

Effective Date: 07/13/2023

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