

SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

NORTHERN LAKE SERVICE, INC.

Analytical Laboratory and Environmental Services

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CLIENT KAS, Inc.	
ADDRESS PO Box 787	
CITY Williston	STATE VT
ZIP 05495	
PROJECT DESCRIPTION / NO. Halifax landfill	QUOTATION NO.
DNR FID #	DNR LICENSE #
CONTACT Rebecca Treat	PHONE 802-383-0486
PURCHASE ORDER NO. 610110045	FAX 802-383-0490

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

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

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

ANALYZE PER ORDER OF ANALYSIS PFCs VIA EPA METHOD 537	G																			



NO. **196361**

ITEM NO.	NLS LAB. NO.	SAMPLE ID	COLLECTION		MATRIX (See above)	ANALYZE PER ORDER OF ANALYSIS											COLLECTION REMARKS (i.e. DNR Well ID #)						
			DATE	TIME																			
1.	9660916	MW-4	12/7/16	1556	GW	X																	
2.	097	Duplicate	↓	1518	GW	↓																	
3.	098-099	Refus well	↓	1516	DW	↓																FB	
4.	100																					TB	
5.																							
6.																							
7.																							
8.																							
9.																							
10.																							

COLLECTED BY (signature)	CUSTODY SEAL NO. (IF ANY)	DATE/TIME 12/7/16
RELINQUISHED BY (signature)	RECEIVED BY (signature)	DATE/TIME
DISPATCHED BY (signature)	METHOD OF TRANSPORT UPS-Overnight	DATE/TIME 12/12/16 250
RECEIVED AT NLS BY (signature) John Brewer	DATE/TIME 12/13/16 1240	CONDITION Well
TEMP. °C 1.1	REMARKS & OTHER INFORMATION Analyze field blank only if associated sample has a positive result for PFCs	
COOLER #	WDNR FACILITY NUMBER	E-MAIL ADDRESS

REPORT TO KAS, Inc.
INVOICE TO KAS, Inc.

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

ANALYTICAL REPORT

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

NLS Project: 272346
NLS Customer: 108400
 Phone: 802 383 0486
 PO # 610110045

Project: Halifax Landfill

MW-4 NLS ID: 966096

COC: 196361:1 Matrix: GW
 Collected: 12/07/16 15:56 Received: 12/13/16

Parameter	Result	Units	Dilution	MRL	Analyzed	Method	Lab
Perfluorinated Chemicals by EPA Method 537 Rev 1.1	see attached				12/17/16	EPA 537 Rev 1.1	721026460
Solid Phase Extraction by EPA Method 537	yes				12/15/16	EPA 537	721026460

Duplicate NLS ID: 966097

COC: 196361:2 Matrix: GW
 Collected: 12/07/16 15:18 Received: 12/13/16

Parameter	Result	Units	Dilution	MRL	Analyzed	Method	Lab
Perfluorinated Chemicals by EPA Method 537 Rev 1.1	see attached				12/17/16	EPA 537 Rev 1.1	721026460
Solid Phase Extraction by EPA Method 537	yes				12/15/16	EPA 537	721026460

Rafus Well NLS ID: 966098

COC: 196361:3 Matrix: DW
 Collected: 12/07/16 15:16 Received: 12/13/16

Parameter	Result	Units	Dilution	MRL	Analyzed	Method	Lab
Perfluorinated Chemicals by EPA Method 537 Rev 1.1	see attached				12/17/16	EPA 537 Rev 1.1	721026460
Solid Phase Extraction by EPA Method 537	yes				12/15/16	EPA 537	721026460

Rafus Well FB NLS ID: 966099

COC: 196361:3 Matrix: DW
 Collected: 12/07/16 15:16 Received: 12/13/16

Parameter	Result	Units	Dilution	MRL	Analyzed	Method	Lab
Perfluorinated Chemicals by EPA Method 537 Rev 1.1	not analyzed				12/17/16	EPA 537 Rev 1.1	721026460
Solid Phase Extraction by EPA Method 537	not analyzed				12/17/16	EPA 537	721026460

Trip Blank NLS ID: 966100

COC: 196361 Matrix: TB
 Collected: 12/07/16 00:00 Received: 12/13/16

Parameter	Result	Units	Dilution	MRL	Analyzed	Method	Lab
Perfluorinated Chemicals by EPA Method 537 Rev 1.1	see attached				12/21/16	EPA 537 Rev 1.1	721026460
Solid Phase Extraction by EPA Method 537	yes				12/19/16	EPA 537	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 537 Rev 1.1 Safe Drinking Water Analysis
Customer: KAS NLS Project: 272346 PO # 610110045
Project Description: Halifax Landfill
Project Title: Template: 537PPT2 Printed: 12/22/2016 15:14

