

# POLLEN ENVIRONMENTAL, LLC.

3536 International Street  
 Fairbanks, AK 99701  
 (907) 479-8368 Phone (907) 452-6853 Fax  
 jerry@pollenenv.com

## CHAIN OF CUSTODY/WORKORDER FORM

COC# CONP 2017

CLIENT INFORMATION						Contact Person:		Requested Analysis						Page 1 of 1			
Company: <b>City of North Pole</b>						<b>Paul Trissel</b>		Perservative Added  <input type="checkbox"/> Normal Turnaround <input type="checkbox"/> RUSH ____ day(s)						Number of Containers PFC'S			
Address: <b>125 Snowman Lane</b>						WWTP APDES #:											
City, State Zip: <b>North Pole, AK 99705</b>						PWS ID #: <b>310675</b>											
Phone: <b>907-388-1907</b>						Send Results to ADEC: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No											
Fax: <b>907-488-1825</b>						Purchase Order/Charge Code: <b>2017-362</b>											
Email: <b>northpoleutilities@alaska.net</b>																	
Project Name: <b>Bi-Annual WTP Monitoring</b>																	
Sampled By: <b>JEP</b>																	
Sample Identification	Sample Date	Sample Time	Matrix	Lab ID#	Sub Lab ID#								Sample Comments				
<b>Well B</b>	<b>7/5/2017</b>	<b>1000</b>	<b>W</b>	<b>REF39758</b>		<b>2</b>	<b>X</b>										
<b>Possible Hazard Identification:</b> <input type="checkbox"/> Non-Hazardous <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Unknown						<b>Sample Condition:</b> Pollen Env Temperature on arrival:   °C   COC Seal: <input type="checkbox"/> Intact <input type="checkbox"/> Broken <input type="checkbox"/> Absent Sub Lab Temperature on arrival:   °C   COC Seal: <input type="checkbox"/> Intact <input type="checkbox"/> Broken <input type="checkbox"/> Absent											
<b>Special Instructions/QC Requirements &amp; Comments:</b>																	
Relinquished by:			Company:			Date & Time:			Received by:			Company:			Date & Time:		
<i>C. P. P.</i>			Pollen Env			7-6-17 @ 10:00 am			<i>Shantel Gogawki</i>			Pollen Env.			7/5/17 11:45		
Relinquished by:			Company:			Date & Time:			Received by:			Company:			Date & Time:		



**CERTIFICATE OF ANALYSIS**

**City of North Pole WTP**  
 Attn: Paul Trissel  
 125 Snowman Lane  
 North Pole, AK 99705  
 Phone: 907-388-1907  
 Fax: 907-488-1825  
 northpoleutilities@alaska.net

Report Date: 7/25/2017  
 Sample Date: 7/5/2017  
 Sample Time: 10:00 AM  
 Sampled By: Jerry Pollen

Project Name: **CONP WTP PFOS Monitoring**  
 Analysis: **PFC'S**  
 Analysis Method: **EPA 537**  
 COC#: **CONP 2017**  
 Sample Matrix: **Drinking Water**  
 PWS ID#: **AK2310675**

Attached are the results for analysis of your samples. This sample was analyzed by Eurofins Eaton Analytical in South Bend, IN.

<b>Client Sample ID:</b>	<b>Pollen Env ID:</b>	<b>Eurofins Eaton Analytical ID:</b>
Well B	PEF34758	3727566

**Jerry Pollen**  
**Pollen Environmental, LLC - Fairbanks**

## LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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### STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	NE-OS-05-04
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Jersey*	IN598
Colorado	IN035	New Mexico	IN00035
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida*	E87775	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon (Primary AB)*	4074-001
Idaho	IN00035	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	17767	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
Iowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA170006	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

\*NELAP/TNI Recognized Accreditation Bodies

110 South Hill Street  
 South Bend, IN 46617  
 Tel: (574) 233-4777  
 Fax: (574) 233-8207  
 1 800 332 4345

## Laboratory Report

Client: Pollen Environmental LLC.  
 Attn: Jerry Pollen  
 3536 International Avenue  
 Fairbanks, AK 99701

Report: 392310  
 Priority: Standard Written  
 Status: Final  
 PWS ID: AK2310675  
 Alaska Lab ID #: IN00035

Sample Information					
EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3727566	PEF34758/Well B	537	07/05/17 10:00	Client	07/07/17 08:30

### Report Summary

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Traci Chlebowski at (574) 233-4777.

