Friday, March 18, 2022

Randy Evans
Randy Evans
328 South Overland Tr.
Fort Collins, CO 80521

Re: ALS Workorder: 2202135
Project Name: WPWT Facility
Project Number:

Dear Mr. Evans:

Three water samples were received from Randy Evans, on 2/8/2022. The samples were scheduled for the following analyses:

GC/MS Volatiles
Inorganics
Metals
Radium-226
Radium-228
PFAS - Subcontracted to ALS MI

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental
Katie M. OBrien
Project Manager

Accreditations: ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Environmental – Fort Collins	
Accreditation Body	License or Certification Number
Arizona	AZ0828
California (CA)	2926
Colorado (CO)	CO01099
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
Oklahoma	1301
PJLA (DoD ELAP/ISO 170250)	95377
PJLA (DOE-AP/ISO 17025)	95377
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO010992018-1
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	TN02976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280
Virginia	460305

40 CFR Part 136: All analyses for Clean Water Act samples are analyzed using the 40 CFR Part 136 specified method and include all the QC requirements.

2202135

GC/MS Volatiles:
The sample was analyzed using GC/MS following the current revision of SOP 525 based on SW-846 Method 8260C.

All acceptance criteria were met.

Metals:
The sample was analyzed following SW-846, 3rd Edition procedures. Analysis by Trace ICP followed method 6010D and the current revision of SOP 834.

All acceptance criteria were met.

Inorganics:
The sample was analyzed following EMSL and Standard Method procedures for the current revisions of the following SOPs and methods:

Analyte	Method	SOP #
TDS	SM2540C	1101
Chloride	300.0 Revision 2.1	1113
Fluoride	300.0 Revision 2.1	1113
Sulfate	300.0 Revision 2.1	1113

All acceptance criteria were met.

Radium-228:
The sample was analyzed for the presence of ^{228}Ra by low background gas flow proportional counting of ^{228}Ac, which is the ingrown progeny of ^{228}Ra, according to the current revision of SOP 724.

All acceptance criteria were met.

Radium-226:
The sample was prepared and analyzed according to the current revision of SOP 783.

All acceptance criteria were met, with the following exception:

Laboratory control sample RE220210-1LCS has a chemical recovery of 120%, at the 120% control limit. The results are submitted without further qualification. This sample is identified with an "Y2" flag on the final reports.

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 2202135
Client Name: Randy Evans
Client Project Name: WPWT Facility
Client Project Number:
Client PO Number: WO 032

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
OUTFALL 001 A	2202135-1		WATER	08-Feb-22	8:00
OUTFALL 001 A	2202135-2		WATER	08-Feb-22	13:40
FIELD BLANK	2202135-3		WATER	08-Feb-22	13:40

ALS Environmental

225 Commerce Drive, Fort Collins, Colorado 80524
TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

Chain-of-Custody

Form 202r8

WORKORDER # # 2202135

PAGE 1 of 1

DISPOSAL By Lab or Return to Client

PROJECT NAME	WPWT Facility	SAMPLER	Randy Evans
PROJECT No.		SITE ID	EDD ID #: 281818
		EDD FORMAT	YES
		PURCHASE ORDER	WO # 032 **NOTE NEW NUMBER**
COMPANY NAME	Wellington Operating Company	BILL TO COMPANY	Wellington Operating Company
SEND REPORT TO	Randy Evans	INVOICE ATTN TO	Eric Barslow
ADDRESS	1590 East County Road 70	ADDRESS	6142 Campbell Road
CITY / STATE / ZIP	Wellington, CO 80549	CITY / STATE / ZIP	Dallas, TX 75248
PHONE	970-402-0418	PHONE	214-420-3000
FAX	214-420-3001	FAX	214-420-3001
E-MAIL	rgrevans477@gmail.com	E-MAIL	AP@Wellingtonoperating.com

DATE

TURNAROUND

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	Sodium, Boron, Barium	TDS, Chloride, Fluoride, Sulfate	BTEX; Naphthalene; 1,3,5 trimethylbenzene; 1,2,4 trimethylbenzene	Radium 226	Radium 228	PFAS
1	Outfall 001A	W	2/8/2022	8:00; 10:00; 12:00; 14:00	2	2 & 8		X	X				
1	Outfall 001A	W	2/8/2022	13:40	3	8				X			
1	Outfall 001A	W	2/8/2022	13:40	2	2 & 8					X	X	
1	Outfall 001A	W	2/8/2022	13:40	2	8							X
2	Field Blank	W	2/8/2022	13:40	1	8							X

*Time Zone (Circle): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

For metals or anions, please detail analytes below.

Comments:

Outfall Facility ID #: 767700

QC PACKAGE (check below)	
	LEVEL II (Standard QC)
	LEVEL III (Std QC + forms)
	LEVEL IV (Std QC + forms + raw data)

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		Randy Evans	2/8/2022	1605
RECEIVED BY		Claire Flumm	2/8/22	1605
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

Client:	Randy Evans	**Date:**	*18-Mar-22*
Project:	WPWT Facility	**Work Order:**	2202135
Sample ID:	OUTFALL 001 A	**Lab ID:**	2202135-1
Legal Location:		**Matrix:**	WATER
Collection Date:	2/8/2022 08:00	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Total Recoverable ICP Metals		**SW6010**			Prep Date: **2/10/2022**	PrepBy: **ETC**
BORON	**2.4**		**0.1**	**MG/L**	1	2/10/2022 16:16
BARIUM	**5.3**		**0.1**	**MG/L**	1	2/10/2022 16:16
SODIUM	**820**		**10**	**MG/L**	10	2/10/2022 18:16
Ion Chromatography		**EPA300.0**			Prep Date: **2/14/2022**	PrepBy: **AOW**
CHLORIDE	**350**		**10**	**MG/L**	50	2/14/2022 11:07
FLUORIDE	ND		5	MG/L	50	2/14/2022 11:07
SULFATE	ND		50	MG/L	50	2/14/2022 11:07
Total Dissolved Solids		**SM2540C**			Prep Date: **2/11/2022**	PrepBy: **BMK**
TOTAL DISSOLVED SOLIDS	**2300**		**80**	**MG/L**	1	2/15/2022

Client: Randy Evans **Date:** *18-Mar-22*
Project: WPWT Facility **Work Order:** 2202135
Sample ID: OUTFALL 001 A **Lab ID:** 2202135-2
Legal Location: **Matrix:** WATER
Collection Date: 2/8/2022 13:40 **Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GC/MS Volatiles		**SW8260_25**		Prep Date: **2/12/2022**		PrepBy: **TWK**
BENZENE	ND		1	UG/L	1	2/13/2022 04:26
TOLUENE	ND		1	UG/L	1	2/13/2022 04:26
ETHYLBENZENE	ND		1	UG/L	1	2/13/2022 04:26
M+P-XYLENE	ND		1	UG/L	1	2/13/2022 04:26
O-XYLENE	ND		1	UG/L	1	2/13/2022 04:26
1,3,5-TRIMETHYLBENZENE	ND		1	UG/L	1	2/13/2022 04:26
1,2,4-TRIMETHYLBENZENE	ND		1	UG/L	1	2/13/2022 04:26
NAPHTHALENE	ND		1	UG/L	1	2/13/2022 04:26
Surr: DIBROMOFLUOROMETHANE	*93*		*80-120*	*%REC*	1	2/13/2022 04:26
Surr: TOLUENE-D8	*106*		*80-120*	*%REC*	1	2/13/2022 04:26
Surr: 4-BROMOFLUOROBENZENE	*104*		*80-120*	*%REC*	1	2/13/2022 04:26
Radium-226 by Radon Emanation - Method 903.1		**SOP 783**		Prep Date: **2/10/2022**		PrepBy: **EJE**
Ra-226	**1.14 (+/- 0.46)**		**0.28**	**pCi/l**	NA	2/21/2022 12:09
Carr: BARIUM	*92.8*		*40-110*	*%REC*	DL = NA	2/21/2022 12:09
Radium-228 Analysis by GFPC		**SOP 724**		Prep Date: **2/28/2022**		PrepBy: **MMS**
Ra-228	**1.08 (+/- 0.49)**		**0.83**	**pCi/l**	NA	3/16/2022 08:45
Carr: BARIUM	*98.4*		*40-110*	*%REC*	DL = NA	3/16/2022 08:45

