Halifax Landfill
2044 Branch Road
Halifax, Vermont

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

FALL 2020 SEMI-ANNUAL WATER QUALITY MONITORING REPORT

January 14, 2021

Prepared for:

Town of Halifax
P.O. Box 45
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802 383.0486 p
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Introduction

KAS, Inc. (KAS) conducted a semi-annual water quality monitoring event on October 27, 2020 at the Halifax Landfill (Site Location Map and Site Map in Appendix A). A groundwater sample was collected from monitoring well MW-3 and analyzed for perfluorinated compounds (PFCs) via EPA Method 537 (short list). The October 2020 sampling effort was conducted in accordance with the current landfill certification. The sample was field analyzed for temperature, pH, and specific conductance using a properly calibrated YSI® Pro Multi-Meter. The depth to water was gauged using a Geotech™ water level indicator.

Results

Field measurements

Depth to water in MW-3 was measured at 6.30 feet below top of casing (btoc). The water temperature was 10.3 degrees Celsius and a pH value of 6.35 standard units was recorded at the time of sampling. The depth to water, temperature and pH measurements recorded are within range of historical measurements. A specific conductance reading of 251.5 µS/cm was noted at the time of sampling and is within range of historical fluctuations. Field measurement data is tabulated in Appendix B.

Laboratory results

Analytical testing indicated the presence of several PFCs in the groundwater sample collected from MW-3. A combined concentration of perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS), perfluorohexanesulfonic acid (PFHxS), perfluoroheptanoic acid (PFHpA) and perfluorononanoic acid (PFNA) in MW-3 was reported at 94.2 nanograms per liter (ng/l) which exceeds the Vermont Groundwater Enforcement Standard (VGES) of 20 ng/l. No PFCs were detected above laboratory method detection limits in the field blank sample. Current and historical analytical data are tabulated in Appendix B and a copy of the laboratory report is provided in Appendix C.

PFC concentrations at MW-3 decreased compared to the previous sampling in May 2020 and current concentrations remain below the peak high of 227 ng/l detected in May 2018. The data set continues to show PFC concentrations fluctuate over time. While an overall increasing trend appears apparent based on the linear trend R-square value (See Graph in Appendix B), a statistically significant trend has not been established. The figure on page 2 (Figure 1) is the concentration of total PFCs in MW-3 over time using a concentration linear trend generated by the Groundwater Spatio-Temporal Data Analysis Tool (GWSDAT Version 2.12). The solid green line shows the trend estimate and the dashed green lines are the 95% confidence intervals. The statistical significance of this trend is assessed using the Mann-Kendall trend test. If the Mann-Kendall p-value is below 0.05, then the estimated trend is statistically significantly different from 0, meaning that there is a trend within the data (GWSDAT User Manual v2.12). The Mann-Kendall p-value for MW-3 is 0.917; which is above 0.05, indicating a statistically relevant trend could not be established.