*Note: This report may not be reproduced, except in full, without written approval from EEA.*

 ASM

Authorized Signature

Title

07/25/2017

Date

Client Name: Pollen Environmental LLC.  
 Report #: 392310

Sampling Point: PEF34758/Well B

PWS ID: AK2310675

EEA Methods									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
375-73-5	Perfluorobutanesulfonic acid (PFBS)	537	---	2.0	< 2.0	ng/L	07/12/17 08:06	07/13/17 02:22	3727566
335-76-2	Perfluorodecanoic acid (PFDA)	537	---	2.0	< 2.0	ng/L	07/12/17 08:06	07/13/17 02:22	3727566
375-85-9	Perfluoroheptanoic acid (PFHpA)	537	---	2.0	< 2.0	ng/L	07/12/17 08:06	07/13/17 02:22	3727566
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	537	---	2.0	2.7	ng/L	07/12/17 08:06	07/13/17 02:22	3727566
307-24-4	Perfluorohexanoic acid (PFHxA)	537	---	2.0	< 2.0	ng/L	07/12/17 08:06	07/13/17 02:22	3727566
307-55-1	Perfluorolauric acid (PFDoA)	537	---	2.0	< 2.0	ng/L	07/12/17 08:06	07/13/17 02:22	3727566
376-06-7	Perfluoromyristic acid (PFTA)	537	---	2.0	< 2.0	ng/L	07/12/17 08:06	07/13/17 02:22	3727566
375-95-1	Perfluorononanoic acid (PFNA)	537	---	2.0	< 2.0	ng/L	07/12/17 08:06	07/13/17 02:22	3727566
1763-23-1	Perfluorooctane sulfonate (PFOS)	537	---	2.0	< 2.0	ng/L	07/12/17 08:06	07/13/17 02:22	3727566
335-67-1	Perfluorooctanoic acid (PFOA)	537	---	2.0	< 2.0	ng/L	07/12/17 08:06	07/13/17 02:22	3727566
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	537	---	2.0	< 2.0	ng/L	07/12/17 08:06	07/13/17 02:22	3727566
2058-94-8	Perfluoroundecanoic acid (PFUnA)	537	---	2.0	< 2.0	ng/L	07/12/17 08:06	07/13/17 02:22	3727566

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

## Lab Definitions

**Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC)** - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

**Internal Standards (IS)** - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

**Laboratory Duplicate (LD)** - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

**Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS)** - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

**Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB)** - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

**Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB)** - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

**Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD)** - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

**Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM)** - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

**Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV)** - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

**Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS)** - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

**Surrogate Standard (SS) / Surrogate Analyte (SUR)** - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

# POLLEN ENVIRONMENTAL, LLC.

# CHAIN OF CUSTODY/WORKORDER FORM

3536 International Street  
 Fairbanks, AK 99701  
 (907) 479-8368 Phone (907) 452-6853 Fax  
 jerry@pollenenv.com

COC# CONP 2017

392310 322398

<b>CLIENT INFORMATION</b>			Contact Person: <b>Paul Trissel</b>			<b>Requested Analysis</b>						Page 1 of 1
Company: <b>City of North Pole</b>			WWTP APDES #:			Perservative Added PFC'S Number of Containers <input type="checkbox"/> Normal Turnaround <input type="checkbox"/> RUSH ____ day(s)						
Address: <b>125 Snowman Lane</b>			PWS ID #: <b>310675</b>									
City, State Zip: <b>North Pole, AK 99705</b>			Send Results to ADEC:									
Phone: <b>907-388-1907</b>			v Yes <input type="checkbox"/> No									
Fax: <b>907-488-1825</b>			Purchase Order/Charge Code:									
Email: <b>northpoleutilities@alaska.net</b>			<b>2017-362</b>									
Project Name: <b>Bi-Annual WTP Monitoring</b>			Sampled By: <b>JEP</b>									
Sample Identification	Sample Date	Sample Time	Matrix	Lab ID#	Sub Lab ID#							Sample Comments
<b>Well B</b>	<b>7/5/2017</b>	<b>1000</b>	<b>W</b>	<b>PEF31758</b>	<b>3727566</b>	<b>2</b>	<b>X</b>					<b>CL=A</b>
<b>Possible Hazard Identification:</b> <input type="checkbox"/> Non-Hazardous <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Unknown												
<b>Sample Condition:</b> Pollen Env Temperature on arrival: _____ °C    COC Seal: <input type="checkbox"/> Intact <input type="checkbox"/> Broken <input type="checkbox"/> Absent Sub Lab Temperature on arrival: <b>0.4</b> °C    COC Seal: <input type="checkbox"/> Intact <input type="checkbox"/> Broken <input type="checkbox"/> Absent												
<b>Special Instructions/QC Requirements &amp; Comments:</b>												
Relinquished by:	Company:	Date & Time:	Received by:	Company:	Date & Time:							
<i>[Signature]</i>	<b>Pollen Env</b>	<b>7-6-17 9:10 am</b>	<i>[Signature]</i>	<b>Pollen Env.</b>	<b>7/5/17 1145</b>							
Relinquished by:	Company:	Date & Time:	Received by:	Company:	Date & Time:							
<i>[Signature]</i>	<b>PEE-5B</b>		<i>[Signature]</i>	<b>PEE-5B</b>	<b>7/1/17 0830</b>							