Client:	Randy Evans	**Date:**	*18-Mar-22*
Project:	WPWT Facility	**Work Order:**	2202135
Sample ID:	FIELD BLANK	**Lab ID:**	2202135-3
Legal Location:		**Matrix:**	WATER
Collection Date:	2/8/2022 13:40	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed

Explanation of Qualifiers

Radiochemistry:

- "Report Limit" is the MDC
U or ND - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
* - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.
G - Sample density differs by more than 15% of LCS density.
D - DER is greater than Control Limit
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Inorganics:

B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).
U or ND - Indicates that the compound was analyzed for but not detected.
E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.
M - Duplicate injection precision was not met.
N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.
Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.
* - Duplicate analysis (relative percent difference) not within control limits.
S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Organics:

U or ND - Indicates that the compound was analyzed for but not detected.
B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.
E - Analyte concentration exceeds the upper level of the calibration range.
J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).
A - A tentatively identified compound is a suspected aldol-condensation product.
X - The analyte was diluted below an accurate quantitation level.
* - The spike recovery is equal to or outside the control criteria used.
+ - The relative percent difference (RPD) equals or exceeds the control criteria.
G - A pattern resembling gasoline was detected in this sample.
D - A pattern resembling diesel was detected in this sample.
M - A pattern resembling motor oil was detected in this sample.
C - A pattern resembling crude oil was detected in this sample.
4 - A pattern resembling JP-4 was detected in this sample.
5 - A pattern resembling JP-5 was detected in this sample.
H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.
L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.
Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:
- gasoline
- JP-8
- diesel
- mineral spirits
- motor oil
- Stoddard solvent
- bunker C

Batch ID: **RE220210-1-3** Instrument ID **Alpha Scin** Method: **Radium-226 by Radon Emanation**

LCS Sample ID: **RE220210-1** Units: **pCi/l** Analysis Date: **2/21/2022 12:37**

Client ID: Run ID: **RE220210-1A** Prep Date: **2/10/2022** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	56 (+/- 14)	0	46.42		120	67-120					H,Y1
Carr: BARIUM	15150		15140		100	40-110					Y1

LCSD Sample ID: **RE220210-1** Units: **pCi/l** Analysis Date: **2/21/2022 12:37**

Client ID: Run ID: **RE220210-1A** Prep Date: **2/10/2022** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	42 (+/- 10)	0	46.42		90.6	67-120		56	0.8	2.1	P
Carr: BARIUM	14840		15140		98	40-110		15150			

MB Sample ID: **RE220210-1** Units: **pCi/l** Analysis Date: **2/21/2022 11:20**

Client ID: Run ID: **RE220210-1A** Prep Date: **2/10/2022** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-226	ND	0.16									U
Carr: BARIUM	14700		15140		97.1	40-110					

The following samples were analyzed in this batch: 2202135-2

Client: Randy Evans
Work Order: 2202135
Project: WPWT Facility

QC BATCH REPORT

Batch ID: **RA220228-2-3** Instrument ID **LB4100-A** Method: **Radium-228 Analysis by GFPC**

LCS Sample ID: **RA220228-2** Units: **pCi/l** Analysis Date: **3/16/2022 08:45**
Client ID: Run ID: **RA220228-2A** Prep Date: **2/28/2022** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-228	25.1 (+/- 5.9)	0.8	22.11		114	70-130					P
Carr: BARIUM	30230		31540		95.9	40-110					

LCSD Sample ID: **RA220228-2** Units: **pCi/l** Analysis Date: **3/16/2022 08:45**
Client ID: Run ID: **RA220228-2A** Prep Date: **2/28/2022** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-228	25.3 (+/- 5.9)	0.9	22.11		114	70-130		25.1	0.02	2.1	P
Carr: BARIUM	28600		31540		90.7	40-110		30230			

MB Sample ID: **RA220228-2** Units: **pCi/l** Analysis Date: **3/16/2022 08:45**
Client ID: Run ID: **RA220228-2A** Prep Date: **2/28/2022** DF: **NA**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	DER Ref	DER	DER Limit	Qual
Ra-228	ND	0.88									U
Carr: BARIUM	27870		31530		88.4	40-110					

The following samples were analyzed in this batch: 2202135-2

QC BATCH REPORT

Batch ID: **IP220210-2-4** Instrument ID **ICPTrace2** Method: **SW6010**

LCS Sample ID: **IP220210-2** Units: **MG/L** Analysis Date: **2/10/2022 16:09**
Client ID: Run ID: **IT220210-1A9** Prep Date: **2/10/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BARIUM	1.01	0.1	1		101	80-120				20	
BORON	0.964	0.1	1		96	80-120				20	
SODIUM	41.5	1	40		104	80-120				20	

LCSD Sample ID: **IP220210-2** Units: **MG/L** Analysis Date: **2/10/2022 16:10**
Client ID: Run ID: **IT220210-1A9** Prep Date: **2/10/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BARIUM	0.992	0.1	1		99	80-120		1.01	1	20	
BORON	0.947	0.1	1		95	80-120		0.964	2	20	
SODIUM	40.9	1	40		102	80-120		41.5	1	20	

MB Sample ID: **IP220210-2** Units: **MG/L** Analysis Date: **2/10/2022 16:08**
Client ID: Run ID: **IT220210-1A9** Prep Date: **2/10/2022** DF: **1**

Analyte	Result	ReportLimit	Qual
BARIUM	ND	0.1	
BORON	ND	0.1	
SODIUM	ND	1	

The following samples were analyzed in this batch: 2202135-1

QC BATCH REPORT

Batch ID: **VL220212-4-2** Instrument ID **HPV4** Method: **SW8260_25**

LCS Sample ID: **VL220212-4** Units: **UG/L** Analysis Date: **2/12/2022 22:35**
Client ID: Run ID: **VL220212-4A** Prep Date: **2/12/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BENZENE	9.01	1	10		90	80-120				20	
TOLUENE	9.64	1	10		96	80-120				20	
Surr: DIBROMOFLUOROMETHANE	23.7		25		95	80-120					
Surr: TOLUENE-D8	26.7		25		107	80-120					
Surr: 4-BROMOFLUOROBENZENE	25.2		25		101	80-120					

LCSD Sample ID: **VL220212-4** Units: **UG/L** Analysis Date: **2/12/2022 22:55**
Client ID: Run ID: **VL220212-4A** Prep Date: **2/12/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BENZENE	9.33	1	10		93	80-120		9.01	3	20	
TOLUENE	9.91	1	10		99	80-120		9.64	3	20	
Surr: DIBROMOFLUOROMETHANE	24		25		96	80-120			1		
Surr: TOLUENE-D8	26.3		25		105	80-120			2		
Surr: 4-BROMOFLUOROBENZENE	25.8		25		103	80-120			2		

MB Sample ID: **VL220212-4** Units: **UG/L** Analysis Date: **2/12/2022 23:36**
Client ID: Run ID: **VL220212-4A** Prep Date: **2/12/2022** DF: **1**

Analyte	Result	ReportLimit	%REC	Control Limit	Qual
BENZENE	ND	1			
TOLUENE	ND	1			
ETHYLBENZENE	ND	1			
M+P-XYLENE	ND	1			
O-XYLENE	ND	1			
1,3,5-TRIMETHYLBENZENE	ND	1			
1,2,4-TRIMETHYLBENZENE	ND	1			
NAPHTHALENE	ND	1			
Surr: DIBROMOFLUOROMETHANE	23.8		95	80-120	
Surr: TOLUENE-D8	26.6		106	80-120	
Surr: 4-BROMOFLUOROBENZENE	25.9		103	80-120	