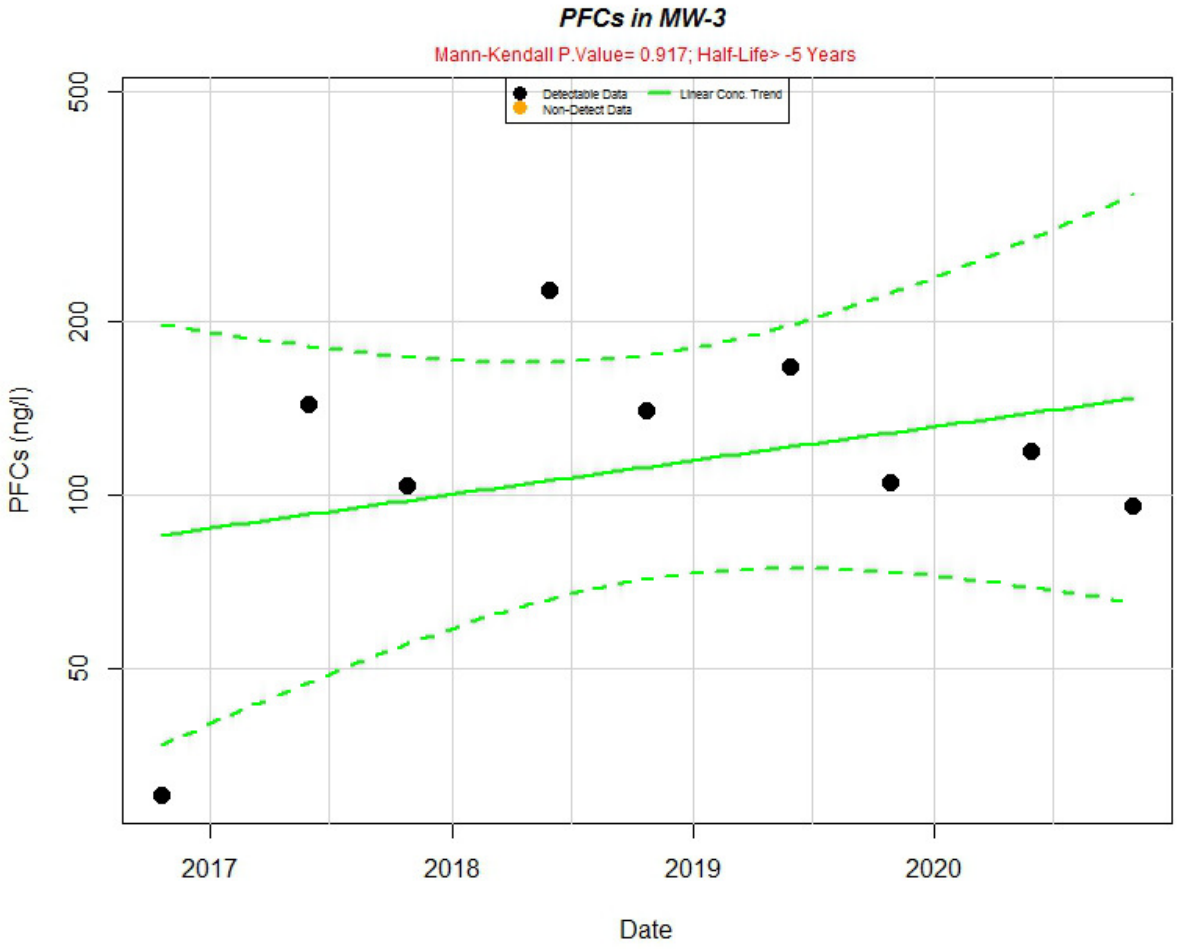
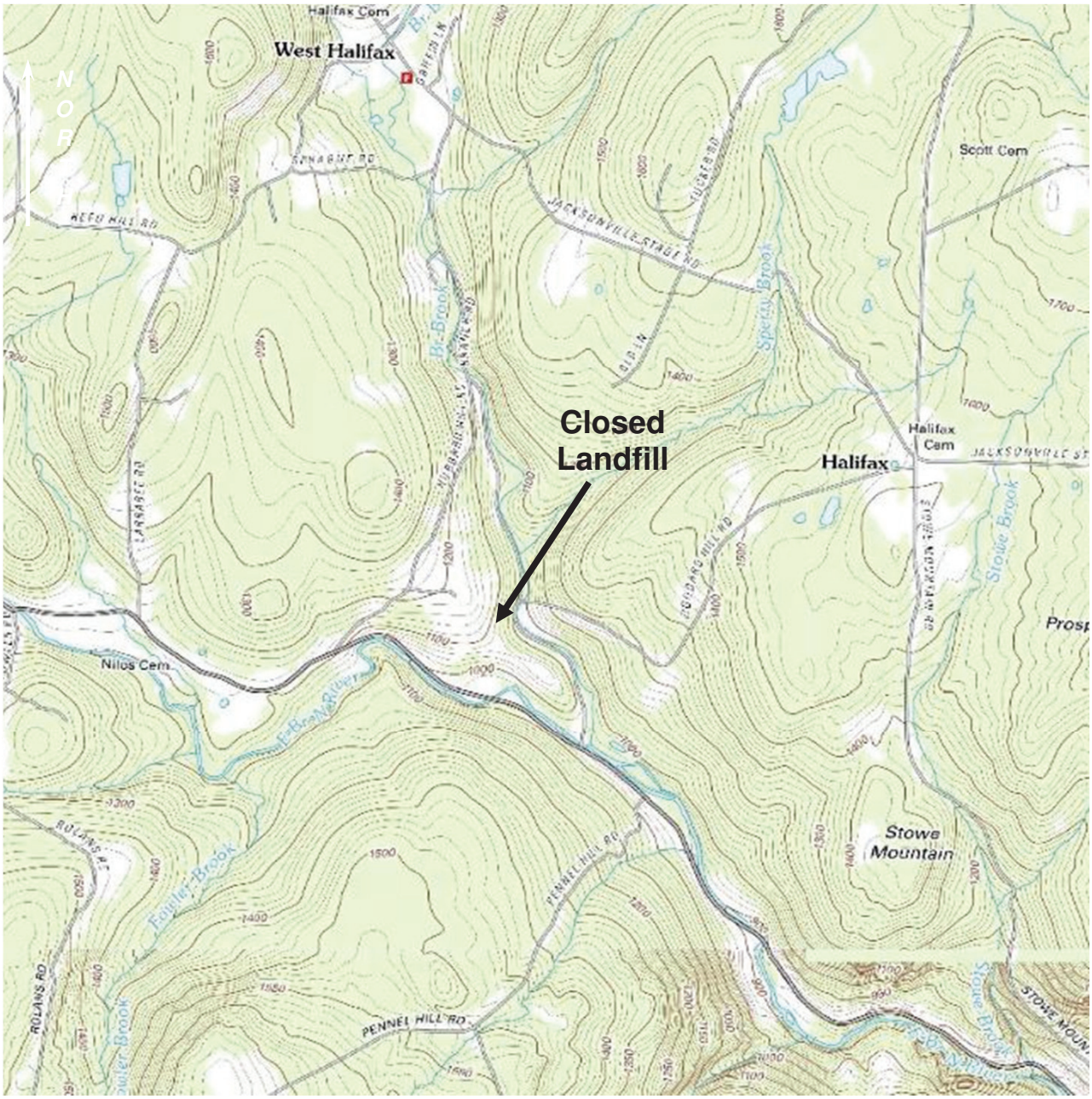


Figure 1. Total PFC concentration trend for monitoring well MW-3

Lower PFC concentrations are apparent during fall sampling events. The next groundwater monitoring event is scheduled to occur in May 2021.

APPENDIX A

Site Location Map and Site Map



KAS Job Number: 610110045

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

TOWN OF HALIFAX CLOSED LANDFILL

2044 Branch Road, Halifax, VT

Site Location Map

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

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

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

HALIFAX CLOSED LANDFILL

2044 Branch Road, Halifax, VT

SITE MAP

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

APPENDIX B

Historical Sampling Data

GROUNDWATER QUALITY SUMMARY

HALIFAX LANDFILL
HALIFAX, VT

MW-3

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

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

continued on next page

Notes:
Only detected or previously detected volatile organic compounds are listed.
btoc = below top of casing
ND<xx = Not Detected< Detection Limit
VGES = Vermont Groundwater Enforcement Standard (December 2016)
PAL = Preventative Action Level (December 2016)
NA = No VGES/PAL available
Results reported above detection limits are indicated in bold.

ns = not sampled
nt = not tested during sampling round
* = secondary groundwater quality standards (mg/L or ppm)
** = maximum acceptable change (units as noted)
*** = All perfluorinated compound values reported in ng/L. Analysis via EPA Method 537 (short list)
VGES and PALs pertain to total metals and are provided for reference only
E - The reported value exceeds largest calibration standard. Extrapolation of the calibration curve was employed to obtain the reported value.

= exceeds PAL
= exceeds VGES
= exceeds max acceptable change

kas

GROUNDWATER QUALITY SUMMARY

HALIFAX LANDFILL
HALIFAX, VT

MW-3 (continued)

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

Notes:
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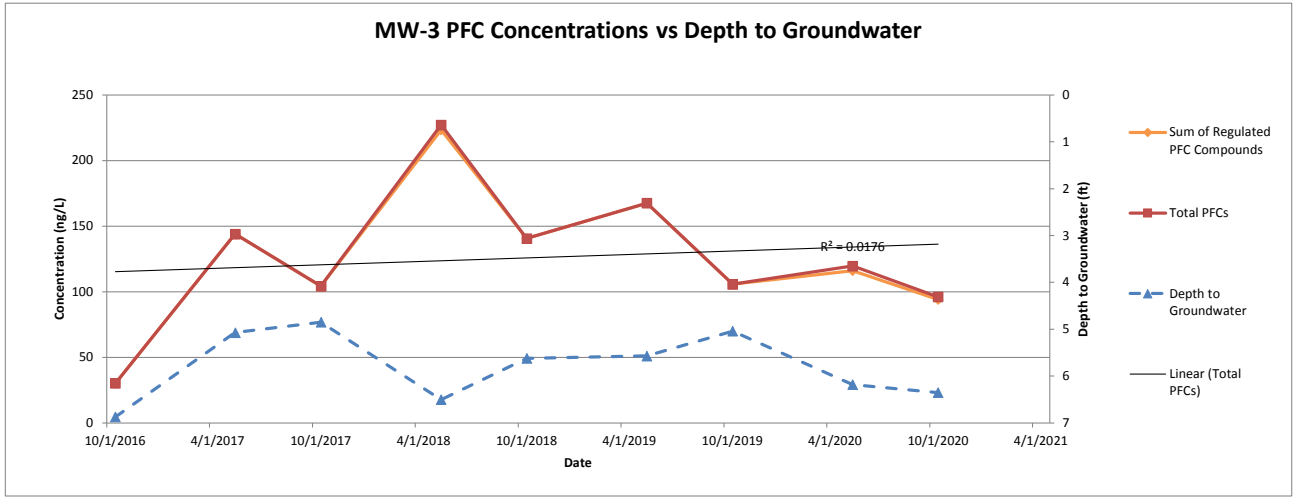
VGES = Vermont Groundwater Enforcement Standard (July 2019)
PAL = Preventative Action Level (July 2019)
NA = No VGES/PAL available
Results reported above detection limits are indicated in bold.

ns = not sampled
nt = not tested during sampling round
VGES and PALs pertain to total metals and are provided for reference only
E - The reported value exceeds largest calibration standard. Extrapolation of the calibration curve was employed to obtain the reported value.
* = All perfluorinated compound values reported in ng/L. Analysis via EPA Method 537 (short list). For PFHxS, PFHpA, PFOA, PFOS and PFNA, the VGES and PAL standards applies to the individual compounds and the sum of these compounds.

= exceeds current PAL
= exceeds current VGES



APPENDIX C

Laboratory Report

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

Client: **KAS**
Attn: Rebecca Treat
589 Avenue D, Suite 10
PO Box 787
Williston, VT 05495

NLS Project: 356598
NLS Customer: 108400
Phone: 802 383 0486

Project: Halifax Landfill

MW-3 NLS ID: 1226015
COC: 237054:1 Matrix: GW
Collected: 10/27/20 10:50 Received: 11/03/20

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Perfluorinated Chemicals by EPA Method 537.1	see attached					11/10/20	EPA 537.1	721026460
Solid Phase Extraction by EPA Method 537.1	yes					11/04/20	EPA 537.1	721026460

MW-3 Field Blank NLS ID: 1226016
COC: 237054:2 Matrix: FB
Collected: 10/27/20 00:00 Received: 11/03/20

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Perfluorinated Chemicals by EPA Method 537.1	see attached					11/10/20	EPA 537.1	721026460
Solid Phase Extraction by EPA Method 537.1	yes					11/04/20	EPA 537.1	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and/or LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution and/or solids content.
ND = Not Detected (< LOD) LOD = Limit of Detection LOQ = Limit of Quantitation NA = Not Applicable
DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

ANALYTICAL RESULTS: Perfluorinated Chemicals by EPA Method 537.1 Safe Drinking Water Analysis

Customer: KAS NLS Project: 356598

Project Description: Halifax Landfill

Project Title: Template: SCI1537.1 Printed: 11/21/2020 14:02

Sample: 1226015 MW-3 Collected: 10/27/20 Analyzed: 11/10/20 - Analytes: 6

ANALYTE NAME	RESULT	UNITS WWB	DIL	LOD	LOQ	Note
Perfluoroheptanoic acid (PFHpA)	7.64	ng/L	1	0.34	1.1	
Perfluorooctanoic acid (PFOA)	42.6	ng/L	1	0.31	1.0	
Perfluorononanoic acid (PFNA)	[0.93]	ng/L	1	0.45	1.5	J
Perfluorobutanesulfonic acid (PFBS)	[1.87]	ng/L	1	0.65	2.2	J
Perfluorohexanesulfonic acid (PFHxS)	8.49	ng/L	1	0.53	1.8	
Perfluorooctanesulfonic acid (PFOS)	34.5	ng/L	1	0.45	1.5	
C13-PFHxA (SURR)	56.015%		1			S
C13-HFPODA (SURR)	64.645%		1			S
C13-PFDA (SURR)	86.096%		1			S
d5-NEtFOSAA (SURR)	70.684%		1			S

NOTES APPLICABLE TO THIS ANALYSIS:

J = Result enclosed in brackets is between LOD and LOQ, a region of less certain quantitation.

S = This compound is a surrogate used to evaluate the quality control of a method.

Sample: 1226016 MW-3 Field Blank Collected: 10/27/20 Analyzed: 11/10/20 - Analytes: 6

ANALYTE NAME	RESULT	UNITS WWB	DIL	LOD	LOQ	Note
Perfluoroheptanoic acid (PFHpA)	ND	ng/L	1	0.34	1.1	
Perfluorooctanoic acid (PFOA)	ND	ng/L	1	0.31	1.0	
Perfluorononanoic acid (PFNA)	ND	ng/L	1	0.45	1.5	
Perfluorobutanesulfonic acid (PFBS)	ND	ng/L	1	0.65	2.2	
Perfluorohexanesulfonic acid (PFHxS)	ND	ng/L	1	0.53	1.8	
Perfluorooctanesulfonic acid (PFOS)	ND	ng/L	1	0.45	1.5	
C13-PFHxA (SURR)	81.628%		1			S
C13-HFPODA (SURR)	81.646%		1			S
C13-PFDA (SURR)	105.424%		1			S
d5-NEtFOSAA (SURR)	94.607%		1			S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

NORTHERN LAKE SERVICE, INC.

Analytical Laboratory and Environmental Services

400 North Lake Avenue • Crandon, WI 54520-1298

Tel: (715) 478-2777 • Fax: (715) 478-3060

Wisconsin DNR cert ID
721026460 (Cran) / 268533760 (Wauk)
Wisconsin DATCP ID
105-000330 (Cran) / 105-000479 (Wauk)

NO. 237054

CLIENT	KAS, INC
ADDRESS	PO BOX 787
CITY / STATE / ZIP	WILLISTON / VT / 05495
PROJECT DESCRIPTION / NO.	HALIFAX LANDFILL
QUOTATION NO.	
DNR FID #	
DNR LICENSE #	
CONTACT	REBECCA TREAT
PHONE	802-383-0486
PURCHASE ORDER NO.	61091004S
FAX	802-383-0490

MATRIX:
SW = surface water
WW = waste water
GW = groundwater
DW = drinking water
TIS = tissue
AIR = air
SOIL = soil
SED = sediment
PROD = product
SL = sludge
OTHER

ANALYZE PER ORDER OF ANALYSIS: PFAS EPA 537 Short List

USE BOXES BELOW: Indicate Y or N if GW Sample is field filtered.
Indicate G or C if WW Sample is Grab or Composite.

ITEM NO.	NLS LAB. NO.	SAMPLE ID	COLLECTION DATE	COLLECTION TIME	MATRIX (See above)													COLLECTION REMARKS (i.e. DNR Well ID #)
1.	226015	MW-3	10/27/20	~~1105~~ 1050 CST	GW		X											FIELD BLANK INCLUDED
2.	016	FB																
3.																		
4.																		
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		

ONE SAMPLE PER LINE

COLLECTED BY (signature)	CUSTODY SEAL NO. (IF ANY)	DATE/TIME 10/27/20 1700
RELINQUISHED BY (signature)	RECEIVED BY (signature)	DATE/TIME 10/28/20 1pm
DISPATCHED BY (signature)	METHOD OF TRANSPORT	DATE/TIME

REPORT TO: rebeccat@kas-consulting.com
KAS, INC

INVOICE TO: SAME

RECEIVED AT NLS BY (signature)	DATE/TIME 11/2/20 11:30	CONDITION	TEMP.
COOLER #	REMARKS & OTHER INFORMATION: ANALYZE FB IF ASSOCIATED SAMPLE HAS POSITIVE RESULT		
	WDNR FACILITY NUMBER	E-MAIL ADDRESS	

PRESERVATIVE:
NP = no preservative
S = sulfuric acid
N = nitric acid
Z = zinc acetate
M = methanol
OH = sodium hydroxide
HA = hydrochloric & ascorbic acid
H = hydrochloric acid

IMPORTANT:
1. TO MEET REGULATORY REQUIREMENTS, THIS FORM **MUST** BE COMPLETED IN DETAIL AND INCLUDED IN THE COOLER CONTAINING THE SAMPLES DESCRIBED.
2. PLEASE USE ONE LINE PER SAMPLE, **NOT** PER BOTTLE.
3. RETURN THIS FORM WITH SAMPLES - CLIENT MAY KEEP YELLOW COPY.
4. PARTIES COLLECTING SAMPLE, LISTED AS **REPORT TO** AND LISTED AS **INVOICE TO** AGREE TO STANDARD TERMS & CONDITIONS ON REVERSE.

Rev. 7/20/15

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