Accuracy, Precision, and Professional Service



## Eurofins Eaton Analytical Run Log

Run ID: **231849**    Method: **537**

<u>Type</u>	<u>Sample Id</u>	<u>Sample Site</u>	<u>Matrix</u>	<u>Instrument ID</u>	<u>Analysis Date</u>	<u>Calibration File</u>
CCL	3730339		OS	FL	07/12/2017 19:06	071217M537a-FL-PFC12.mdb
LRB	3730327		RW	FL	07/12/2017 19:40	071217M537a-FL-PFC12.mdb
FBH	3730328		RW	FL	07/12/2017 20:14	071217M537a-FL-PFC12.mdb
CCM	3730340		OS	FL	07/12/2017 23:35	071217M537a-FL-PFC12.mdb
FS	3727566	PEF34758/Well B	DW	FL	07/13/2017 02:22	071217M537a-FL-PFC12.mdb
LFSMM	3730325	PEF34758/Well B	DW	FL	07/13/2017 02:39	071217M537a-FL-PFC12.mdb
CCH	3730341		OS	FL	07/13/2017 02:56	071217M537a-FL-PFC12.mdb
CCL	3730894		OS	FL	07/13/2017 08:35	071217M537a-FL-PFC12.mdb

## QC Summary Report

Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
CCL	IS-PFOA-13C2	537	N/A	---		1821290.00	1821290	ng/L	100	50 - 150	---	---	1.0	07/06/2017 14:13	07/12/2017 19:06	3730339
CCL	IS-PFOS-13C4	537	N/A	---		410403.00	410403	ng/L	100	50 - 150	---	---	1.0	07/06/2017 14:13	07/12/2017 19:06	3730339
CCL	SS-PFDA-13C2	537	N/A	---		96.5006	100	ng/L	97	70 - 130	---	---	1.0	07/06/2017 14:13	07/12/2017 19:06	3730339
CCL	SS-PFHxA-13C2	537	N/A	---		50.3649	50.0	ng/L	101	70 - 130	---	---	1.0	07/06/2017 14:13	07/12/2017 19:06	3730339
CCL	Perfluorobutanesulfonic acid (PFBS)	537	2.0	---		1.9972	2.0	ng/L	100	50 - 150	---	---	1.0	07/06/2017 14:13	07/12/2017 19:06	3730339
CCL	Perfluorodecanoic acid (PFDA)	537	2.0	---		1.8592	2.0	ng/L	93	50 - 150	---	---	1.0	07/06/2017 14:13	07/12/2017 19:06	3730339
CCL	Perfluoroheptanoic acid (PFHpA)	537	2.0	---		1.8800	2.0	ng/L	94	50 - 150	---	---	1.0	07/06/2017 14:13	07/12/2017 19:06	3730339
CCL	Perfluorohexanesulfonic acid (PFHxS)	537	2.0	---		1.9096	2.0	ng/L	95	50 - 150	---	---	1.0	07/06/2017 14:13	07/12/2017 19:06	3730339
CCL	Perfluorohexanoic acid (PFHxA)	537	2.0	---		1.9174	2.0	ng/L	96	50 - 150	---	---	1.0	07/06/2017 14:13	07/12/2017 19:06	3730339
CCL	Perfluorolauric acid (PFDoA)	537	2.0	---		1.8944	2.0	ng/L	95	50 - 150	---	---	1.0	07/06/2017 14:13	07/12/2017 19:06	3730339
CCL	Perfluoromyristic acid (PFTA)	537	2.0	---		2.0048	2.0	ng/L	100	50 - 150	---	---	1.0	07/06/2017 14:13	07/12/2017 19:06	3730339
CCL	Perfluorononanoic acid (PFNA)	537	2.0	---		1.9098	2.0	ng/L	95	50 - 150	---	---	1.0	07/06/2017 14:13	07/12/2017 19:06	3730339
CCL	Perfluorooctane sulfonate (PFOS)	537	2.0	---		1.8834	2.0	ng/L	94	50 - 150	---	---	1.0	07/06/2017 14:13	07/12/2017 19:06	3730339
CCL	Perfluorooctanoic acid (PFOA)	537	2.0	---		1.8886	2.0	ng/L	94	50 - 150	---	---	1.0	07/06/2017 14:13	07/12/2017 19:06	3730339
CCL	Perfluorotridecanoic acid (PFTTrDA)	537	2.0	---		1.9136	2.0	ng/L	96	50 - 150	---	---	1.0	07/06/2017 14:13	07/12/2017 19:06	3730339
CCL	Perfluoroundecanoic acid (PFUnA)	537	2.0	---		1.8204	2.0	ng/L	91	50 - 150	---	---	1.0	07/06/2017 14:13	07/12/2017 19:06	3730339
LRB	IS-PFOA-13C2	537	N/A	---		1829650.00	1821290	ng/L	100	50 - 150	---	---	0.96	07/12/2017 08:06	07/12/2017 19:40	3730327
LRB	IS-PFOS-13C4	537	N/A	---		411023.00	410403	ng/L	100	50 - 150	---	---	0.96	07/12/2017 08:06	07/12/2017 19:40	3730327
LRB	SS-PFDA-13C2	537	N/A	---		88.4599	100	ng/L	92	70 - 130	---	---	0.96	07/12/2017 08:06	07/12/2017 19:40	3730327
LRB	SS-PFHxA-13C2	537	N/A	---		44.7732	50.0	ng/L	93	70 - 130	---	---	0.96	07/12/2017 08:06	07/12/2017 19:40	3730327
LRB	Perfluorobutanesulfonic acid (PFBS)	537	2.0	---	<	2.0		ng/L	---	---	---	---	0.96	07/12/2017 08:06	07/12/2017 19:40	3730327
LRB	Perfluorodecanoic acid (PFDA)	537	2.0	---	<	2.0		ng/L	---	---	---	---	0.96	07/12/2017 08:06	07/12/2017 19:40	3730327
LRB	Perfluoroheptanoic acid (PFHpA)	537	2.0	---	<	2.0		ng/L	---	---	---	---	0.96	07/12/2017 08:06	07/12/2017 19:40	3730327
LRB	Perfluorohexanesulfonic acid (PFHxS)	537	2.0	---	<	2.0		ng/L	---	---	---	---	0.96	07/12/2017 08:06	07/12/2017 19:40	3730327
LRB	Perfluorohexanoic acid (PFHxA)	537	2.0	---	<	2.0		ng/L	---	---	---	---	0.96	07/12/2017 08:06	07/12/2017 19:40	3730327
LRB	Perfluorolauric acid (PFDoA)	537	2.0	---	<	2.0		ng/L	---	---	---	---	0.96	07/12/2017 08:06	07/12/2017 19:40	3730327
LRB	Perfluoromyristic acid (PFTA)	537	2.0	---	<	2.0		ng/L	---	---	---	---	0.96	07/12/2017 08:06	07/12/2017 19:40	3730327
LRB	Perfluorononanoic acid (PFNA)	537	2.0	---	<	2.0		ng/L	---	---	---	---	0.96	07/12/2017 08:06	07/12/2017 19:40	3730327
LRB	Perfluorooctane sulfonate (PFOS)	537	2.0	---	<	2.0		ng/L	---	---	---	---	0.96	07/12/2017 08:06	07/12/2017 19:40	3730327
LRB	Perfluorooctanoic acid (PFOA)	537	2.0	---	<	2.0		ng/L	---	---	---	---	0.96	07/12/2017 08:06	07/12/2017 19:40	3730327
LRB	Perfluorotridecanoic acid (PFTTrDA)	537	2.0	---	<	2.0		ng/L	---	---	---	---	0.96	07/12/2017 08:06	07/12/2017 19:40	3730327
LRB	Perfluoroundecanoic acid (PFUnA)	537	2.0	---	<	2.0		ng/L	---	---	---	---	0.96	07/12/2017 08:06	07/12/2017 19:40	3730327
FBH	IS-PFOA-13C2	537	N/A	---		1776960.00	1821290	ng/L	98	50 - 150	---	---	1.0	07/12/2017 08:06	07/12/2017 20:14	3730328
FBH	IS-PFOS-13C4	537	N/A	---		408529.00	410403	ng/L	100	50 - 150	---	---	1.0	07/12/2017 08:06	07/12/2017 20:14	3730328
FBH	SS-PFDA-13C2	537	N/A	---		96.8780	100	ng/L	97	70 - 130	---	---	1.0	07/12/2017 08:06	07/12/2017 20:14	3730328
FBH	SS-PFHxA-13C2	537	N/A	---		49.0644	50.0	ng/L	98	70 - 130	---	---	1.0	07/12/2017 08:06	07/12/2017 20:14	3730328
FBH	Perfluorobutanesulfonic acid (PFBS)	537	2.0	---		190.2170	200	ng/L	95	70 - 130	---	---	1.0	07/12/2017 08:06	07/12/2017 20:14	3730328
FBH	Perfluorodecanoic acid (PFDA)	537	2.0	---		179.2690	200	ng/L	90	70 - 130	---	---	1.0	07/12/2017 08:06	07/12/2017 20:14	3730328
FBH	Perfluoroheptanoic acid (PFHpA)	537	2.0	---		182.3270	200	ng/L	91	70 - 130	---	---	1.0	07/12/2017 08:06	07/12/2017 20:14	3730328
FBH	Perfluorohexanesulfonic acid (PFHxS)	537	2.0	---		189.2710	200	ng/L	95	70 - 130	---	---	1.0	07/12/2017 08:06	07/12/2017 20:14	3730328

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QC Summary Report (cont.)

Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
FBH	Perfluorohexanoic acid (PFHxA)	537	2.0	---		181.9150	200	ng/L	91	70 - 130	---	---	1.0	07/12/2017 08:06	07/12/2017 20:14	3730328
FBH	Perfluorolauric acid (PFDoA)	537	2.0	---		172.4180	200	ng/L	86	70 - 130	---	---	1.0	07/12/2017 08:06	07/12/2017 20:14	3730328
FBH	Perfluoromyristic acid (PFTA)	537	2.0	---		171.5190	200	ng/L	86	70 - 130	---	---	1.0	07/12/2017 08:06	07/12/2017 20:14	3730328
FBH	Perfluorononanoic acid (PFNA)	537	2.0	---		185.5120	200	ng/L	93	70 - 130	---	---	1.0	07/12/2017 08:06	07/12/2017 20:14	3730328
FBH	Perfluorooctane sulfonate (PFOS)	537	2.0	---		185.7240	200	ng/L	93	70 - 130	---	---	1.0	07/12/2017 08:06	07/12/2017 20:14	3730328
FBH	Perfluorooctanoic acid (PFOA)	537	2.0	---		185.7420	200	ng/L	93	70 - 130	---	---	1.0	07/12/2017 08:06	07/12/2017 20:14	3730328
FBH	Perfluorotridecanoic acid (PFTrDA)	537	2.0	---		174.3310	200	ng/L	87	70 - 130	---	---	1.0	07/12/2017 08:06	07/12/2017 20:14	3730328
FBH	Perfluoroundecanoic acid (PFUnA)	537	2.0	---		176.6320	200	ng/L	88	70 - 130	---	---	1.0	07/12/2017 08:06	07/12/2017 20:14	3730328
CCM	IS-PFOA-13C2	537	N/A	---		1762040.00	1762040	ng/L	100	50 - 150	---	---	1.0	07/06/2017 14:13	07/12/2017 23:35	3730340
CCM	IS-PFOS-13C4	537	N/A	---		385388.00	385388	ng/L	100	50 - 150	---	---	1.0	07/06/2017 14:13	07/12/2017 23:35	3730340
CCM	SS-PFDA-13C2	537	N/A	---		92.6760	100	ng/L	93	70 - 130	---	---	1.0	07/06/2017 14:13	07/12/2017 23:35	3730340
CCM	SS-PFHxA-13C2	537	N/A	---		50.9212	50.0	ng/L	102	70 - 130	---	---	1.0	07/06/2017 14:13	07/12/2017 23:35	3730340
CCM	Perfluorobutanesulfonic acid (PFBS)	537	2.0	---		108.5680	100	ng/L	109	70 - 130	---	---	1.0	07/06/2017 14:13	07/12/2017 23:35	3730340
CCM	Perfluorodecanoic acid (PFDA)	537	2.0	---		91.7004	100	ng/L	92	70 - 130	---	---	1.0	07/06/2017 14:13	07/12/2017 23:35	3730340
CCM	Perfluoroheptanoic acid (PFHpA)	537	2.0	---		99.6860	100	ng/L	100	70 - 130	---	---	1.0	07/06/2017 14:13	07/12/2017 23:35	3730340
CCM	Perfluorohexanesulfonic acid (PFHxS)	537	2.0	---		105.8950	100	ng/L	106	70 - 130	---	---	1.0	07/06/2017 14:13	07/12/2017 23:35	3730340
CCM	Perfluorohexanoic acid (PFHxA)	537	2.0	---		101.6410	100	ng/L	102	70 - 130	---	---	1.0	07/06/2017 14:13	07/12/2017 23:35	3730340
CCM	Perfluorolauric acid (PFDoA)	537	2.0	---		93.1111	100	ng/L	93	70 - 130	---	---	1.0	07/06/2017 14:13	07/12/2017 23:35	3730340
CCM	Perfluoromyristic acid (PFTA)	537	2.0	---		95.2531	100	ng/L	95	70 - 130	---	---	1.0	07/06/2017 14:13	07/12/2017 23:35	3730340
CCM	Perfluorononanoic acid (PFNA)	537	2.0	---		97.3463	100	ng/L	97	70 - 130	---	---	1.0	07/06/2017 14:13	07/12/2017 23:35	3730340
CCM	Perfluorooctane sulfonate (PFOS)	537	2.0	---		99.7055	100	ng/L	100	70 - 130	---	---	1.0	07/06/2017 14:13	07/12/2017 23:35	3730340
CCM	Perfluorooctanoic acid (PFOA)	537	2.0	---		99.6289	100	ng/L	100	70 - 130	---	---	1.0	07/06/2017 14:13	07/12/2017 23:35	3730340
CCM	Perfluorotridecanoic acid (PFTrDA)	537	2.0	---		96.2570	100	ng/L	96	70 - 130	---	---	1.0	07/06/2017 14:13	07/12/2017 23:35	3730340
CCM	Perfluoroundecanoic acid (PFUnA)	537	2.0	---		91.2531	100	ng/L	91	70 - 130	---	---	1.0	07/06/2017 14:13	07/12/2017 23:35	3730340
FS	IS-PFOA-13C2	537	N/A	PEF34758/Well B		1811240.00	1762040	ng/L	103	50 - 150	---	---	0.97	07/12/2017 08:06	07/13/2017 02:22	3727566
FS	IS-PFOS-13C4	537	N/A	PEF34758/Well B		390737.00	385388	ng/L	101	50 - 150	---	---	0.97	07/12/2017 08:06	07/13/2017 02:22	3727566
FS	SS-PFDA-13C2	537	N/A	PEF34758/Well B		87.5800	100	ng/L	90	70 - 130	---	---	0.97	07/12/2017 08:06	07/13/2017 02:22	3727566
FS	SS-PFHxA-13C2	537	N/A	PEF34758/Well B		50.5185	50.0	ng/L	104	70 - 130	---	---	0.97	07/12/2017 08:06	07/13/2017 02:22	3727566
FS	Perfluorobutanesulfonic acid (PFBS)	537	2.0	PEF34758/Well B	<	2.0		ng/L	---	---	---	---	0.97	07/12/2017 08:06	07/13/2017 02:22	3727566
FS	Perfluorodecanoic acid (PFDA)	537	2.0	PEF34758/Well B	<	2.0		ng/L	---	---	---	---	0.97	07/12/2017 08:06	07/13/2017 02:22	3727566
FS	Perfluoroheptanoic acid (PFHpA)	537	2.0	PEF34758/Well B	<	2.0		ng/L	---	---	---	---	0.97	07/12/2017 08:06	07/13/2017 02:22	3727566
FS	Perfluorohexanesulfonic acid (PFHxS)	537	2.0	PEF34758/Well B		2.7		ng/L	---	---	---	---	0.97	07/12/2017 08:06	07/13/2017 02:22	3727566
FS	Perfluorohexanoic acid (PFHxA)	537	2.0	PEF34758/Well B	<	2.0		ng/L	---	---	---	---	0.97	07/12/2017 08:06	07/13/2017 02:22	3727566
FS	Perfluorolauric acid (PFDoA)	537	2.0	PEF34758/Well B	<	2.0		ng/L	---	---	---	---	0.97	07/12/2017 08:06	07/13/2017 02:22	3727566
FS	Perfluoromyristic acid (PFTA)	537	2.0	PEF34758/Well B	<	2.0		ng/L	---	---	---	---	0.97	07/12/2017 08:06	07/13/2017 02:22	3727566
FS	Perfluorononanoic acid (PFNA)	537	2.0	PEF34758/Well B	<	2.0		ng/L	---	---	---	---	0.97	07/12/2017 08:06	07/13/2017 02:22	3727566
FS	Perfluorooctane sulfonate (PFOS)	537	2.0	PEF34758/Well B	<	2.0		ng/L	---	---	---	---	0.97	07/12/2017 08:06	07/13/2017 02:22	3727566
FS	Perfluorooctanoic acid (PFOA)	537	2.0	PEF34758/Well B	<	2.0		ng/L	---	---	---	---	0.97	07/12/2017 08:06	07/13/2017 02:22	3727566
FS	Perfluorotridecanoic acid (PFTrDA)	537	2.0	PEF34758/Well B	<	2.0		ng/L	---	---	---	---	0.97	07/12/2017 08:06	07/13/2017 02:22	3727566
FS	Perfluoroundecanoic acid (PFUnA)	537	2.0	PEF34758/Well B	<	2.0		ng/L	---	---	---	---	0.97	07/12/2017 08:06	07/13/2017 02:22	3727566
FSMM	IS-PFOA-13C2	537	N/A	PEF34758/Well B		1732980.00	1762040	ng/L	98	50 - 150	---	---	1.0	07/12/2017 08:06	07/13/2017 02:39	3730325