The following samples were analyzed in this batch: 2202135-2

Client: Randy Evans
Work Order: 2202135
Project: WPWT Facility

QC BATCH REPORT

Batch ID: **IC220214-1-1** Instrument ID **IC3** Method: **EPA300.0**

LCS Sample ID: **IC220214-1** Units: **MG/L** Analysis Date: **2/14/2022 09:18**

Client ID: Run ID: **IC220114-1A1** Prep Date: **2/14/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
FLUORIDE	4.63	0.1	5		93	90-110				15	
CHLORIDE	9.54	0.2	10		95	90-110				15	
SULFATE	46.3	1	50		93	90-110				15	

LCSD Sample ID: **IC220214-1** Units: **MG/L** Analysis Date: **2/14/2022 10:36**

Client ID: Run ID: **IC220114-1A1** Prep Date: **2/14/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
FLUORIDE	4.83	0.1	5		97	90-110		4.63	4	15	
CHLORIDE	9.87	0.2	10		99	90-110		9.54	3	15	
SULFATE	48.2	1	50		96	90-110		46.3	4	15	

MB Sample ID: **IC220214-1** Units: **MG/L** Analysis Date: **2/14/2022 10:42**

Client ID: Run ID: **IC220114-1A1** Prep Date: **2/14/2022** DF: **1**

Analyte	Result	ReportLimit	Qual
FLUORIDE	ND	0.1	
CHLORIDE	ND	0.2	
SULFATE	ND	1	

The following samples were analyzed in this batch: 2202135-1

Client: Randy Evans
Work Order: 2202135
Project: WPWT Facility

QC BATCH REPORT

Batch ID: **TD220211-1-1** Instrument ID **Balance** Method: **SM2540C**

LCS Sample ID: **TD220211-1** Units: **MG/L** Analysis Date: **2/15/2022**
Client ID: Run ID: **TD220215-1A1** Prep Date: **2/11/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	427	20	400		107	85-115				14	

LCSD Sample ID: **TD220211-1** Units: **MG/L** Analysis Date: **2/15/2022**
Client ID: Run ID: **TD220215-1A1** Prep Date: **2/11/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	453	20	400		113	85-115		427	6	14	

MB Sample ID: **TD220211-1** Units: **MG/L** Analysis Date: **2/15/2022**
Client ID: Run ID: **TD220215-1A1** Prep Date: **2/11/2022** DF: **1**

Analyte	Result	ReportLimit	Qual
TOTAL DISSOLVED SOLIDS	ND	20	

The following samples were analyzed in this batch: 2202135-1

17-Feb-2022

Katie O`Brien
ALS Environmental
225 Commerce Dr
Ft. Collins, CO 80524

Re: **2202135** Work Order: **22020809**

Dear Katie,

ALS Environmental received 2 samples on 10-Feb-2022 02:30 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 19.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

Jodi Blouw

Electronically approved by: Jodi Blouw

Jodi Blouw

Client: ALS Environmental
Project: 2202135
Work Order: **22020809**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
22020809-01	Outfall 001A	Water		2/8/2022 13:40	2/10/2022 14:30	☐
22020809-02	Field Blank	Water		2/8/2022 13:40	2/10/2022 14:30	☐

Client: ALS Environmental
Project: 2202135
WorkOrder: **22020809**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
ng/L	Nanograms per Liter

Client:	ALS Environmental
Project:	2202135
Work Order:	22020809

Case Narrative

Samples for the above noted Work Order were received on 02/10/2022. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting. A copy of the laboratory's scope of accreditation is available upon request.

With the following exceptions, all sample analyses achieved analytical criteria.

Extractable Organics:
Batch 191728, Method E537 Mod, Sample Outfall 001A (22020809-01A): The Continuing Calibration Verification did not meet method acceptance criteria for the following analytes, results are to be considered estimated: DONA

Batch 191728, Method E537 Mod, Sample Field Blank (22020809-02A): The Continuing Calibration Verification did not meet method acceptance criteria for the following analytes, results are to be considered estimated: DONA

Batch 191728, Method E537 Mod, Sample 22020809-01A MS: The MS recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte: DONA, PFDoS

Batch 191728, Method E537 Mod, Sample Outfall 001A (22020809-01A): Required additional acid to reach desired pH of 3.

Batch 191728, Method E537 Mod, Sample 22020809-01A MS: Required additional acid to reach desired pH of 3.

Batch 191728, Method E537 Mod, Sample 22020809-01A MS: Required additional acid to reach desired pH of 3.
No other deviations or anomalies were noted.

ALS Group USA, Corp

Date: *17-Feb-22*

CLIENT: ALS Environmental
Project: 2202135

Work Order: 22020809

Lab ID: 22020809-01A
Client Sample ID: Outfall 001A

Collection Date: 2/8/2022 1:40:00 PM
Matrix: WATER

Analyses	Result	Report Limit	MDL	Qual	Units	Dilution Factor	Date Analyzed
PFAS BY EPA 537 MODIFIED			**E537 MOD**				Analyst: **ENS**
Fluorotelomer Sulphonic Acid 4:2 (FtS 4:2)	U	4.8	0.90		ng/L	1	2/15/2022 09:30 PM
Fluorotelomer Sulphonic Acid 6:2 (FtS 6:2)	U	4.8	0.64		ng/L	1	2/15/2022 09:30 PM
Fluorotelomer Sulphonic Acid 8:2 (FtS 8:2)	U	4.8	1.1		ng/L	1	2/15/2022 09:30 PM
Fluorotelomer Sulphonic Acid 10:2 (FtS 10:2)	U	4.8	0.87		ng/L	1	2/15/2022 09:30 PM
Perfluorobutanesulfonic Acid (PFBS)	U	4.8	0.34		ng/L	1	2/15/2022 09:30 PM
Perfluorobutanoic Acid (PFBA)	U	4.8	2.5		ng/L	1	2/15/2022 09:30 PM
Perfluorodecanesulfonic Acid (PFDS	U	4.8	1.3		ng/L	1	2/15/2022 09:30 PM
Perfluorodecanoic Acid (PFDA)	U	4.8	1.2		ng/L	1	2/15/2022 09:30 PM
Perfluorododecanesulfonic Acid (PFDoS)	U	4.8	1.4		ng/L	1	2/15/2022 09:30 PM
Perfluorododecanoic Acid (PFDoA)	U	4.8	1.4		ng/L	1	2/15/2022 09:30 PM
Perfluoroheptanesulfonic Acid (PFHpS)	U	4.8	0.54		ng/L	1	2/15/2022 09:30 PM
Perfluoroheptanoic Acid (PFHpA)	U	4.8	0.42		ng/L	1	2/15/2022 09:30 PM
Perfluorohexadecanoic Acid (PFHxDA)	U	4.8	0.36		ng/L	1	2/15/2022 09:30 PM
Perfluorohexanesulfonic Acid (PFHxS)	U	4.8	0.35		ng/L	1	2/15/2022 09:30 PM
Perfluorohexanoic Acid (PFHxA)	U	4.8	1.1		ng/L	1	2/15/2022 09:30 PM
Perfluorononanesulfonic Acid (PFNS	U	4.8	0.48		ng/L	1	2/15/2022 09:30 PM
Perfluorononanoic Acid (PFNA)	U	4.8	0.83		ng/L	1	2/15/2022 09:30 PM
Perfluorooctadecanoic Acid (PFODA	U	4.8	0.62		ng/L	1	2/15/2022 09:30 PM
Perfluorooctanesulfonamide (PFOSA	U	4.8	0.68		ng/L	1	2/15/2022 09:30 PM
Perfluorooctanesulfonic Acid (PFOS	U	1.9	0.85		ng/L	1	2/15/2022 09:30 PM
Perfluorooctanoic Acid (PFOA)	U	1.9	0.60		ng/L	1	2/15/2022 09:30 PM
Perfluoropentanesulfonic Acid (PFPeS)	U	4.8	0.53		ng/L	1	2/15/2022 09:30 PM
Perfluoropentanoic Acid (PFPeA)	U	4.8	1.2		ng/L	1	2/15/2022 09:30 PM
Perfluorotetradecanoic Acid (PFTeA	U	4.8	2.5		ng/L	1	2/15/2022 09:30 PM
Perfluorotridecanoic Acid (PFTriA)	U	4.8	0.74		ng/L	1	2/15/2022 09:30 PM
Perfluoroundecanoic Acid (PFUnA)	U	4.8	0.93		ng/L	1	2/15/2022 09:30 PM
N-ethylperfluoro-1-octanesulfonamid	U	4.8	1.1		ng/L	1	2/15/2022 09:30 PM
N-Ethylperfluorooctanesulfonamidoaceti c Acid	U	4.8	0.60		ng/L	1	2/15/2022 09:30 PM