Sample: 966096 MW-4 Collected: 12/07/16 Analyzed: 12/17/16 - Analytes: 6

ANALYTE NAME	RESULT	UNITS WWB	DIL	LOD	LOQ	Note
perfluorobutanesulfonic acid (PFBS)	ND	ppt	1	7.2	23	
perfluoroheptanoic acid (PFHpA)	[1.59]	ppt	1	1.0	3.2	J
perfluorohexanesulfonic acid (PFHxS)	[3.66]	ppt	1	1.4	4.4	J
perfluorooctanoic acid (PFOA)	[4.8]	ppt	1	2.2	7.1	J
perfluorononanoic acid (PFNA)	ND	ppt	1	1.1	3.5	
perfluorooctanesulfonic acid (PFOS)	ND	ppt	1	2.2	7.0	
C13-PFHxA (SURR)	94.343%					S
C13-PFDA (SURR)	85.181%					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: 966097 Duplicate Collected: 12/07/16 Analyzed: 12/17/16 - Analytes: 6

ANALYTE NAME	RESULT	UNITS WWB	DIL	LOD	LOQ	Note
perfluorobutanesulfonic acid (PFBS)	ND	ppt	1	7.2	23	
perfluoroheptanoic acid (PFHpA)	ND	ppt	1	1.0	3.2	
perfluorohexanesulfonic acid (PFHxS)	ND	ppt	1	1.4	4.4	
perfluorooctanoic acid (PFOA)	ND	ppt	1	2.2	7.1	
perfluorononanoic acid (PFNA)	ND	ppt	1	1.1	3.5	
perfluorooctanesulfonic acid (PFOS)	ND	ppt	1	2.2	7.0	
C13-PFHxA (SURR)	90.556%					S
C13-PFDA (SURR)	83.793%					S

NOTES APPLICABLE TO THIS ANALYSIS:

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

Sample: 966098 Rafus Well Collected: 12/07/16 Analyzed: 12/17/16 - Analytes: 6

ANALYTE NAME	RESULT	UNITS WWB	DIL	LOD	LOQ	MCL	Note
perfluorobutanesulfonic acid (PFBS)	ND	ppt	1	7.2	23		
perfluoroheptanoic acid (PFHpA)	ND	ppt	1	1.0	3.2		
perfluorohexanesulfonic acid (PFHxS)	ND	ppt	1	1.4	4.4		
perfluorooctanoic acid (PFOA)	ND	ppt	1	2.2	7.1		
perfluorononanoic acid (PFNA)	ND	ppt	1	1.1	3.5		
perfluorooctanesulfonic acid (PFOS)	ND	ppt	1	2.2	7.0		
C13-PFHxA (SURR)	99.893%						S
C13-PFDA (SURR)	87.437%						S

NOTES APPLICABLE TO THIS ANALYSIS:

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

The PFOA branch isotope peak is included in the PFOA calculation per EPA directive.

ANALYTICAL RESULTS: Perfluorinated Chemicals by EPA 537 Rev 1.1 Safe Drinking Water Analysis

Customer: KAS NLS Project: 272346 PO # 610110045

Project Description: Halifax Landfill

Project Title: Template: 537PPT2 Printed: 12/22/2016 15:14

Sample: 966100 Trip Blank Collected: 12/07/16 Analyzed: 12/21/16 - Analytes: 6

ANALYTE NAME	RESULT	UNITS	WWB	DIL	LOD	LOQ	Note
perfluorobutanesulfonic acid (PFBS)	ND	ppt		1	7.2	23	
perfluoroheptanoic acid (PFHpA)	ND	ppt		1	1.0	3.2	
perfluorohexanesulfonic acid (PFHxS)	ND	ppt		1	1.4	4.4	
perfluorooctanoic acid (PFOA)	ND	ppt		1	2.2	7.1	
perfluorononanoic acid (PFNA)	ND	ppt		1	1.1	3.5	
perfluorooctanesulfonic acid (PFOS)	ND	ppt		1	2.2	7.0	
C13-PFHxA (SURR)	86.708%						S
C13-PFDA (SURR)	83.34%						S

NOTES APPLICABLE TO THIS ANALYSIS:

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