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QC Summary Report (cont.)

Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
LFSMM	IS-PFOS-13C4	537	N/A	PEF34758/Well B		380973.00	385388	ng/L	99	50 - 150	---	---	1.0	07/12/2017 08:06	07/13/2017 02:39	3730325
LFSMM	SS-PFDA-13C2	537	N/A	PEF34758/Well B		91.6193	100	ng/L	92	70 - 130	---	---	1.0	07/12/2017 08:06	07/13/2017 02:39	3730325
LFSMM	SS-PFHxA-13C2	537	N/A	PEF34758/Well B		51.4068	50.0	ng/L	103	70 - 130	---	---	1.0	07/12/2017 08:06	07/13/2017 02:39	3730325
LFSMM	Perfluorobutanesulfonic acid (PFBS)	537	2.0	PEF34758/Well B		111.7170	100	ng/L	112	70 - 130	---	---	1.0	07/12/2017 08:06	07/13/2017 02:39	3730325
LFSMM	Perfluorodecanoic acid (PFDA)	537	2.0	PEF34758/Well B		87.5370	100	ng/L	88	70 - 130	---	---	1.0	07/12/2017 08:06	07/13/2017 02:39	3730325
LFSMM	Perfluoroheptanoic acid (PFHpA)	537	2.0	PEF34758/Well B		97.3461	100	ng/L	97	70 - 130	---	---	1.0	07/12/2017 08:06	07/13/2017 02:39	3730325
LFSMM	Perfluorohexanesulfonic acid (PFHxS)	537	2.0	PEF34758/Well B		106.4850	102.70986	ng/L	104	70 - 130	---	---	1.0	07/12/2017 08:06	07/13/2017 02:39	3730325
LFSMM	Perfluorohexanoic acid (PFHxA)	537	2.0	PEF34758/Well B		98.6387	100	ng/L	99	70 - 130	---	---	1.0	07/12/2017 08:06	07/13/2017 02:39	3730325
LFSMM	Perfluorolauric acid (PFDoA)	537	2.0	PEF34758/Well B		83.3163	100	ng/L	83	70 - 130	---	---	1.0	07/12/2017 08:06	07/13/2017 02:39	3730325
LFSMM	Perfluoromyristic acid (PFTA)	537	2.0	PEF34758/Well B		83.1648	100	ng/L	83	70 - 130	---	---	1.0	07/12/2017 08:06	07/13/2017 02:39	3730325
LFSMM	Perfluorononanoic acid (PFNA)	537	2.0	PEF34758/Well B		94.9727	100	ng/L	95	70 - 130	---	---	1.0	07/12/2017 08:06	07/13/2017 02:39	3730325
LFSMM	Perfluorooctane sulfonate (PFOS)	537	2.0	PEF34758/Well B		98.2244	100	ng/L	98	70 - 130	---	---	1.0	07/12/2017 08:06	07/13/2017 02:39	3730325
LFSMM	Perfluorooctanoic acid (PFOA)	537	2.0	PEF34758/Well B		97.6438	100	ng/L	98	70 - 130	---	---	1.0	07/12/2017 08:06	07/13/2017 02:39	3730325
LFSMM	Perfluorotridecanoic acid (PFTTrDA)	537	2.0	PEF34758/Well B		84.5040	100	ng/L	85	70 - 130	---	---	1.0	07/12/2017 08:06	07/13/2017 02:39	3730325
LFSMM	Perfluoroundecanoic acid (PFUnA)	537	2.0	PEF34758/Well B		86.6578	100	ng/L	87	70 - 130	---	---	1.0	07/12/2017 08:06	07/13/2017 02:39	3730325
CCH	IS-PFOA-13C2	537	N/A	---		1715100.00	1715100	ng/L	100	50 - 150	---	---	1.0	07/06/2017 14:13	07/13/2017 02:56	3730341
CCH	IS-PFOS-13C4	537	N/A	---		377906.00	377906	ng/L	100	50 - 150	---	---	1.0	07/06/2017 14:13	07/13/2017 02:56	3730341
CCH	SS-PFDA-13C2	537	N/A	---		93.8895	100	ng/L	94	70 - 130	---	---	1.0	07/06/2017 14:13	07/13/2017 02:56	3730341
CCH	SS-PFHxA-13C2	537	N/A	---		50.5765	50.0	ng/L	101	70 - 130	---	---	1.0	07/06/2017 14:13	07/13/2017 02:56	3730341
CCH	Perfluorobutanesulfonic acid (PFBS)	537	2.0	---		213.2330	200	ng/L	107	70 - 130	---	---	1.0	07/06/2017 14:13	07/13/2017 02:56	3730341
CCH	Perfluorodecanoic acid (PFDA)	537	2.0	---		186.4010	200	ng/L	93	70 - 130	---	---	1.0	07/06/2017 14:13	07/13/2017 02:56	3730341
CCH	Perfluoroheptanoic acid (PFHpA)	537	2.0	---		201.9820	200	ng/L	101	70 - 130	---	---	1.0	07/06/2017 14:13	07/13/2017 02:56	3730341
CCH	Perfluorohexanesulfonic acid (PFHxS)	537	2.0	---		212.6190	200	ng/L	106	70 - 130	---	---	1.0	07/06/2017 14:13	07/13/2017 02:56	3730341
CCH	Perfluorohexanoic acid (PFHxA)	537	2.0	---		204.5160	200	ng/L	102	70 - 130	---	---	1.0	07/06/2017 14:13	07/13/2017 02:56	3730341
CCH	Perfluorolauric acid (PFDoA)	537	2.0	---		183.4890	200	ng/L	92	70 - 130	---	---	1.0	07/06/2017 14:13	07/13/2017 02:56	3730341
CCH	Perfluoromyristic acid (PFTA)	537	2.0	---		187.3610	200	ng/L	94	70 - 130	---	---	1.0	07/06/2017 14:13	07/13/2017 02:56	3730341
CCH	Perfluorononanoic acid (PFNA)	537	2.0	---		194.9290	200	ng/L	97	70 - 130	---	---	1.0	07/06/2017 14:13	07/13/2017 02:56	3730341
CCH	Perfluorooctane sulfonate (PFOS)	537	2.0	---		200.7700	200	ng/L	100	70 - 130	---	---	1.0	07/06/2017 14:13	07/13/2017 02:56	3730341
CCH	Perfluorooctanoic acid (PFOA)	537	2.0	---		202.6570	200	ng/L	101	70 - 130	---	---	1.0	07/06/2017 14:13	07/13/2017 02:56	3730341
CCH	Perfluorotridecanoic acid (PFTTrDA)	537	2.0	---		189.7290	200	ng/L	95	70 - 130	---	---	1.0	07/06/2017 14:13	07/13/2017 02:56	3730341
CCH	Perfluoroundecanoic acid (PFUnA)	537	2.0	---		183.6600	200	ng/L	92	70 - 130	---	---	1.0	07/06/2017 14:13	07/13/2017 02:56	3730341
CCL	IS-PFOA-13C2	537	N/A	---		1695370.00	1695370	ng/L	100	50 - 150	---	---	1.0	07/06/2017 14:13	07/13/2017 08:35	3730894
CCL	IS-PFOS-13C4	537	N/A	---		334510.00	334510	ng/L	100	50 - 150	---	---	1.0	07/06/2017 14:13	07/13/2017 08:35	3730894
CCL	SS-PFDA-13C2	537	N/A	---		81.0752	100	ng/L	81	70 - 130	---	---	1.0	07/06/2017 14:13	07/13/2017 08:35	3730894
CCL	SS-PFHxA-13C2	537	N/A	---		54.0360	50.0	ng/L	108	70 - 130	---	---	1.0	07/06/2017 14:13	07/13/2017 08:35	3730894
CCL	Perfluorobutanesulfonic acid (PFBS)	537	2.0	---		2.2734	2.0	ng/L	114	50 - 150	---	---	1.0	07/06/2017 14:13	07/13/2017 08:35	3730894
CCL	Perfluorodecanoic acid (PFDA)	537	2.0	---		1.5426	2.0	ng/L	77	50 - 150	---	---	1.0	07/06/2017 14:13	07/13/2017 08:35	3730894
CCL	Perfluoroheptanoic acid (PFHpA)	537	2.0	---		1.9201	2.0	ng/L	96	50 - 150	---	---	1.0	07/06/2017 14:13	07/13/2017 08:35	3730894
CCL	Perfluorohexanesulfonic acid (PFHxS)	537	2.0	---		2.0970	2.0	ng/L	105	50 - 150	---	---	1.0	07/06/2017 14:13	07/13/2017 08:35	3730894
CCL	Perfluorohexanoic acid (PFHxA)	537	2.0	---		2.0618	2.0	ng/L	103	50 - 150	---	---	1.0	07/06/2017 14:13	07/13/2017 08:35	3730894
CCL	Perfluorolauric acid (PFDoA)	537	2.0	---		1.6595	2.0	ng/L	83	50 - 150	---	---	1.0	07/06/2017 14:13	07/13/2017 08:35	3730894

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**QC Summary Report (cont.)**

Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
CCL	Perfluoromyristic acid (PFTA)	537	2.0	---		1.6603	2.0	ng/L	83	50 - 150	---	---	1.0	07/06/2017 14:13	07/13/2017 08:35	3730894
CCL	Perfluorononanoic acid (PFNA)	537	2.0	---		1.7220	2.0	ng/L	86	50 - 150	---	---	1.0	07/06/2017 14:13	07/13/2017 08:35	3730894
CCL	Perfluorooctane sulfonate (PFOS)	537	2.0	---		1.8237	2.0	ng/L	91	50 - 150	---	---	1.0	07/06/2017 14:13	07/13/2017 08:35	3730894
CCL	Perfluorooctanoic acid (PFOA)	537	2.0	---		1.8829	2.0	ng/L	94	50 - 150	---	---	1.0	07/06/2017 14:13	07/13/2017 08:35	3730894
CCL	Perfluorotridecanoic acid (PFTrDA)	537	2.0	---		1.7246	2.0	ng/L	86	50 - 150	---	---	1.0	07/06/2017 14:13	07/13/2017 08:35	3730894
CCL	Perfluoroundecanoic acid (PFUnA)	537	2.0	---		1.5956	2.0	ng/L	80	50 - 150	---	---	1.0	07/06/2017 14:13	07/13/2017 08:35	3730894

## Sample Type Key

<u>Type (Abbr.)</u>	<u>Sample Type</u>	<u>Type (Abbr.)</u>	<u>Sample Type</u>
CCH	Continuing Calibration High		
CCL	Continuing Calibration Low		
CCM	Continuing Calibration Mid		
FS	Field Sample		
FBH	Fortified Blank High		
LFSMM	LFSM Mid		
LRB	Laboratory Reagent Blank		

END OF REPORT