Qualifiers:

U - Analyzed for but Not Detected
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results RPD > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

N-Ethylperfluorooctanesulfonamidoethanol	U	4.8	0.50	ng/L	1	2/15/2022 09:30 PM
N-methylperfluoro-1-octanesulfonamide	U	4.8	0.76	ng/L	1	2/15/2022 09:30 PM
N-Methylperfluorooctanesulfonamidoacetic Acid	U	4.8	0.62	ng/L	1	2/15/2022 09:30 PM
N-Methylperfluorooctanesulfonamidoethanol	**0.66**	**4.8**	**0.46** J	**ng/L**	1	2/15/2022 09:30 PM
Hexafluoropropylene oxide dimer acid (HFPO-DA)	U	4.8	1.1	ng/L	1	2/15/2022 09:30 PM
4,8-Dioxa-3H-perfluorononanoic Acid (DONA)	U	4.8	0.54	ng/L	1	2/15/2022 09:30 PM
11Cl-Pf3OUdS	U	4.8	0.45	ng/L	1	2/15/2022 09:30 PM
9Cl-PF3ONS	U	4.8	0.43	ng/L	1	2/15/2022 09:30 PM
Surr: 13C2-FtS 4:2	*77.4*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: 13C2-FtS 6:2	*96.2*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: 13C2-FtS 8:2	*77.2*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: 13C2-PFDA	*83.9*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: 13C2-PFDoA	*62.5*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: 13C2-PFHxA	*84.9*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: 13C2-PFHxDA	*68.0*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: 13C2-PFTeA	*89.7*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: 13C2-PFUnA	*98.7*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: 13C3-HFPO-DA	*69.4*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: 13C3-PFBS	*74.7*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: 13C4-PFBA	*88.7*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: 13C4-PFHpA	*110*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: 13C4-PFOA	*106*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: 13C4-PFOS	*78.4*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: 13C5-PFNA	*95.1*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: 13C5-PFPeA	*73.6*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: 13C8-FOSA	*66.1*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: 18O2-PFHxS	*120*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: d5-N-EtFOSA	*63.1*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: d5-N-EtFOSAA	*77.8*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: d9-N-EtFOSE	*70.0*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: d3-N-MeFOSA	*65.1*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: d3-N-MeFOSAA	*74.0*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM
Surr: d7-N-MeFOSE	*58.5*	*50-150*	0	*%REC*	1	2/15/2022 09:30 PM

ALS Group USA, Corp

Date: *17-Feb-22*

CLIENT: ALS Environmental
Project: 2202135

Work Order: 22020809

Lab ID: 22020809-02A
Client Sample ID: Field Blank

Collection Date: 2/8/2022 1:40:00 PM
Matrix: WATER

Analyses	Result	Report Limit	MDL	Qual	Units	Dilution Factor	Date Analyzed
PFAS BY EPA 537 MODIFIED			**E537 MOD**				Analyst: **ENS**
Fluorotelomer Sulphonic Acid 4:2 (FtS 4:2)	U	5.6	1.0		ng/L	1	2/15/2022 10:44 PM
Fluorotelomer Sulphonic Acid 6:2 (FtS 6:2)	U	5.6	0.74		ng/L	1	2/15/2022 10:44 PM
Fluorotelomer Sulphonic Acid 8:2 (FtS 8:2)	U	5.6	1.3		ng/L	1	2/15/2022 10:44 PM
Fluorotelomer Sulphonic Acid 10:2 (FtS 10:2)	U	5.6	1.0		ng/L	1	2/15/2022 10:44 PM
Perfluorobutanesulfonic Acid (PFBS)	U	5.6	0.39		ng/L	1	2/15/2022 10:44 PM
Perfluorobutanoic Acid (PFBA)	U	5.6	2.9		ng/L	1	2/15/2022 10:44 PM
Perfluorodecanesulfonic Acid (PFDS	U	5.6	1.5		ng/L	1	2/15/2022 10:44 PM
Perfluorodecanoic Acid (PFDA)	U	5.6	1.4		ng/L	1	2/15/2022 10:44 PM
Perfluorododecanesulfonic Acid (PFDoS)	U	5.6	1.6		ng/L	1	2/15/2022 10:44 PM
Perfluorododecanoic Acid (PFDoA)	U	5.6	1.6		ng/L	1	2/15/2022 10:44 PM
Perfluoroheptanesulfonic Acid (PFHpS)	U	5.6	0.63		ng/L	1	2/15/2022 10:44 PM
Perfluoroheptanoic Acid (PFHpA)	U	5.6	0.49		ng/L	1	2/15/2022 10:44 PM
Perfluorohexadecanoic Acid (PFHxDA)	U	5.6	0.43		ng/L	1	2/15/2022 10:44 PM
Perfluorohexanesulfonic Acid (PFHxS)	**0.58**	**5.6**	**0.41**	J	**ng/L**	1	2/15/2022 10:44 PM
Perfluorohexanoic Acid (PFHxA)	U	5.6	1.3		ng/L	1	2/15/2022 10:44 PM
Perfluorononanesulfonic Acid (PFNS	U	5.6	0.55		ng/L	1	2/15/2022 10:44 PM
Perfluorononanoic Acid (PFNA)	U	5.6	0.97		ng/L	1	2/15/2022 10:44 PM
Perfluorooctadecanoic Acid (PFODA	U	5.6	0.72		ng/L	1	2/15/2022 10:44 PM
Perfluorooctanesulfonamide (PFOSA	U	5.6	0.79		ng/L	1	2/15/2022 10:44 PM
Perfluorooctanesulfonic Acid (PFOS	U	2.2	1.0		ng/L	1	2/15/2022 10:44 PM
Perfluorooctanoic Acid (PFOA)	U	2.2	0.70		ng/L	1	2/15/2022 10:44 PM
Perfluoropentanesulfonic Acid (PFPeS)	U	5.6	0.62		ng/L	1	2/15/2022 10:44 PM
Perfluoropentanoic Acid (PFPeA)	U	5.6	1.4		ng/L	1	2/15/2022 10:44 PM
Perfluorotetradecanoic Acid (PFTeA	U	5.6	2.9		ng/L	1	2/15/2022 10:44 PM
Perfluorotridecanoic Acid (PFTriA)	U	5.6	0.86		ng/L	1	2/15/2022 10:44 PM
Perfluoroundecanoic Acid (PFUnA)	U	5.6	1.1		ng/L	1	2/15/2022 10:44 PM
N-ethylperfluoro-1-octanesulfonamid	U	5.6	1.3		ng/L	1	2/15/2022 10:44 PM
N-Ethylperfluorooctanesulfonamidoaceti c Acid	U	5.6	0.70		ng/L	1	2/15/2022 10:44 PM

Qualifiers:

U - Analyzed for but Not Detected
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results RPD > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

