



**TEMPORARY GROUNDWATER
DISCHARGE PERMIT APPLICATION**
Drinking Water and Groundwater Bureau
Groundwater Discharge Program



RSA/Rule: RSA 485-A:6, VII; 485:3, X; Env-Wq 402

The TEMPORARY GROUNDWATER DISCHARGE PERMIT is a nonrenewable permit issued under RSA 485-A:13 and Env-Wq 402 for the temporary discharge of nondomestic wastewater including that which has received treatment by best available technology (Examples include groundwater remediation, dewatering projects, pump tests, discharges or treated water to the ground or groundwater, etc.)

SUBMIT:

- ONE SIGNED AND COMPLETED APPLICATION TO THE MUNICIPALITY IN WHICH THE DISCHARGE WILL OCCUR
- ONE SIGNED AND COMPLETED APPLICATION TO NHDES AT THE ADDRESS BELOW

TO: NHDES/Water Division
Drinking Water & Groundwater Bureau
Discharge Permit Coordinator
P.O. Box 95
Concord, NH 03302-0095

FOR STATE USE ONLY

Date Received: _____

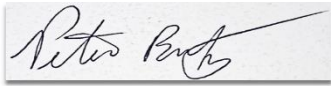
Site No: _____

Rivers Coordinator Notified Date: _____

If you have any questions, please contact the
Discharge Permits Coordinator at (603) 271-2858.

CERTIFICATION OF MUNICIPAL NOTIFICATION

In order to meet the requirements of Env-Wq 402, the undersigned certifies that on _____ (date), a copy of this completed permit application was delivered to the Town/City Clerk of _____ (the town in which the proposed discharge will be located).

Date: 12/10/2020 Signed: 
Applicant (Landowner)

I. Facility

Name: Coakley Landfill
Address: 480 Breakfast Hill Road
City/Town: North Hampton State: NH Zip: 03840
Latitude and Longitude of Discharge point(s): 43.001914, -70.818054

dwgbinfo@des.nh.gov or phone (603) 271-2858
PO Box 95, Concord, NH 03302-0095
www.des.nh.gov

II. Applicant (if you are a contact person for the applicant check this box ☒)Name: Coakley Landfill Group (Mr. Peter Britz – Contact)Daytime Telephone: (603) 610-7215

Fax Number: (____) _____

Mailing Address: 1 Junkins AvenueCity/Town: Portsmouth State: NH Zip: 03801Email Address (Contact Person): plbritz@cityofportsmouth.comContact Person Phone Number: As above Fax Number: (____) _____

III. Facility Owner (complete only if different from Applicant)

Owner Name: _____ ☐ Owner ☐ Operator

Daytime Telephone: (____) _____

Mailing Address: _____

City/Town: _____ State: _____ Zip: _____

Email Address (Contact Person): _____

Contact Person Phone Number: (____) _____ Fax Number: (____) _____

IV. Property Owner (complete only if different from Applicant or Facility Owner)

Name: _____

Daytime Telephone: (____) _____

Mailing Address: _____

City/Town: _____ State: _____ Zip: _____

Email Address (Contact Person): _____

Contact Person Phone Number: (____) _____ Fax Number: (____) _____

V. Please provide the following information related to the proposed temporary discharge:

- a. The purpose of the temporary discharge (e.g. groundwater remediation, well rehab or pumping test, construction dewatering, etc.) Groundwater monitoring well redevelopment.

- b. Proposed Discharge Location

Include a clear color copy of a USGS topographic map or equivalent map which depicts the facility or site location, the discharge location and the location of the closest sanitary sewer.

See attached Figure 1. Closest sanitary sewer is believed to be located along Lafayette Rd and approximately 1,650 ft east of the proposed discharge location.

Location of discharge, if different from facility:

Address: _____

City/Town: _____ State: _____ Zip: _____

Property Tax Map: _____ Lot Number: _____

Latitude & Longitude: _____

- c. Location of closest sanitary sewer: Along Lafayette Road, approximately 1,900' east of the discharge location

- d. Proposed Discharge Rate

Proposed starting date: One time discharge once permit is approved

Estimated discharge: 5 gpm for 4.5 hours total.

Estimated number of days discharge will be required: 0.5 days

dwgbinfo@des.nh.gov or phone (603) 271-2858

PO Box 95, Concord, NH 03302-0095

www.des.nh.gov

e. Proposed Discharge Method

Describe the method and materials used for the temporary discharge, include a description of any erosion control measures used at the point of discharge:

1,300 gallons of groundwater are currently contained in two plastic storage vessels at the Site immediately adjacent to a landfill stormwater detention pond (northwest corner of landfill). The vessels will be drained via a valve located at the bottom of each vessel. A standard garden hose will be attached to the valve and run to the bottom of the pond and terminated in a perforated 5-gallon bucket. Once opened, the water will be emptied at a rate of no more than 5 gallons per minute with the bucket aiding in dispersion of water and reduction of potential for erosion. Once discharged to the stormwater pond, water drains primarily via infiltration.

VI. Groundwater Contamination Information, Treatment and Discharge Monitoring

- a. Provide a summary of the most recent groundwater monitoring results, including total VOCs (laboratory results should also be attached to the application) of the source water for the temporary groundwater discharge:

<u>Location</u>	<u>Compound(s) Exceeding Water Quality Standards</u>	<u>Concentrations (ug/L)</u>
MW-6	Manganese	4140

b. Proposed Treatment

Type of treatment proposed (include a description of the wastewater, information on influent and effluent water quality and on sludge or other by-products generated:

No treatment of water is anticipated prior to disposal.

- c. Provide a description of the proposed monitoring and sampling program for the water discharged at the site (applicable only if the source water for the discharge is known to contain, or is anticipated to contain, contamination):

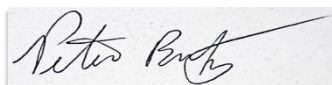
The water will be discharged to a location within an existing Groundwater Management Zone (GMZ) with the area monitored routinely for groundwater and surface water quality in accordance with a USEPA-approved Sampling and Analysis Plan for the Coakley Landfill Superfund Site. Water discharge from the basin, if any, is included as part of ongoing stormwater sampling performed at the landfill and specific to water exiting stormwater control basins.

By signing this application the signer certifies that the information contained in or otherwise submitted with this application is true, complete and not misleading to the best of the signer's knowledge and belief.

By signing this application the signer understands that submission of false, incomplete or misleading information is grounds for:

- Denying the application;
- Revoking any application that is granted based on the information; and
- If the signer is acting as, or on behalf of, a listed engineer as defined in Env-C 502.10, debaring the listed engineer from the roster.

By signing the application, the signer and applicant agree to comply with all applicable rules and conditions of this permit and to not discharge to the holding tank(s) until written permission from the department has been received.



12/10/2020

Signature of Applicant or Contact

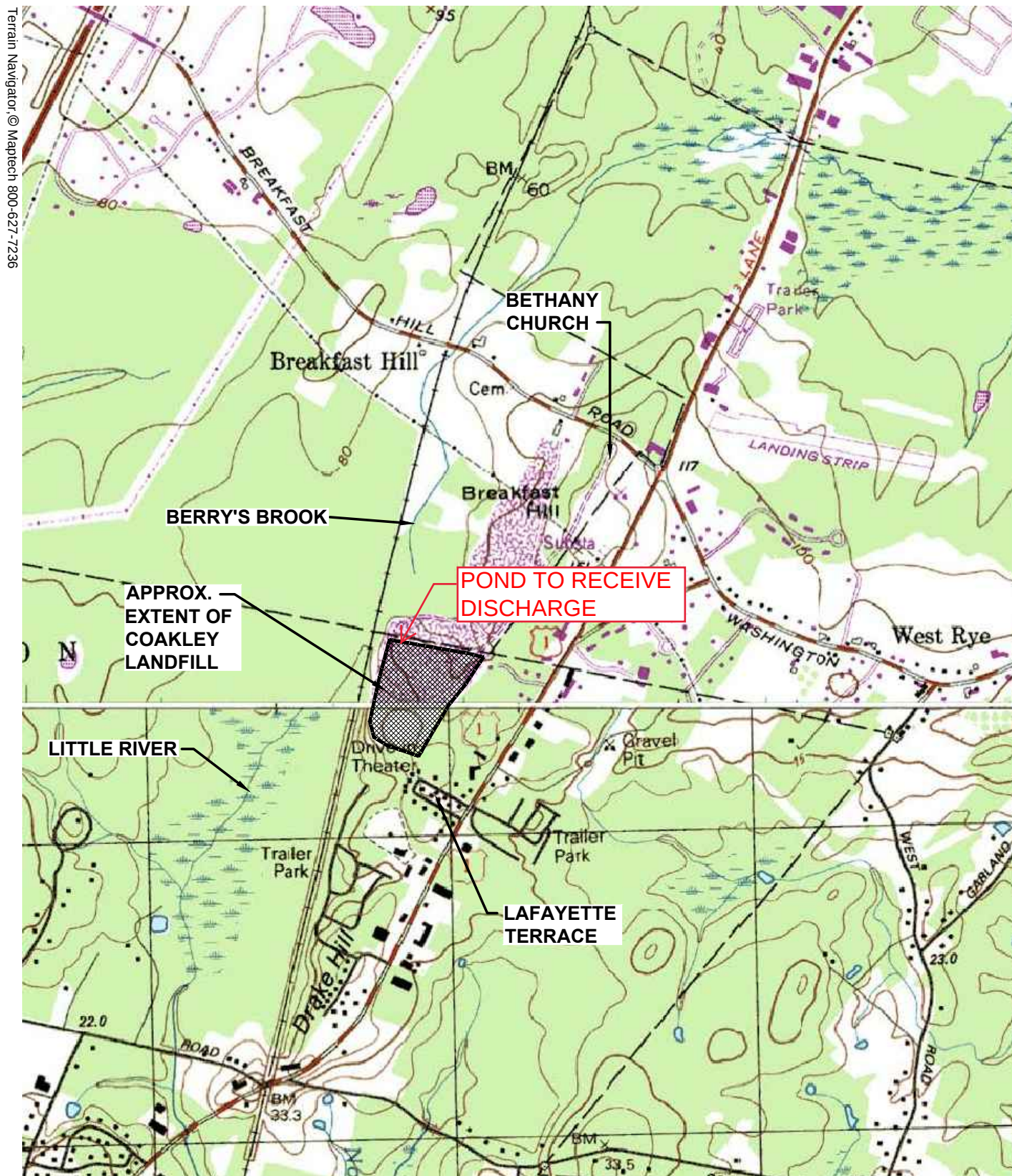
Date

Signature of Facility Owner (if not Applicant)

Date

Signature of Property Owner (if not Applicant or Facility Owner)

Date



SOURCE:
U.S.G.S. TOPOGRAPHIC QUADRANGLE
PORTSMOUTH
SCALE: 1"=1500'



CES INC

**COAKLEY LANDFILL
NORTH HAMPTON, NH
LOCATION MAP**

2019-09-08
10424.024

FIGURE 1



ANALYTICAL REPORT

Lab Number:	L2027711
Client:	CES, Inc 415 Lisbon St. 2nd floor Lewiston, ME 04240
ATTN:	Chris Buckman
Phone:	(207) 989-4824
Project Name:	COAKLEY LANDFILL
Project Number:	10424
Report Date:	07/15/20

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: COAKLEY LANDFILL
Project Number: 10424

Lab Number: L2027711
Report Date: 07/15/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2027711-01	GW-MW-6-DISP	WATER	GREENLAND, NH	06/30/20 10:30	06/30/20

Project Name: COAKLEY LANDFILL
Project Number: 10424

Lab Number: L2027711
Report Date: 07/15/20

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: COAKLEY LANDFILL
Project Number: 10424

Lab Number: L2027711
Report Date: 07/15/20

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Perfluorinated Alkyl Acids by Isotope Dilution

L2027711-01: The sample was re-analyzed due to QC failures in the original analysis. The results of the re-analysis are reported.

L2027711-01: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

L2027711-01 (MeOH): The sample was re-analyzed due to QC failures in the original analysis. The results of the re-analysis are reported.

L2027711-01 (MeOH): Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

L2027711-01: The MeOH fraction of the extraction is reported for the following compounds: N-Methyl Perfluorooctane Sulfonamide (NMeFOSA) and N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA) due to better extraction efficiency of the Surrogates (Extracted Internal Standards).

WG1388862-1R, WG1388862-2 and WG1388862-3: The sample was re-analyzed due to QC failures in the original analysis. The results of the re-analysis are reported.

WG1388862-1R, WG1388862-2 and WG1388862-3: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

WG1388862-1, WG1388862-2, and WG1388862-3 (MeOH): The sample was re-analyzed due to QC failures in the original analysis. The results of the re-analysis are reported.

WG1388862-1, WG1388862, and WG1388862-3 (MeOH): Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

WG1388862-1/-2/-3: The MeOH fraction of the extraction is reported for the following compounds: N-Methyl Perfluorooctane Sulfonamide (NMeFOSA) and N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA), due to better

Project Name: COAKLEY LANDFILL
Project Number: 10424

Lab Number: L2027711
Report Date: 07/15/20

Case Narrative (continued)

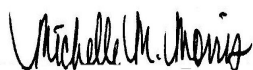
extraction efficiency of the Surrogates (Extracted Internal Standards).

WG1388862-2/-3: The internal Standard M2PFDA (form 8) is within the method criteria.

The WG1388862-2/-3 LCS/LCSD RPD, associated with L2027711-01, is above the acceptance criteria for n-ethyl perfluorooctanesulfonamido ethanol (netfose) (36%).

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Michelle M. Morris

Title: Technical Director/Representative

Date: 07/15/20

ORGANICS

VOLATILES

Project Name: COAKLEY LANDFILL
Project Number: 10424

Lab Number: L2027711
Report Date: 07/15/20

SAMPLE RESULTS

Lab ID: L2027711-01
Client ID: GW-MW-6-DISP
Sample Location: GREENLAND, NH

Date Collected: 06/30/20 10:30
Date Received: 06/30/20
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/08/20 11:35
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.68	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	0.45	J	ug/l	0.75	0.22	1
Carbon tetrachloride	0.94		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	2.5	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.24	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.20	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1

Project Name: COAKLEY LANDFILL**Lab Number:** L2027711**Project Number:** 10424**Report Date:** 07/15/20**SAMPLE RESULTS**

Lab ID: L2027711-01
Client ID: GW-MW-6-DISP
Sample Location: GREENLAND, NH

Date Collected: 06/30/20 10:30
Date Received: 06/30/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
Methyl tert butyl ether	0.92	J	ug/l	1.0	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	5.0	0.36	1
1,2,3-Trichloropropane	ND		ug/l	5.0	0.18	1
Styrene	ND		ug/l	1.0	0.36	1
Dichlorodifluoromethane	ND		ug/l	5.0	0.24	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Bromochloromethane	ND		ug/l	2.5	0.15	1
Tetrahydrofuran	ND		ug/l	5.0	0.52	1
2,2-Dichloropropane	ND		ug/l	2.5	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	2.5	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	2.5	0.20	1
o-Chlorotoluene	ND		ug/l	2.5	0.22	1
p-Chlorotoluene	ND		ug/l	2.5	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.35	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	2.5	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.23	1

Project Name: COAKLEY LANDFILL
Project Number: 10424

Lab Number: L2027711
Report Date: 07/15/20

SAMPLE RESULTS

Lab ID: L2027711-01
Client ID: GW-MW-6-DISP
Sample Location: GREENLAND, NH

Date Collected: 06/30/20 10:30
Date Received: 06/30/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,3,5-Trichlorobenzene	ND		ug/l	2.0	0.14	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1
Ethyl ether	ND		ug/l	2.5	0.16	1
Isopropyl Ether	ND		ug/l	2.0	0.42	1
Tert-Butyl Alcohol	36		ug/l	10	1.4	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	0.18	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	0.28	1
1,4-Dioxane	ND		ug/l	250	61.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	102		70-130

Project Name: COAKLEY LANDFILL
Project Number: 10424

Lab Number: L2027711
Report Date: 07/15/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/08/20 08:47
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1390024-5					
Methylene chloride	ND		ug/l	3.0	0.68
1,1-Dichloroethane	ND		ug/l	0.75	0.21
Chloroform	ND		ug/l	0.75	0.22
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.8	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	0.50	0.18
Trichlorofluoromethane	ND		ug/l	2.5	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.24
Bromoform	ND		ug/l	2.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
Chloromethane	ND		ug/l	2.5	0.20
Bromomethane	ND		ug/l	1.0	0.26
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	1.0	0.13
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16

Project Name: COAKLEY LANDFILL
Project Number: 10424

Lab Number: L2027711
Report Date: 07/15/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/08/20 08:47
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1390024-5					
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19
Methyl tert butyl ether	ND		ug/l	1.0	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19
Dibromomethane	ND		ug/l	5.0	0.36
1,2,3-Trichloropropane	ND		ug/l	5.0	0.18
Styrene	ND		ug/l	1.0	0.36
Dichlorodifluoromethane	ND		ug/l	5.0	0.24
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	0.30
2-Butanone	ND		ug/l	5.0	1.9
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42
2-Hexanone	ND		ug/l	5.0	0.52
Bromochloromethane	ND		ug/l	2.5	0.15
Tetrahydrofuran	ND		ug/l	5.0	0.52
2,2-Dichloropropane	ND		ug/l	2.5	0.20
1,2-Dibromoethane	ND		ug/l	2.0	0.19
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16
Bromobenzene	ND		ug/l	2.5	0.15
n-Butylbenzene	ND		ug/l	0.50	0.19
sec-Butylbenzene	ND		ug/l	0.50	0.18
tert-Butylbenzene	ND		ug/l	2.5	0.20
o-Chlorotoluene	ND		ug/l	2.5	0.22
p-Chlorotoluene	ND		ug/l	2.5	0.18

Project Name: COAKLEY LANDFILL
Project Number: 10424

Lab Number: L2027711
Report Date: 07/15/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/08/20 08:47
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1390024-5					
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.35
Hexachlorobutadiene	ND		ug/l	0.50	0.22
Isopropylbenzene	ND		ug/l	0.50	0.19
p-Isopropyltoluene	ND		ug/l	0.50	0.19
Naphthalene	ND		ug/l	2.5	0.22
n-Propylbenzene	ND		ug/l	0.50	0.17
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.23
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.22
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,3,5-Trichlorobenzene	ND		ug/l	2.0	0.14
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19
Ethyl ether	ND		ug/l	2.5	0.16
Isopropyl Ether	ND		ug/l	2.0	0.42
Tert-Butyl Alcohol	ND		ug/l	10	1.4
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	0.18
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	0.28
1,4-Dioxane	ND		ug/l	250	61.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	92		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COAKLEY LANDFILL

Project Number: 10424

Lab Number: L2027711

Report Date: 07/15/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1390024-3 WG1390024-4								
Methylene chloride	83		85		70-130	2		20
1,1-Dichloroethane	94		97		70-130	3		20
Chloroform	85		86		70-130	1		20
Carbon tetrachloride	89		90		63-132	1		20
1,2-Dichloropropane	84		90		70-130	7		20
Dibromochloromethane	83		87		63-130	5		20
1,1,2-Trichloroethane	86		89		70-130	3		20
Tetrachloroethene	91		96		70-130	5		20
Chlorobenzene	93		95		75-130	2		25
Trichlorofluoromethane	94		95		62-150	1		20
1,2-Dichloroethane	88		92		70-130	4		20
1,1,1-Trichloroethane	85		89		67-130	5		20
Bromodichloromethane	78		80		67-130	3		20
trans-1,3-Dichloropropene	83		84		70-130	1		20
cis-1,3-Dichloropropene	79		82		70-130	4		20
1,1-Dichloropropene	86		90		70-130	5		20
Bromoform	81		82		54-136	1		20
1,1,2,2-Tetrachloroethane	83		88		67-130	6		20
Benzene	85		91		70-130	7		25
Toluene	91		95		70-130	4		25
Ethylbenzene	93		96		70-130	3		20
Chloromethane	84		85		64-130	1		20
Bromomethane	93		97		39-139	4		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: COAKLEY LANDFILL

Project Number: 10424

Lab Number: L2027711

Report Date: 07/15/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1390024-3 WG1390024-4								
Vinyl chloride	81		85		55-140	5		20
Chloroethane	100		99		55-138	1		20
1,1-Dichloroethene	84		93		61-145	10		25
trans-1,2-Dichloroethene	88		90		70-130	2		20
Trichloroethene	81		83		70-130	2		25
1,2-Dichlorobenzene	98		98		70-130	0		20
1,3-Dichlorobenzene	98		98		70-130	0		20
1,4-Dichlorobenzene	96		96		70-130	0		20
Methyl tert butyl ether	79		82		63-130	4		20
p/m-Xylene	95		95		70-130	0		20
o-Xylene	95		100		70-130	5		20
cis-1,2-Dichloroethene	86		90		70-130	5		20
Dibromomethane	82		86		70-130	5		20
1,2,3-Trichloropropane	88		92		64-130	4		20
Styrene	90		95		70-130	5		20
Dichlorodifluoromethane	53		55		36-147	4		20
Acetone	86		88		58-148	2		20
Carbon disulfide	85		89		51-130	5		20
2-Butanone	85		93		63-138	9		20
4-Methyl-2-pentanone	71		77		59-130	8		20
2-Hexanone	78		83		57-130	6		20
Bromochloromethane	88		91		70-130	3		20
Tetrahydrofuran	100		120		58-130	18		20

Lab Control Sample Analysis Batch Quality Control

Project Name: COAKLEY LANDFILL

Project Number: 10424

Lab Number: L2027711

Report Date: 07/15/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1390024-3 WG1390024-4								
2,2-Dichloropropane	90		90		63-133	0		20
1,2-Dibromoethane	88		89		70-130	1		20
1,1,1,2-Tetrachloroethane	92		91		64-130	1		20
Bromobenzene	94		96		70-130	2		20
n-Butylbenzene	100		100		53-136	0		20
sec-Butylbenzene	99		99		70-130	0		20
tert-Butylbenzene	82		82		70-130	0		20
o-Chlorotoluene	97		96		70-130	1		20
p-Chlorotoluene	96		96		70-130	0		20
1,2-Dibromo-3-chloropropane	73		79		41-144	8		20
Hexachlorobutadiene	92		98		63-130	6		20
Isopropylbenzene	96		97		70-130	1		20
p-Isopropyltoluene	97		98		70-130	1		20
Naphthalene	76		81		70-130	6		20
n-Propylbenzene	97		98		69-130	1		20
1,2,3-Trichlorobenzene	85		89		70-130	5		20
1,2,4-Trichlorobenzene	86		91		70-130	6		20
1,3,5-Trimethylbenzene	97		98		64-130	1		20
1,3,5-Trichlorobenzene	94		96		70-130	2		20
1,2,4-Trimethylbenzene	95		96		70-130	1		20
Ethyl ether	86		91		59-134	6		20
Isopropyl Ether	89		91		70-130	2		20
Tert-Butyl Alcohol	70		74		70-130	6		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: COAKLEY LANDFILL

Project Number: 10424

Lab Number: L2027711

Report Date: 07/15/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1390024-3 WG1390024-4								
Ethyl-Tert-Butyl-Ether	83		87		70-130	5		20
Tertiary-Amyl Methyl Ether	76		80		66-130	5		20
1,4-Dioxane	86		88		56-162	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		105		70-130
Toluene-d8	102		104		70-130
4-Bromofluorobenzene	99		99		70-130
Dibromofluoromethane	98		99		70-130

SEMIVOLATILES

Project Name: COAKLEY LANDFILL
Project Number: 10424

Lab Number: L2027711
Report Date: 07/15/20

SAMPLE RESULTS

Lab ID: L2027711-01
Client ID: GW-MW-6-DISP
Sample Location: GREENLAND, NH

Date Collected: 06/30/20 10:30
Date Received: 06/30/20
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 07/02/20 23:31
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 07/01/20 08:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.141	J	ug/l	0.150	0.0339	1
Surrogate	% Recovery		Qualifier	Acceptance Criteria		
1,4-Dioxane-d8	48			15-110		

Project Name: COAKLEY LANDFILL**Lab Number:** L2027711**Project Number:** 10424**Report Date:** 07/15/20**SAMPLE RESULTS**

Lab ID: L2027711-01 R

Date Collected: 06/30/20 10:30

Client ID: GW-MW-6-DISP

Date Received: 06/30/20

Sample Location: GREENLAND, NH

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/05/20 11:00

Analytical Date: 07/14/20 06:40

Analyst: RS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	2.17		ng/l	1.83	0.374	1
Perfluoropentanoic Acid (PFPeA)	3.52		ng/l	1.83	0.363	1
Perfluorobutanesulfonic Acid (PFBS)	2.50		ng/l	1.83	0.218	1
Perfluorohexanoic Acid (PFHxA)	12.1		ng/l	1.83	0.300	1
Perfluoroheptanoic Acid (PFHpA)	18.4		ng/l	1.83	0.206	1
Perfluorohexanesulfonic Acid (PFHxS)	1.27	J	ng/l	1.83	0.344	1
Perfluorooctanoic Acid (PFOA)	10.3		ng/l	1.83	0.216	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	292		ng/l	1.83	1.22	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.83	0.630	1
Perfluorononanoic Acid (PFNA)	0.432	J	ng/l	1.83	0.286	1
Perfluorooctanesulfonic Acid (PFOS)	5.91		ng/l	1.83	0.462	1
Perfluorodecanoic Acid (PFDA)	0.619	J	ng/l	1.83	0.278	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.83	1.11	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.83	0.593	1
Perfluoroundecanoic Acid (PFUnA)	0.458	J	ng/l	1.83	0.238	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.83	0.897	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.83	0.531	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.83	0.736	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.83	0.341	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.83	0.300	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.83	0.227	1
Perfluorohexadecanoic Acid (PFHxDA)	ND		ng/l	3.66	1.14	1
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	45.8	20.3	1
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	45.8	20.6	1

Project Name: COAKLEY LANDFILL

Lab Number: L2027711

Project Number: 10424

Report Date: 07/15/20

SAMPLE RESULTS

Lab ID: L2027711-01 R

Date Collected: 06/30/20 10:30

Client ID: GW-MW-6-DISP

Date Received: 06/30/20

Sample Location: GREENLAND, NH

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Surrogate (Extracted Internal Standard)	% Recovery		Qualifier	Acceptance Criteria		
Perfluoro[13C4]Butanoic Acid (MPFBA)	40			2-156		
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	41			16-173		
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	101			31-159		
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	142			1-313		
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	31			21-145		
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	35			30-139		
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	106			47-153		
Perfluoro[13C8]Octanoic Acid (M8PFOA)	38			36-149		
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	138			1-244		
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	41			34-146		
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	93			42-146		
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	44			38-144		
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	88			7-170		
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	48			1-181		
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	48			40-144		
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	16			1-87		
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	57			23-146		
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	43			24-161		
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	45			33-143		
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	70			50-150		
2-(N-Methyl-d3-Perfluoro-1-Octanesulfonamido)ethan-d4-ol (d7-NMeFOSE)	1		Q	50-150		
2-(N-Ethyl-d5-Perfluoro-1-Octanesulfonamido)ethan-d4-ol (d9-NEtFOSE)	3		Q	50-150		

Project Name: COAKLEY LANDFILL
Project Number: 10424

Lab Number: L2027711
Report Date: 07/15/20

SAMPLE RESULTS

Lab ID: L2027711-01 R
Client ID: GW-MW-6-DISP
Sample Location: GREENLAND, NH

Date Collected: 06/30/20 10:30
Date Received: 06/30/20
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 07/15/20 02:23
Analyst: RS

Extraction Method: ALPHA 23528
Extraction Date: 07/05/20 11:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	18.3	6.74	1
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	18.3	6.08	1

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (d3-NMeFOSA)	3	Q	50-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (d5-NEtFOSA)	2	Q	50-150

Project Name: COAKLEY LANDFILL
Project Number: 10424

Lab Number: L2027711
Report Date: 07/15/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/02/20 19:00
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 07/01/20 08:00

Parameter	Result	Qualifier	Units	RL	MDL
1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01 Batch: WG1387952-1					
1,4-Dioxane	ND		ug/l	0.150	0.0339

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	43		15-110

Project Name: COAKLEY LANDFILL
Project Number: 10424

Lab Number: L2027711
Report Date: 07/15/20

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 07/14/20 11:02
Analyst: JW

Extraction Method: ALPHA 23528
Extraction Date: 07/05/20 11:00

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01 Batch: WG1388862-1 R					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	0.408
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	0.396
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.238
Perfluorohexanoic Acid (PFHxA)	0.348	J	ng/l	2.00	0.328
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	0.225
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.376
Perfluorooctanoic Acid (PFOA)	0.264	J	ng/l	2.00	0.236
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	1.33
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	0.688
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	0.312
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	0.504
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	0.304
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	1.21
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	0.648
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	0.260
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	0.980
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	0.580
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	0.804
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	0.372
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	0.327
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	0.248
Perfluorohexadecanoic Acid (PFHxDA)	ND		ng/l	4.00	1.24
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	ND		ng/l	50.0	22.2
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	ND		ng/l	50.0	22.5

Project Name: COAKLEY LANDFILL
Project Number: 10424

Lab Number: L2027711
Report Date: 07/15/20

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 07/14/20 11:02
Analyst: JW

Extraction Method: ALPHA 23528
Extraction Date: 07/05/20 11:00

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01 Batch: WG1388862-1 R					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	60		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	68		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	95		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	69		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	60		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	68		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	101		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	72		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	79		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	74		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	94		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	78		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	85		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	55		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	86		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	33		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	57		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	83		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	73		33-143
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	83		50-150
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	67		50-150
2-(N-Methyl-d3-Perfluoro-1-Octanesulfonamido)ethan-d4-ol (d7-NMeFOSE)	22	Q	50-150
2-(N-Ethyl-d5-Perfluoro-1-Octanesulfonamido)ethan-d4-ol (d9-NEtFOSE)	21	Q	50-150

Project Name: COAKLEY LANDFILL
Project Number: 10424

Lab Number: L2027711
Report Date: 07/15/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 07/14/20 12:08
Analyst: JW

Extraction Method: ALPHA 23528
Extraction Date: 07/05/20 11:00

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01 Batch: WG1388862-1 R					
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	ND		ng/l	20.0	7.36
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	ND		ng/l	20.0	6.64

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (d3-NMeFOSA)	1	Q	50-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (d5-NEtFOSA)	1	Q	50-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: COAKLEY LANDFILL

Project Number: 10424

Lab Number: L2027711

Report Date: 07/15/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1387952-2 WG1387952-3								
1,4-Dioxane	96		102		40-140	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	44		42		15-110

Lab Control Sample Analysis

Batch Quality Control

Project Name: COAKLEY LANDFILL

Lab Number: L2027711

Project Number: 10424

Report Date: 07/15/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01 Batch: WG1388862-2 WG1388862-3								
Perfluorobutanoic Acid (PFBA)	119		116		67-148	7		30
Perfluoropentanoic Acid (PFPeA)	123		119		63-161	4		30
Perfluorobutanesulfonic Acid (PFBS)	122		119		65-157	6		30
Perfluorohexanoic Acid (PFHxA)	123		118		69-168	2		30
Perfluoroheptanoic Acid (PFHpA)	120		117		58-159	5		30
Perfluorohexanesulfonic Acid (PFHxS)	120		115		69-177	8		30
Perfluorooctanoic Acid (PFOA)	123		118		63-159	11		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	132		134		49-187	4		30
Perfluoroheptanesulfonic Acid (PFHpS)	125		124		61-179	5		30
Perfluorononanoic Acid (PFNA)	122		120		68-171	8		30
Perfluorooctanesulfonic Acid (PFOS)	124		123		52-151	8		30
Perfluorodecanoic Acid (PFDA)	120		116		63-171	4		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	128		127		56-173	2		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	117		116		60-166	12		30
Perfluoroundecanoic Acid (PFUnA)	120		114		60-153	11		30
Perfluorodecanesulfonic Acid (PFDS)	137		131		38-156	16		30
Perfluorooctanesulfonamide (FOSA)	112		115		46-170	15		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	118		114		45-170	3		30
Perfluorododecanoic Acid (PFDoA)	126		118		67-153	6		30
Perfluorotridecanoic Acid (PFTrDA)	119		117		48-158	26		30
Perfluorotetradecanoic Acid (PFTA)	123		118		59-182	13		30
Perfluorohexadecanoic Acid (PFHxDA)	130		137		50-150	0		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: COAKLEY LANDFILL

Lab Number: L2027711

Project Number: 10424

Report Date: 07/15/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01 Batch: WG1388862-2 WG1388862-3								
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	114		109		50-150	14		30
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	87		92		50-150	36	Q	30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	80		84		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	85		91		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	90		93		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	72		72		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	76		79		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	81		85		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	93		97		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	82		86		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	79		83		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	86		87		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	89		89		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	85		84		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	82		79		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	72		69		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	90		93		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	32		27		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	80		79		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	88		90		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	75		78		33-143
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	87		83		50-150
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	72		75		50-150
2-(N-Methyl-d3-Perfluoro-1-Octanesulfonamido)ethan-d4-ol (d7-NMeFOSE)	18	Q	14	Q	50-150
2-(N-Ethyl-d5-Perfluoro-1-Octanesulfonamido)ethan-d4-ol (d9-NEtFOSE)	22	Q	16	Q	50-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: COAKLEY LANDFILL

Lab Number: L2027711

Project Number: 10424

Report Date: 07/15/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01 Batch: WG1388862-2 WG1388862-3								
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	86		97		50-150	12		30
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	109		103		50-150	6		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
N-Methyl-d3-Perfluoro-1-Octanesulfonamide (d3-NMeFOSA)	3	Q	1	Q	50-150
N-Ethyl-d5-Perfluoro-1-Octanesulfonamide (d5-NEtFOSA)	2	Q	1	Q	50-150

METALS

Project Name: COAKLEY LANDFILL**Lab Number:** L2027711**Project Number:** 10424**Report Date:** 07/15/20**SAMPLE RESULTS**

Lab ID: L2027711-01

Date Collected: 06/30/20 10:30

Client ID: GW-MW-6-DISP

Date Received: 06/30/20

Sample Location: GREENLAND, NH

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.2324	J	ug/l	1.000	0.1650	1	07/06/20 19:38	07/07/20 10:34	EPA 3005A	3,200.8	AM
Barium, Total	15.00		ug/l	1.000	0.1730	1	07/06/20 19:38	07/07/20 10:34	EPA 3005A	3,200.8	AM
Cadmium, Total	ND		ug/l	0.2000	0.0599	1	07/06/20 19:38	07/07/20 10:34	EPA 3005A	3,200.8	AM
Chromium, Total	ND		ug/l	1.000	0.1780	1	07/06/20 19:38	07/07/20 10:34	EPA 3005A	3,200.8	AM
Lead, Total	ND		ug/l	1.000	0.3430	1	07/06/20 19:38	07/07/20 10:34	EPA 3005A	3,200.8	AM
Manganese, Total	4140		ug/l	1.000	0.4400	1	07/06/20 19:38	07/07/20 10:34	EPA 3005A	3,200.8	AM
Mercury, Total	ND		ug/l	0.2000	0.0910	1	07/10/20 18:41	07/11/20 13:31	EPA 245.1	3,245.1	AL
Selenium, Total	ND		ug/l	5.000	1.730	1	07/06/20 19:38	07/07/20 10:34	EPA 3005A	3,200.8	AM
Silver, Total	ND		ug/l	0.4000	0.1630	1	07/06/20 19:38	07/07/20 10:34	EPA 3005A	3,200.8	AM



Project Name: COAKLEY LANDFILL

Lab Number: L2027711

Project Number: 10424

Report Date: 07/15/20

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1389132-1									
Arsenic, Total	ND	ug/l	1.000	0.1650	1	07/06/20 19:38	07/07/20 08:46	3,200.8	AM
Barium, Total	ND	ug/l	1.000	0.1730	1	07/06/20 19:38	07/07/20 08:46	3,200.8	AM
Cadmium, Total	ND	ug/l	0.2000	0.0599	1	07/06/20 19:38	07/07/20 08:46	3,200.8	AM
Chromium, Total	ND	ug/l	1.000	0.1780	1	07/06/20 19:38	07/07/20 08:46	3,200.8	AM
Lead, Total	ND	ug/l	1.000	0.3430	1	07/06/20 19:38	07/07/20 08:46	3,200.8	AM
Manganese, Total	ND	ug/l	1.000	0.4400	1	07/06/20 19:38	07/07/20 08:46	3,200.8	AM
Selenium, Total	ND	ug/l	5.000	1.730	1	07/06/20 19:38	07/07/20 08:46	3,200.8	AM
Silver, Total	ND	ug/l	0.4000	0.1630	1	07/06/20 19:38	07/07/20 08:46	3,200.8	AM

Prep Information

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1390880-1									
Mercury, Total	ND	ug/l	0.2000	0.0910	1	07/10/20 18:41	07/11/20 13:26	3,245.1	AL

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: COAKLEY LANDFILL

Project Number: 10424

Lab Number: L2027711

Report Date: 07/15/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1389132-2								
Arsenic, Total	105		-		85-115	-		
Barium, Total	114		-		85-115	-		
Cadmium, Total	108		-		85-115	-		
Chromium, Total	104		-		85-115	-		
Lead, Total	106		-		85-115	-		
Manganese, Total	103		-		85-115	-		
Selenium, Total	106		-		85-115	-		
Silver, Total	106		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1390880-2								
Mercury, Total	115		-		85-115	-		

Matrix Spike Analysis Batch Quality Control

Project Name: COAKLEY LANDFILL

Lab Number: L2027711

Project Number: 10424

Report Date: 07/15/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1390880-3 QC Sample: L2027711-01 Client ID: GW-MW-6-DISP												
Mercury, Total	ND	5	5.212	104		-	-		70-130	-		20

Lab Duplicate Analysis
*Batch Quality Control***Project Name:** COAKLEY LANDFILL**Project Number:** 10424**Lab Number:** L2027711**Report Date:** 07/15/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1390880-4 QC Sample: L2027711-01 Client ID: GW-MW-6-DISP						
Mercury, Total	ND	ND	ug/l	NC		20

Project Name: COAKLEY LANDFILL
Project Number: 10424

Serial_No: 07152017:03
Lab Number: L2027711
Report Date: 07/15/20

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2027711-01A	Vial HCl preserved	B	NA		3.6	Y	Absent		8260-NH(14)
L2027711-01B	Vial HCl preserved	B	NA		3.6	Y	Absent		8260-NH(14)
L2027711-01C	Vial HCl preserved	B	NA		3.6	Y	Absent		8260-NH(14)
L2027711-01D	Plastic 250ml HNO3 preserved	B	<2	<2	3.6	Y	Absent		BA-2008T-PPB(180),PB-2008T-PPB(180),AG-2008T-PPB(180),MN-2008T-PPB(180),CD-2008T-PPB(180),AS-2008T-PPB(180),SE-2008T-PPB(180),CR-2008T-PPB(180),HG-U-PPB(28)
L2027711-01E	Amber 250ml unpreserved	B	7	7	3.6	Y	Absent		A2-14-DIOXANESIM-PPB(7)
L2027711-01F	Amber 250ml unpreserved	B	7	7	3.6	Y	Absent		A2-14-DIOXANESIM-PPB(7)
L2027711-01G	Plastic 250ml unpreserved	B	NA		3.6	Y	Absent		A2-537-ISOTOPE-36(14)
L2027711-01H	Plastic 250ml unpreserved	B	NA		3.6	Y	Absent		A2-537-ISOTOPE-36(14)

Project Name: COAKLEY LANDFILL
Project Number: 10424

Serial_No:07152017:03
Lab Number: L2027711
Report Date: 07/15/20

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA	376-06-7
Perfluorotridecanoic Acid	PFTTrDA	72629-94-8
Perfluorododecanoic Acid	PFDaA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDaDS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1

Project Name: COAKLEY LANDFILL
Project Number: 10424

Lab Number: L2027711
Report Date: 07/15/20

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCS D	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
	Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: DU Report with 'J' Qualifiers



Project Name: COAKLEY LANDFILL
Project Number: 10424

Lab Number: L2027711
Report Date: 07/15/20

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenzo(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration. (DoD and NYSDEC Part 375 PFAS only.)
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

Report Format: DU Report with 'J' Qualifiers



Project Name: COAKLEY LANDFILL
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Lab Number: L2027711
Report Date: 07/15/20

Data Qualifiers

- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



Project Name: COAKLEY LANDFILL
Project Number: 10424

Lab Number: L2027711
Report Date: 07/15/20

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 3 Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.
- 134 Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) using Isotope Dilution. Alpha SOP 23528.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

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Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

EPA TO-12 Non-methane organics**EPA 3C** Fixed gases**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