N-Ethylperfluorooctanesulfonamidoethanol	U	5.6	0.58	ng/L	1	2/15/2022 10:44 PM
N-methylperfluoro-1-octanesulfonamide	U	5.6	0.89	ng/L	1	2/15/2022 10:44 PM
N-Methylperfluorooctanesulfonamidoacetic Acid	U	5.6	0.72	ng/L	1	2/15/2022 10:44 PM
N-Methylperfluorooctanesulfonamidoethanol	**1.2**	**5.6**	**0.54** J	**ng/L**	1	2/15/2022 10:44 PM
Hexafluoropropylene oxide dimer acid (HFPO-DA)	U	5.6	1.3	ng/L	1	2/15/2022 10:44 PM
4,8-Dioxa-3H-perfluorononanoic Acid (DONA)	U	5.6	0.63	ng/L	1	2/15/2022 10:44 PM
11Cl-Pf3OUdS	U	5.6	0.52	ng/L	1	2/15/2022 10:44 PM
9Cl-PF3ONS	U	5.6	0.50	ng/L	1	2/15/2022 10:44 PM
Surr: 13C2-FtS 4:2	*89.7*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: 13C2-FtS 6:2	*97.6*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: 13C2-FtS 8:2	*83.1*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: 13C2-PFDA	*101*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: 13C2-PFDoA	*82.9*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: 13C2-PFHxA	*111*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: 13C2-PFHxDA	*92.1*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: 13C2-PFTeA	*91.2*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: 13C2-PFUnA	*112*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: 13C3-HFPO-DA	*91.0*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: 13C3-PFBS	*85.4*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: 13C4-PFBA	*104*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: 13C4-PFHpA	*98.7*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: 13C4-PFOA	*108*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: 13C4-PFOS	*101*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: 13C5-PFNA	*110*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: 13C5-PFPeA	*87.7*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: 13C8-FOSA	*90.8*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: 18O2-PFHxS	*105*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: d5-N-EtFOSA	*64.4*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: d5-N-EtFOSAA	*89.3*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: d9-N-EtFOSE	*81.9*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: d3-N-MeFOSA	*64.4*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: d3-N-MeFOSAA	*83.6*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM
Surr: d7-N-MeFOSE	*73.6*	*50-150*	0	*%REC*	1	2/15/2022 10:44 PM

Batch ID: **191728** Instrument ID **LCMS1** Method: **E537 Mod**

MBLK Sample ID: **MBLK-191728-191728** Units: **ng/L** Analysis Date: **2/15/2022 09:06 PM**

Client ID: Run ID: **LCMS1_220215D** SeqNo: **8176900** Prep Date: **2/15/2022** DF: **1**

Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluorotelomer Sulphonic Acid	U	0.94	5.0								
Fluorotelomer Sulphonic Acid	U	0.66	5.0								
Fluorotelomer Sulphonic Acid	U	1.1	5.0								
Fluorotelomer Sulphonic Acid	U	0.9	5.0								
Perfluorobutanesulfonic Acid (	U	0.35	5.0								
Perfluorobutanoic Acid (PFBA)	U	2.6	5.0								
Perfluorodecanesulfonic Acid	U	1.4	5.0								
Perfluorodecanoic Acid (PFDA	U	1.2	5.0								
Perfluorododecanesulfonic Aci	U	1.4	5.0								
Perfluorododecanoic Acid (PFI	U	1.4	5.0								
Perfluoroheptanesulfonic Acid	U	0.57	5.0								
Perfluoroheptanoic Acid (PFH	U	0.44	5.0								
Perfluorohexadecanoic Acid (F	U	0.38	5.0								
Perfluorohexanesulfonic Acid	U	0.37	5.0								
Perfluorohexanoic Acid (PFHx	U	1.2	5.0								
Perfluorononanesulfonic Acid	U	0.5	5.0								
Perfluorononanoic Acid (PFNA	U	0.87	5.0								
Perfluorooctadecanoic Acid (P	U	0.65	5.0								
Perfluorooctanesulfonamide (F	U	0.71	5.0								
Perfluorooctanesulfonic Acid (	U	0.89	2.0								
Perfluorooctanoic Acid (PFOA	U	0.63	2.0								
Perfluoropentanesulfonic Acid	U	0.56	5.0								
Perfluoropentanoic Acid (PFPe	U	1.3	5.0								
Perfluorotetradecanoic Acid (F	U	2.6	5.0								
Perfluorotridecanoic Acid (PFT	U	0.77	5.0								
Perfluoroundecanoic Acid (PFI	U	0.97	5.0								
N-ethylperfluoro-1-octanesulfo	U	1.2	5.0								
N-Ethylperfluorooctanesulfona	U	0.63	5.0								
N-Ethylperfluorooctanesulfona	U	0.52	5.0								
N-methylperfluoro-1-octanesul	U	0.79	5.0								
N-Methylperfluorooctanesulfor	U	0.64	5.0								
N-Methylperfluorooctanesulfor	U	0.48	5.0								
Hexafluoropropylene oxide din	U	1.2	5.0								
4,8-Dioxa-3H-perfluorononano	U	0.56	5.0								
11Cl-Pf3OUdS	U	0.47	5.0								
9Cl-PF3ONS	U	0.45	5.0								
Surr: 13C2-FtS 4:2	*141.5*	0	0	*149.4*	0	*94.7*	*50-150*	0			
Surr: 13C2-FtS 6:2	*169*	0	0	*152*	0	*111*	*50-150*	0			
Surr: 13C2-FtS 8:2	*150.7*	0	0	*153.3*	0	*98.3*	*50-150*	0			
Surr: 13C2-PFDA	*135.5*	0	0	*160*	0	*84.7*	*50-150*	0			
Surr: 13C2-PFDoA	*101.2*	0	0	*160*	0	*63.2*	*50-150*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **191728** Instrument ID **LCMS1** Method: **E537 Mod**

Surr: 13C2-PFHxA	*120.7*	0	0	*160*	0	*75.5*	*50-150*	0
Surr: 13C2-PFHxDA	*119.9*	0	0	*160*	0	*74.9*	*50-150*	0
Surr: 13C2-PFTeA	*119.3*	0	0	*160*	0	*74.6*	*50-150*	0
Surr: 13C2-PFUnA	*137.1*	0	0	*160*	0	*85.7*	*50-150*	0
Surr: 13C3-HFPO-DA	*124.6*	0	0	*160*	0	*77.9*	*50-150*	0
Surr: 13C3-PFBS	*127.8*	0	0	*148.8*	0	*85.9*	*50-150*	0
Surr: 13C4-PFBA	*118.6*	0	0	*160*	0	*74.1*	*50-150*	0
Surr: 13C4-PFHpA	*175.9*	0	0	*160*	0	*110*	*50-150*	0
Surr: 13C4-PFOA	*150.9*	0	0	*160*	0	*94.3*	*50-150*	0
Surr: 13C4-PFOS	*118.2*	0	0	*152.8*	0	*77.4*	*50-150*	0
Surr: 13C5-PFNA	*146.8*	0	0	*160*	0	*91.8*	*50-150*	0
Surr: 13C5-PFPeA	*139.6*	0	0	*160*	0	*87.2*	*50-150*	0
Surr: 13C8-FOSA	*113.3*	0	0	*160*	0	*70.8*	*50-150*	0
Surr: 18O2-PFHxS	*130.8*	0	0	*151.2*	0	*86.5*	*50-150*	0
Surr: d5-N-EtFOSA	*106.6*	0	0	*160*	0	*66.6*	*50-150*	0
Surr: d5-N-EtFOSAA	*117.1*	0	0	*160*	0	*73.2*	*50-150*	0
Surr: d9-N-EtFOSE	*124.9*	0	0	*160*	0	*78.1*	*50-150*	0
Surr: d3-N-MeFOSA	*103.9*	0	0	*160*	0	*65*	*50-150*	0
Surr: d3-N-MeFOSAA	*115.1*	0	0	*160*	0	*71.9*	*50-150*	0
Surr: d7-N-MeFOSE	*96.28*	0	0	*160*	0	*60.2*	*50-150*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **191728** Instrument ID **LCMS1** Method: **E537 Mod**

LCS Sample ID: **LCS-191728-191728** Units: **ng/L** Analysis Date: **2/15/2022 09:14 PM**
Client ID: Run ID: **LCMS1_220215D** SeqNo: **8176901** Prep Date: **2/15/2022** DF: **1**

Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluorotelomer Sulphonic Acid	24.9	0.94	5.0	29.9	0	83.3	63-143	0			
Fluorotelomer Sulphonic Acid	27.76	0.66	5.0	30.3	0	91.6	64-140	0			
Fluorotelomer Sulphonic Acid	23.65	1.1	5.0	30.7	0	77	67-138	0			
Fluorotelomer Sulphonic Acid	35.63	0.9	5.0	30.8	0	116	40-160	0			
Perfluorobutanesulfonic Acid (	23.09	0.35	5.0	28.3	0	81.6	72-130	0			
Perfluorobutanoic Acid (PFBA)	29.78	2.6	5.0	32	0	93.1	73-129	0			
Perfluorodecanesulfonic Acid (	32.07	1.4	5.0	30.8	0	104	53-142	0			
Perfluorodecanoic Acid (PFDA	32.52	1.2	5.0	32	0	102	71-129	0			
Perfluorododecanesulfonic Aci	30.74	1.4	5.0	31	0	99.2	69-134	0			
Perfluorododecanoic Acid (PFI	28.8	1.4	5.0	32	0	90	72-134	0			
Perfluoroheptanesulfonic Acid	27.48	0.57	5.0	30.5	0	90.1	69-134	0			
Perfluoroheptanoic Acid (PFH	27.76	0.44	5.0	32	0	86.7	72-130	0			
Perfluorohexadecanoic Acid (F	25.48	0.38	5.0	32	0	79.6	70-130	0			
Perfluorohexanesulfonic Acid (	27.68	0.37	5.0	29.1	0	95.1	68-131	0			
Perfluorohexanoic Acid (PFHx	30.91	1.2	5.0	32	0	96.6	72-129	0			
Perfluorononanesulfonic Acid	27.37	0.5	5.0	30.7	0	89.2	69-127	0			
Perfluorononanoic Acid (PFNA	31	0.87	5.0	32	0	96.9	69-130	0			
Perfluorooctadecanoic Acid (P	31.4	0.65	5.0	32	0	98.1	70-130	0			
Perfluorooctanesulfonamide (F	26.92	0.71	5.0	32	0	84.1	67-137	0			
Perfluorooctanesulfonic Acid (	27.44	0.89	2.0	29.7	0	92.4	65-140	0			
Perfluorooctanoic Acid (PFOA	29.38	0.63	2.0	32	0	91.8	71-133	0			
Perfluoropentanesulfonic Acid	22.04	0.56	5.0	30	0	73.5	71-127	0			
Perfluoropentanoic Acid (PFPe	27.11	1.3	5.0	32	0	84.7	72-129	0			
Perfluorotetradecanoic Acid (F	27.61	2.6	5.0	32	0	86.3	71-132	0			
Perfluorotridecanoic Acid (PFT	23.34	0.77	5.0	32	0	73	65-144	0			
Perfluoroundecanoic Acid (PFI	32.06	0.97	5.0	32	0	100	69-133	0			
N-ethylperfluoro-1-octanesulfo	26.82	1.2	5.0	32	0	83.8	70-130	0			
N-Ethylperfluorooctanesulfona	23.72	0.63	5.0	32	0	74.1	61-135	0			
N-Ethylperfluorooctanesulfona	26.73	0.52	5.0	32	0	83.5	70-130	0			
N-methylperfluoro-1-octanesul	27.94	0.79	5.0	32	0	87.3	70-130	0			
N-Methylperfluorooctanesulfor	23.06	0.64	5.0	32	0	72	65-136	0			
N-Methylperfluorooctanesulfor	31.02	0.48	5.0	32	0	96.9	68-141	0			
Hexafluoropropylene oxide din	25.7	1.2	5.0	32	0	80.3	70-130	0			
4,8-Dioxa-3H-perfluorononano	22.03	0.56	5.0	30.1	0	73.2	70-130	0			
11Cl-Pf3OUdS	26.95	0.47	5.0	30.1	0	89.5	70-130	0			
9Cl-PF3ONS	27.65	0.45	5.0	29.8	0	92.8	70-130	0			
Surr: 13C2-FtS 4:2	*147.7*	0	0	*149.4*	0	*98.8*	*50-150*	0			
Surr: 13C2-FtS 6:2	*165.6*	0	0	*152*	0	*109*	*50-150*	0			
Surr: 13C2-FtS 8:2	*175.6*	0	0	*153.3*	0	*115*	*50-150*	0			
Surr: 13C2-PFDA	*150*	0	0	*160*	0	*93.7*	*50-150*	0			
Surr: 13C2-PFDoA	*125.1*	0	0	*160*	0	*78.2*	*50-150*	0			
Surr: 13C2-PFHxA	*148.4*	0	0	*160*	0	*92.7*	*50-150*	0			
Surr: 13C2-PFHxDA	*165.2*	0	0	*160*	0	*103*	*50-150*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **191728** Instrument ID **LCMS1** Method: **E537 Mod**

Surr: 13C2-PFTeA	*228.6*	0	0	*160*	0	*143*	*50-150*	0
Surr: 13C2-PFUnA	*165.5*	0	0	*160*	0	*103*	*50-150*	0
Surr: 13C3-HFPO-DA	*167.9*	0	0	*160*	0	*105*	*50-150*	0
Surr: 13C3-PFBS	*146.7*	0	0	*148.8*	0	*98.6*	*50-150*	0
Surr: 13C4-PFBA	*144.9*	0	0	*160*	0	*90.6*	*50-150*	0
Surr: 13C4-PFHpA	*191.4*	0	0	*160*	0	*120*	*50-150*	0
Surr: 13C4-PFOA	*162.2*	0	0	*160*	0	*101*	*50-150*	0
Surr: 13C4-PFOS	*126*	0	0	*152.8*	0	*82.5*	*50-150*	0
Surr: 13C5-PFNA	*153.4*	0	0	*160*	0	*95.9*	*50-150*	0
Surr: 13C5-PFPeA	*156.8*	0	0	*160*	0	*98*	*50-150*	0
Surr: 13C8-FOSA	*149.7*	0	0	*160*	0	*93.6*	*50-150*	0
Surr: 18O2-PFHxS	*160.1*	0	0	*151.2*	0	*106*	*50-150*	0
Surr: d5-N-EtFOSA	*112.1*	0	0	*160*	0	*70*	*50-150*	0
Surr: d5-N-EtFOSAA	*155.7*	0	0	*160*	0	*97.3*	*50-150*	0
Surr: d9-N-EtFOSE	*137.3*	0	0	*160*	0	*85.8*	*50-150*	0
Surr: d3-N-MeFOSA	*118.4*	0	0	*160*	0	*74*	*50-150*	0
Surr: d3-N-MeFOSAA	*151.2*	0	0	*160*	0	*94.5*	*50-150*	0
Surr: d7-N-MeFOSE	*148.3*	0	0	*160*	0	*92.7*	*50-150*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **191728** Instrument ID **LCMS1** Method: **E537 Mod**

MS Sample ID: **22020809-01A MS** Units: **ng/L** Analysis Date: **2/15/2022 09:22 PM**
Client ID: **Outfall 001A** Run ID: **LCMS1_220215D** SeqNo: **8176902** Prep Date: **2/15/2022** DF: **1**

Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluorotelomer Sulphonic Acid	27.19	0.91	4.9	29.09	0	93.5	63-143	0			
Fluorotelomer Sulphonic Acid	28.18	0.64	4.9	29.47	0	95.6	64-140	0			
Fluorotelomer Sulphonic Acid	32.12	1.1	4.9	29.86	0	108	67-138	0			
Fluorotelomer Sulphonic Acid	38.06	0.88	4.9	29.96	0	127	40-160	0			
Perfluorobutanesulfonic Acid (	26.06	0.34	4.9	27.53	0	94.7	72-130	0			
Perfluorobutanoic Acid (PFBA)	27.42	2.5	4.9	31.13	0.3801	86.9	73-129	0			
Perfluorodecanesulfonic Acid (	25.28	1.3	4.9	29.96	0	84.4	53-142	0			
Perfluorodecanoic Acid (PFDA	30.48	1.2	4.9	31.13	0	97.9	71-129	0			
Perfluorododecanesulfonic Aci	20.58	1.4	4.9	30.16	0	68.2	69-134	0			S
Perfluorododecanoic Acid (PFI	33.45	1.4	4.9	31.13	0	107	72-134	0			
Perfluoroheptanesulfonic Acid	21.48	0.55	4.9	29.67	0	72.4	69-134	0			
Perfluoroheptanoic Acid (PFH	30.74	0.43	4.9	31.13	0	98.7	72-130	0			
Perfluorohexadecanoic Acid (F	27.92	0.37	4.9	31.13	0.3188	88.7	70-130	0			
Perfluorohexanesulfonic Acid (	21.2	0.36	4.9	28.31	0	74.9	68-131	0			
Perfluorohexanoic Acid (PFHx	27.39	1.2	4.9	31.13	0	88	72-129	0			
Perfluorononanesulfonic Acid	28.16	0.48	4.9	29.86	0	94.3	69-127	0			
Perfluorononanoic Acid (PFNA	27.77	0.85	4.9	31.13	0	89.2	69-130	0			
Perfluorooctadecanoic Acid (P	34.78	0.63	4.9	31.13	0	112	70-130	0			
Perfluorooctanesulfonamide (F	26.76	0.69	4.9	31.13	0	86	67-137	0			
Perfluorooctanesulfonic Acid (	24.53	0.87	1.9	28.89	0	84.9	65-140	0			
Perfluorooctanoic Acid (PFOA	26.99	0.61	1.9	31.13	0	86.7	71-133	0			
Perfluoropentanesulfonic Acid	21.95	0.54	4.9	29.18	0	75.2	71-127	0			
Perfluoropentanoic Acid (PFPe	30.85	1.2	4.9	31.13	0	99.1	72-129	0			
Perfluorotetradecanoic Acid (F	30.34	2.6	4.9	31.13	0	97.5	71-132	0			
Perfluorotridecanoic Acid (PFT	31.8	0.75	4.9	31.13	0	102	65-144	0			
Perfluoroundecanoic Acid (PFI	28.78	0.95	4.9	31.13	0	92.4	69-133	0			
N-ethylperfluoro-1-octanesulfo	27.06	1.1	4.9	31.13	0	86.9	70-130	0			
N-Ethylperfluorooctanesulfona	27.74	0.61	4.9	31.13	0	89.1	61-135	0			
N-Ethylperfluorooctanesulfona	25.78	0.5	4.9	31.13	0	82.8	70-130	0			
N-methylperfluoro-1-octanesul	28.57	0.77	4.9	31.13	0	91.8	70-130	0			
N-Methylperfluorooctanesulfor	24.75	0.63	4.9	31.13	0	79.5	65-136	0			
N-Methylperfluorooctanesulfor	33.59	0.47	4.9	31.13	0.659	106	68-141	0			
Hexafluoropropylene oxide din	30.04	1.1	4.9	31.13	0	96.5	70-130	0			
4,8-Dioxa-3H-perfluorononano	20.13	0.55	4.9	29.28	0	68.7	70-130	0			S
11Cl-Pf3OUdS	26.91	0.45	4.9	29.28	0	91.9	70-130	0			
9Cl-PF3ONS	24.29	0.44	4.9	28.99	0	83.8	70-130	0			
Surr: 13C2-FtS 4:2	*112.1*	0	0	*145.4*	0	*77.1*	*50-150*	0			
Surr: 13C2-FtS 6:2	*134.9*	0	0	*147.9*	0	*91.2*	*50-150*	0			
Surr: 13C2-FtS 8:2	*109.6*	0	0	*149.1*	0	*73.5*	*50-150*	0			
Surr: 13C2-PFDA	*129.5*	0	0	*155.6*	0	*83.2*	*50-150*	0			
Surr: 13C2-PFDoA	*93.86*	0	0	*155.6*	0	*60.3*	*50-150*	0			
Surr: 13C2-PFHxA	*137.5*	0	0	*155.6*	0	*88.3*	*50-150*	0			
Surr: 13C2-PFHxDA	*106.2*	0	0	*155.6*	0	*68.3*	*50-150*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **191728** Instrument ID **LCMS1** Method: **E537 Mod**

Surr: 13C2-PFTeA	*139.1*	0	0	*155.6*	0	*89.4*	*50-150*	0
Surr: 13C2-PFUnA	*151*	0	0	*155.6*	0	*97*	*50-150*	0
Surr: 13C3-HFPO-DA	*125.4*	0	0	*155.6*	0	*80.6*	*50-150*	0
Surr: 13C3-PFBS	*111.8*	0	0	*144.7*	0	*77.2*	*50-150*	0
Surr: 13C4-PFBA	*133.3*	0	0	*155.6*	0	*85.7*	*50-150*	0
Surr: 13C4-PFHpA	*147.3*	0	0	*155.6*	0	*94.6*	*50-150*	0
Surr: 13C4-PFOA	*154.9*	0	0	*155.6*	0	*99.5*	*50-150*	0
Surr: 13C4-PFOS	*114.5*	0	0	*148.6*	0	*77*	*50-150*	0
Surr: 13C5-PFNA	*141.5*	0	0	*155.6*	0	*90.9*	*50-150*	0
Surr: 13C5-PFPeA	*117*	0	0	*155.6*	0	*75.2*	*50-150*	0
Surr: 13C8-FOSA	*108.6*	0	0	*155.6*	0	*69.8*	*50-150*	0
Surr: 18O2-PFHxS	*156.5*	0	0	*147.1*	0	*106*	*50-150*	0
Surr: d5-N-EtFOSA	*97.98*	0	0	*155.6*	0	*63*	*50-150*	0
Surr: d5-N-EtFOSAA	*126.2*	0	0	*155.6*	0	*81.1*	*50-150*	0
Surr: d9-N-EtFOSE	*115.3*	0	0	*155.6*	0	*74.1*	*50-150*	0
Surr: d3-N-MeFOSA	*102*	0	0	*155.6*	0	*65.5*	*50-150*	0
Surr: d3-N-MeFOSAA	*120.3*	0	0	*155.6*	0	*77.3*	*50-150*	0
Surr: d7-N-MeFOSE	*91.81*	0	0	*155.6*	0	*59*	*50-150*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: ALS Environmental
Work Order: 22020809
Project: 2202135

QC BATCH REPORT

Batch ID: **191728** Instrument ID **LCMS1** Method: **E537 Mod**

DUP Sample ID: **22020880-01A DUP** Units: **ng/L** Analysis Date: **2/15/2022 10:03 PM**
Client ID: Run ID: **LCMS1_220215D** SeqNo: **8176907** Prep Date: **2/15/2022** DF: **1**

Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluorotelomer Sulphonic Acid	U	0.86	4.6	0	0	0	0-0	0	0	30	
Fluorotelomer Sulphonic Acid	U	0.61	4.6	0	0	0	0-0	0	0	30	
Fluorotelomer Sulphonic Acid	U	1	4.6	0	0	0	0-0	0	0	30	
Fluorotelomer Sulphonic Acid	U	0.83	4.6	0	0	0	0-0	0	0	30	
Perfluorobutanesulfonic Acid (	22.81	0.32	4.6	0	0	0	0-0	23.17	1.59	30	
Perfluorobutanoic Acid (PFBA)	14.99	2.4	4.6	0	0	0	0-0	14.6	2.59	30	
Perfluorodecanesulfonic Acid (	U	1.3	4.6	0	0	0	0-0	0	0	30	
Perfluorodecanoic Acid (PFDA	U	1.1	4.6	0	0	0	0-0	0.4923	0	30	
Perfluorododecanesulfonic Aci	U	1.3	4.6	0	0	0	0-0	0	0	30	
Perfluorododecanoic Acid (PFI	U	1.3	4.6	0	0	0	0-0	0	0	30	
Perfluoroheptanesulfonic Acid	1.232	0.52	4.6	0	0	0	0-0	0.6769	0	30	J
Perfluoroheptanoic Acid (PFH	7.015	0.4	4.6	0	0	0	0-0	6.796	3.17	30	
Perfluorohexadecanoic Acid (F	U	0.35	4.6	0	0	0	0-0	0	0	30	
Perfluorohexanesulfonic Acid (	7.174	0.34	4.6	0	0	0	0-0	5.579	25	30	
Perfluorohexanoic Acid (PFHx	19.49	1.1	4.6	0	0	0	0-0	20.26	3.87	30	
Perfluorononanesulfonic Acid	U	0.46	4.6	0	0	0	0-0	0	0	30	
Perfluorononanoic Acid (PFNA	1.141	0.8	4.6	0	0	0	0-0	1.374	0	30	J
Perfluorooctadecanoic Acid (P	U	0.6	4.6	0	0	0	0-0	0	0	30	
Perfluorooctanesulfonamide (F	U	0.65	4.6	0	0	0	0-0	0	0	30	
Perfluorooctanesulfonic Acid (	20.42	0.82	1.8	0	0	0	0-0	22.88	11.3	30	
Perfluorooctanoic Acid (PFOA	21.03	0.58	1.8	0	0	0	0-0	20.03	4.87	30	
Perfluoropentanesulfonic Acid	1.121	0.51	4.6	0	0	0	0-0	0.8967	0	30	J
Perfluoropentanoic Acid (PFPe	12.34	1.2	4.6	0	0	0	0-0	12.61	2.17	30	
Perfluorotetradecanoic Acid (F	U	2.4	4.6	0	0	0	0-0	0	0	30	
Perfluorotridecanoic Acid (PFT	U	0.71	4.6	0	0	0	0-0	0	0	30	
Perfluoroundecanoic Acid (PFI	U	0.9	4.6	0	0	0	0-0	0	0	30	
N-ethylperfluoro-1-octanesulfo	U	1.1	4.6	0	0	0	0-0	0	0	30	
N-Ethylperfluorooctanesulfona	U	0.58	4.6	0	0	0	0-0	0	0	30	
N-Ethylperfluorooctanesulfona	U	0.48	4.6	0	0	0	0-0	0	0	30	
N-methylperfluoro-1-octanesul	U	0.73	4.6	0	0	0	0-0	0	0	30	
N-Methylperfluorooctanesulfor	U	0.59	4.6	0	0	0	0-0	0.4249	0	30	
N-Methylperfluorooctanesulfor	U	0.44	4.6	0	0	0	0-0	0.419	0	30	
Hexafluoropropylene oxide din	U	1.1	4.6	0	0	0	0-0	0	0	30	
4,8-Dioxa-3H-perfluorononano	U	0.52	4.6	0	0	0	0-0	0	0	30	
11Cl-Pf3OUdS	U	0.43	4.6	0	0	0	0-0	0	0	30	
9Cl-PF3ONS	U	0.41	4.6	0	0	0	0-0	0	0	30	
Surr: 13C2-FtS 4:2	*280.7*	0	0	*137.4*	0	*204*	*50-150*	292.8	*4.21*	*30*	*S*
Surr: 13C2-FtS 6:2	*223.1*	0	0	*139.7*	0	*160*	*50-150*	225.3	*0.954*	*30*	*S*
Surr: 13C2-FtS 8:2	*187.6*	0	0	*140.9*	0	*133*	*50-150*	206.9	*9.82*	*30*	
Surr: 13C2-PFDA	*134.5*	0	0	*147.1*	0	*91.5*	*50-150*	144.7	*7.31*	*30*	
Surr: 13C2-PFDoA	*132.2*	0	0	*147.1*	0	*89.9*	*50-150*	138.9	*4.91*	*30*	
Surr: 13C2-PFHxA	*151.5*	0	0	*147.1*	0	*103*	*50-150*	167.3	*9.88*	*30*	
Surr: 13C2-PFHxDA	*145*	0	0	*147.1*	0	*98.6*	*50-150*	170.7	*16.3*	*30*	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **191728** Instrument ID **LCMS1** Method: **E537 Mod**

Surr: 13C2-PFTeA	*200*	0	0	*147.1*	0	*136*	*50-150*	252.8	*23.3*	*30*	
Surr: 13C2-PFUnA	*130.8*	0	0	*147.1*	0	*88.9*	*50-150*	132.1	*0.969*	*30*	
Surr: 13C3-HFPO-DA	*182.7*	0	0	*147.1*	0	*124*	*50-150*	181.8	*0.498*	*30*	
Surr: 13C3-PFBS	*165.5*	0	0	*136.8*	0	*121*	*50-150*	175.9	*6.11*	*30*	
Surr: 13C4-PFBA	*146.3*	0	0	*147.1*	0	*99.5*	*50-150*	156	*6.46*	*30*	
Surr: 13C4-PFHpA	*159.1*	0	0	*147.1*	0	*108*	*50-150*	205.6	*25.5*	*30*	
Surr: 13C4-PFOA	*142.7*	0	0	*147.1*	0	*97.1*	*50-150*	163.8	*13.7*	*30*	
Surr: 13C4-PFOS	*120.4*	0	0	*140.4*	0	*85.7*	*50-150*	128.5	*6.55*	*30*	
Surr: 13C5-PFNA	*144.3*	0	0	*147.1*	0	*98.1*	*50-150*	153.2	*6*	*30*	
Surr: 13C5-PFPeA	*180.1*	0	0	*147.1*	0	*122*	*50-150*	187.2	*3.87*	*30*	
Surr: 13C8-FOSA	*162.2*	0	0	*147.1*	0	*110*	*50-150*	150.4	*7.57*	*30*	
Surr: 18O2-PFHxS	*111.6*	0	0	*139*	0	*80.3*	*50-150*	151.7	*30.4*	*30*	*R*
Surr: d5-N-EtFOSA	*136.9*	0	0	*147.1*	0	*93.1*	*50-150*	130.1	*5.07*	*30*	
Surr: d5-N-EtFOSAA	*128.2*	0	0	*147.1*	0	*87.2*	*50-150*	160.1	*22.1*	*30*	
Surr: d9-N-EtFOSE	*158*	0	0	*147.1*	0	*107*	*50-150*	163.4	*3.36*	*30*	
Surr: d3-N-MeFOSA	*167.4*	0	0	*147.1*	0	*114*	*50-150*	135.9	*20.8*	*30*	
Surr: d3-N-MeFOSAA	*135.9*	0	0	*147.1*	0	*92.4*	*50-150*	139.4	*2.55*	*30*	
Surr: d7-N-MeFOSE	*171.6*	0	0	*147.1*	0	*117*	*50-150*	175.7	*2.33*	*30*	

The following samples were analyzed in this batch: 22020809-01A 22020809-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Environmental

225 Commerce Drive, Fort Collins, Colorado 80524

TF: (800) 443-1511 w PH: (970) 490-1511 w FX: (970) 490-1522

Chain-of-Custody

LAB ID: 2202080 9

DATE: 2/9/2022 | PAGE: 1 of 1

PROJECT NAME	WPWT Facility	E-MAIL	kathleen.obrien@alsglobal.com
PROJECT No.		PHONE	970-490-1511
REPORT TO	Katie O'Brien	FAX	970-490-1522
COMPANY	ALS Environmental		
ADDRESS	225 Commerce Drive, Fort Collins, Colorado 80524		

TURNAROUND: Std

DISPOSAL: By Lab or Return to Client

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Btls	QC	250ml poly unpres: PFAS
1	Outfall 001A	WATER	02/08/2022	13:40	2		X
2	Field Blank	WATER	02/08/2022	13:40	1		X

COMMENTS: ALS FC SDG 2202135

Standard Summary, COGCC EDD. Facility ID 767700 Sampling State - CO. Regulatory Requirements - CO. Sampler: Randy Evans

IR1 3.8°C

	SIGNATURE	PRINTED NAME	DATE	TIME	COMPANY
Relinquished By	Karen Craven	Karen Craven	2-9-22	1530	ACS
Received By		L. Sweet	2/10/22	1430	ALSHN

Relinquished By					
Received By					

ALS Group, USA

Sample Receipt Checklist

Client Name: **ALS - FORT COLLINS** Date/Time Received: **10-Feb-22 14:30**

Work Order: **22020809** Received by: **LYS**

Checklist completed by Lydia Sweet eSignature 11-Feb-22 Date Reviewed by: Jodi Flowers eSignature 11-Feb-22 Date

Matrices: Water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.8/3.8c	IR1	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	2/11/2022 1:23:28 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction: