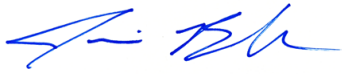


**Former Firefighting Training Areas
Soil and Groundwater Sampling Summary
Dane County Regional Airport
BRRT # 02-13-583366**

Prepared by Mead & Hunt, Inc./LimnoTech

November 2020

I, Jessica Bleha, hereby certify that I am a hydrogeologist as that term is defined in s. [NR 712.03 \(1\)](#), Wis. Adm. Code, am registered in accordance with the requirements of Ch. [GHSS 2](#), Wis. Adm. Code, or licensed in accordance with the requirements of Ch. [GHSS 3](#), Wis. Adm. Code, and that, 53 DEPARTMENT OF NATURAL RESOURCES NR 712.11 Published under s. [35.93](#), Wis. Stats., by the Legislative Reference Bureau. ***Published under s. 35.93, Stats. Updated on the first day of each month. Entire code is always current. The Register date on each page is the date the chapter was last published.*** Register October 2013 No. 694 to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in Chs. [NR 700](#) to [726](#), Wis. Adm. Code.”



Signature

Project Hydrogeologist (PG)
Title

December 9, 2020
Date

Dane County Regional Airport Preliminary July 2020 Former Firefighting Training Areas Sampling Summary

This document provides a preliminary summary of conditions, locations, and results for soil and groundwater sampling conducted at the Dane County Regional Airport (DCRA) on July 7-8, 2020. Sampling was conducted in response to BRRS # 02-13-583366, to provide initial information on per- and polyfluorinated alkyl substance (PFAS) constituents in soils and groundwater at two closed former firefighting training areas (FFTAs) at the airport: Pearson Street/East and Darwin Road/West. Sampling procedures and locations were described in the Initial Site Investigation Work Plan (March 2020) that was submitted to the WDNR on March 4, 2020.

Monitoring Locations

Soil and groundwater samples were collected at six (6) locations in each FFTA for a total of 12 locations, using a direct-push rig. Two (2) soil and one (1) groundwater samples were collected at each location. Borings were logged in the field by a LimnoTech geologist and boring logs are included as Attachment 1. Per the approved Work Plan, up to two (2) soil samples were collected above the water table from each soil boring. The first soil sample was collected from the uppermost foot of the soil boring and the second soil sample was collected from unsaturated soil above the water table.

All six soil borings at the former Pearson Street/East FFTA were advanced to 15 feet below ground surface (bgs) and saturated conditions were encountered at approximately 6 to 12 feet bgs. Soil conditions observed at the Pearson Street/East FFTA consisted of variable interbedded sands, silts, and clay in the upper 10 to 12 feet of each boring, overlaying brown or gray fine sand. The nature of the interbedded soil types varied among all borings.

Soil borings at the former Darwin Road/West FFTA were advanced to 15 feet bgs to 25 feet bgs. Saturated conditions were observed starting at approximately 10 to 18 feet bgs. Variable interbedded sands, silts, and clay were noted in soil borings SBT20-01 through SBT20-04 in the upper 4 to 8 feet, below which brown fine sand was uniformly observed. Interbedded non-uniform soil was observed deeper in soil borings SBT20-05 (to approximately 11 feet bgs) and SBT20-06 (to approximately 18 feet bgs). Light brown fine sand was observed uniformly in all borings beneath these interbedded upper soil layers.

Table 1 contains a summary of sample collection locations and depths.

Table 1. DCRA FFTA Soil and Groundwater Sample Collection Locations July 7-8, 2020.

FFTA	Sample Location	Sample I.D. (collection depth interval in feet)	
		Soil	Groundwater
Pearson Street/East	SBP20-01	SBP20-01 (0.5-1)	SBP20-01-GW (10-15)
		SBP20-01 (5-5.5)	
	SBP20-02	SBP20-02 (1-1.5)	SBP20-02-GW (10-15)
		SBP20-02 (5.5-6)	
	SBP20-03	SBP20-03 (1-1.5)	SBP20-03-GW (10-15)
		SBP20-03 (5-5.5)	
	SBP20-04	SBP20-04 (0.5-1)	SBP20-04-GW (10-15)
		SBP20-04-(7-7.5)	
	SBP20-05	SBP20-05 (0.5-1)	SBP20-05-GW (10-15)
		SBP20-05 (6-6.5)	
	SBP20-06	SBP20-06 (0.5-1)	SBP20-06-GW (10-15)
		SBP20-06 (7.4-7.9)	
Darwin Road/West	SBT20-01	SBT20-01 (0.5-1)	SBT20-01-GW (13-23)
		SBT20-01 (10.5-11)	
	SBT20-02	SBT20-02 (0-1)	SBT20-02-GW (15-20)
		SBT20-02 (10-10.5)	
	SBT20-03	SBT20-03 (0-1)	SBT20-03-GW (15-20)
		SBT20-03 (10-10.5)	
	SBT20-04	SBT20-04 (0.5-1)	SBT20-04-GW (9-19)
		SBT20-04 (6-6.5)	
	SBT20-05	SBT20-05 (0.5-1)	SBT20-05-GW (9-19)
		SBT20-05 (10.5-11)	
	SBT20-06	SBT20-06 (0-1)	SBT20-06-GW (13-23)
		SBT20-06 (13-13.5)	

Sampling locations and reported perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) results in soil and groundwater are shown in Figures 1 through 4.

In addition to the soil and groundwater samples, three equipment blanks, one field blank, two groundwater duplicates, and one soil duplicate were collected to evaluate sampling and equipment decontamination procedures.

Initial Summary of Reported Results

Samples were submitted to Vista Analytical Laboratory in El Dorado Hills, California for PFAS analysis using method 537M. Laboratory reports are included as Attachment 2. The reported PFOA and PFOS concentrations for soil samples collected are shown in Table 2.

Table 2. July 2020 FFTA Soil PFOA and PFOS Results.

Sample I.D.	PFOA (ng/g)	PFOS (ng/g)
Pearson Street/East		
SBP20-01 (0.5-1)	0.503	126
SBP20-01 (5-5.5)	ND (<0.467)	136

Sample I.D.	PFOA (ng/g)	PFOS (ng/g)
SBP20-02 (1-1.5)	ND (<0.469)	81.5
SBP20-02 (5.5-6)	ND (<0.471)	ND (<0.431)
SBP20-03 (1-1.5)	ND (<0.470)	ND (<0.430)
SBP20-03 (5-5.5)	ND (<0.470)	17
SBP20-04 (0.5-1)	0.684	83.9
SBP20-04-(7-7.5)	1.77	ND (<0.419)
SBP20-05 (0.5-1)	1.42	20.2
SBP20-05 (6-6.5)	6.37	619 (D)
SBP20-06 (0.5-1)	ND (<0.453)	69.1
SBP20-06 (7.4-7.9)	ND (<0.457)	ND (<0.418)
Darwin Road/West		
SBT20-01 (0.5-1)	2.05	19.8
SBT20-01 (10.5-11)	279	ND (<0.415)
SBT20-02 (0-1)	2.37	68
SBT20-02 (10-10.5)	ND (0.464)	1.7
SBT20-03 (0-1)	24.4	363
SBT20-03 (10-10.5)	38.5	ND (<0.425)
SBT20-04 (0.5-1)	0.538	8.35 (Q)
SBT20-04 (6-6.5)	0.573 (Q)	2.4
SBT20-05-(0.5-1)	ND (<0.466)	3.31 (Q)
SBT20-05 (10.5-11)	0.581	6.67
SBT20-06 (0-1)	3.71	49.4
SBT20-06 (13-13.5)	ND (<0.457)	ND (<0.418)
Soil Duplicate A (SBT20-05-(0.5-1))	ND (<0.462)	3.48
(D)=Dilution		
(Q)=Ion transition ratio outside acceptance criteria		

The (D) flag indicates that the sample required dilution prior to analysis so that one or more PFAS compounds at elevated concentrations were quantitated within the calibration range of the instrument.

The (Q) flag indicates that the ratio of the characteristic mass ions used to positively identify the PFAS analyte was outside the specified laboratory quality criteria in the sample. The ion transition ratio is one of several analysis outputs used to confirm the presence of a PFAS analyte in a sample. Thus, failure to meet the ion transition ratio alone does not mean the PFAS compound is not present, but rather, that the calculated concentration has more uncertainty, and the result is qualified to indicate the additional uncertainty in the reported value.

The reported PFOA and PFOS concentrations for groundwater samples collected are shown in Table 3.

Table 3. July 2020 FFTA Groundwater PFOA and PFOS Results.

Sample I.D.	PFOA (ng/L)	PFOS (ng/L)
Pearson Street/East		
SBP20-01-GW	1,420	18,300 (D)
SBP20-02-GW	126	1,680
SBP20-03-GW	895	11,000 (D)
SBP20-04-GW	2,300	18,900 (D)
SBP20-05-GW	1,120	11,800 (D)
SBP20-06-GW	465	11,800 (D)

Sample I.D.	PFOA (ng/L)	PFOS (ng/L)
Darwin Road/ West		
SBT20-01-GW	67,300 (D)	1,360 (Q)
SBT20-02-GW	11,300	559
SBT20-03-GW	7,130 (D)	1,360 (Q)
SBT20-04-GW	54.9	193
SBT20-05-GW	1,090	1,900
SBT20-06-GW	65,300 (D)	230
GW Duplicate A (SBT20-06)	66,600 (D)	175
GW Duplicate B (SBP20-04)	2,150	44,200 (D)
Equipment Blank A	ND (<0.754)	ND (<0.935)
Geoprobe decon blank	2.56 (J)	1.09 (J,Q)
Equipment Blank-070920	ND (<0.716)	ND (<0.888)
Field Blank A	ND (<0.686)	ND (<0.851)
(J)=Estimated value, amount detected is below the Reporting Limit/LOQ		
(D)=Dilution		
(Q)=Ion transition ratio outside acceptance criteria		

LimnoTech conducted a quality assurance/quality control (QA/QC) review of the data reports provided by Vista Analytical. Review elements included calibration and continuing calibration standards, method and instrument blanks, blank spikes, field blanks and duplicates, dilutions, and internal standard surrogate recoveries.

Summary observations of the QA/QC review include the following:

- Equipment and field blanks were non-detect for all PFAS compounds.
- The average relative percent differences (RPDs) observed in the two groundwater and one soil sample field duplicates for compounds detected at greater than five times the detection limit was 2.5% and ranged from -80% to 34%. The -80% RPD was observed for PFOS in the groundwater sample and field duplicate for SBP20-04-GW. PFOS was detected at high concentrations in this sample (18,900 and 44,200 ng/L in the sample and duplicate, respectively), necessitating a 1:5 dilution. The dilution may have added uncertainty that affected the RPD calculation.
- Three compounds were detected in the sample collected from the Geoprobe water tank (sample ID = Geoprobe decon blank). This is the water provided by and used by the drilling contractor for drilling equipment decontamination. The results for this sample showed measurable concentrations of PFOA (2.56 ng/l), PFOS (1.09 ng/l), and PFOSA (32.3 ng/l), indicating that the water used for equipment decontamination was not PFAS-free. However, the two equipment blank samples that were generated for the Geoprobe equipment using PFAS-free water were both non-detect for all PFAS compounds. These results show that, in spite of the presence of PFAS in the decontamination water, there is no indication PFAS compounds were transferred to the drilling equipment or soil and groundwater samples collected during this investigation.

Based on the above observations and QA review, all data generated indicated satisfactory laboratory performance and data of acceptable quality. The QA/QC review is included as Attachment 3.

Figures 1 through 4 below show reported PFOA and PFOS results for soil and groundwater samples at the both former FFTAs sampled.

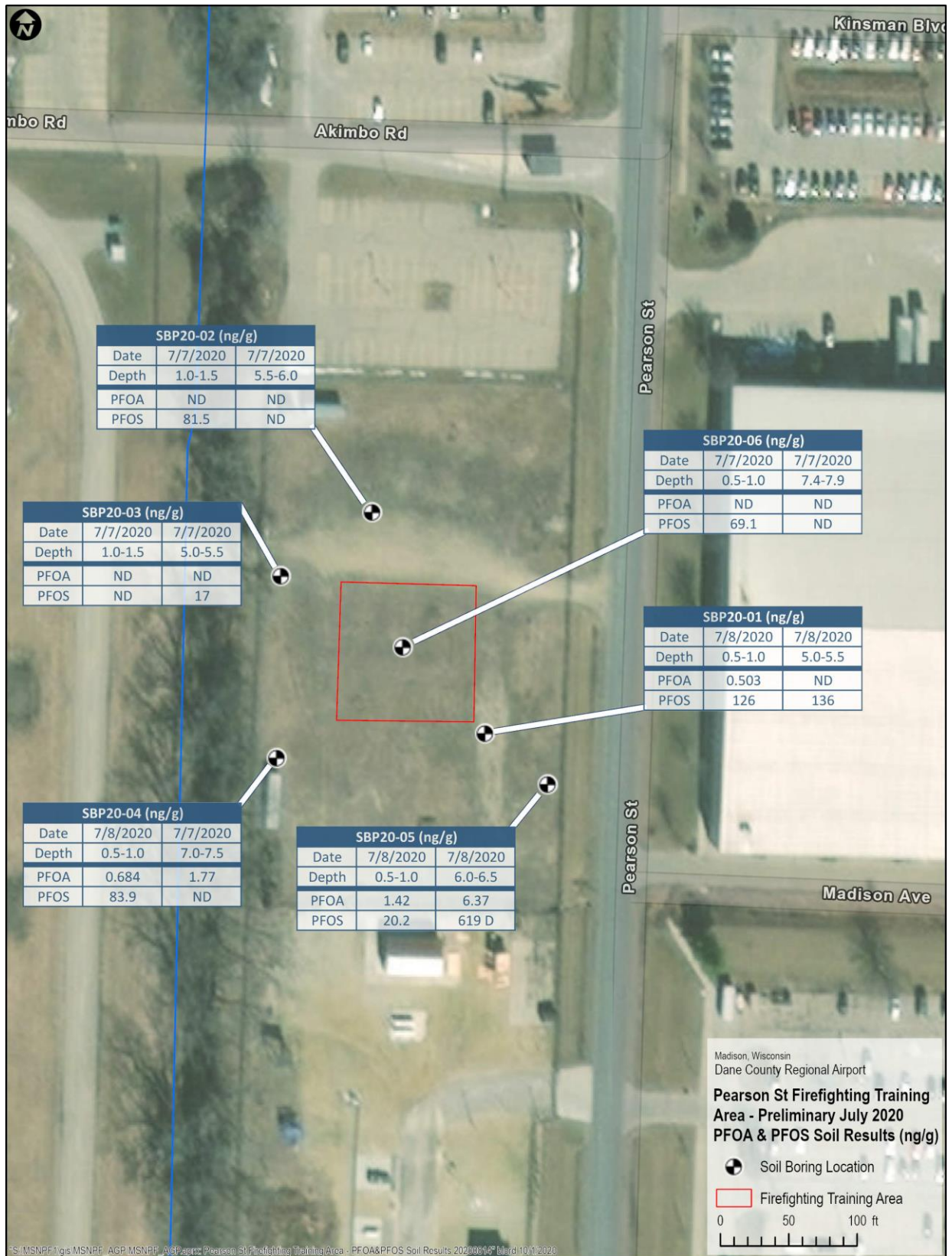


Figure 1. July 7-8 PFOA and PFOS Soil Results at Pearson Street/East FFTA.

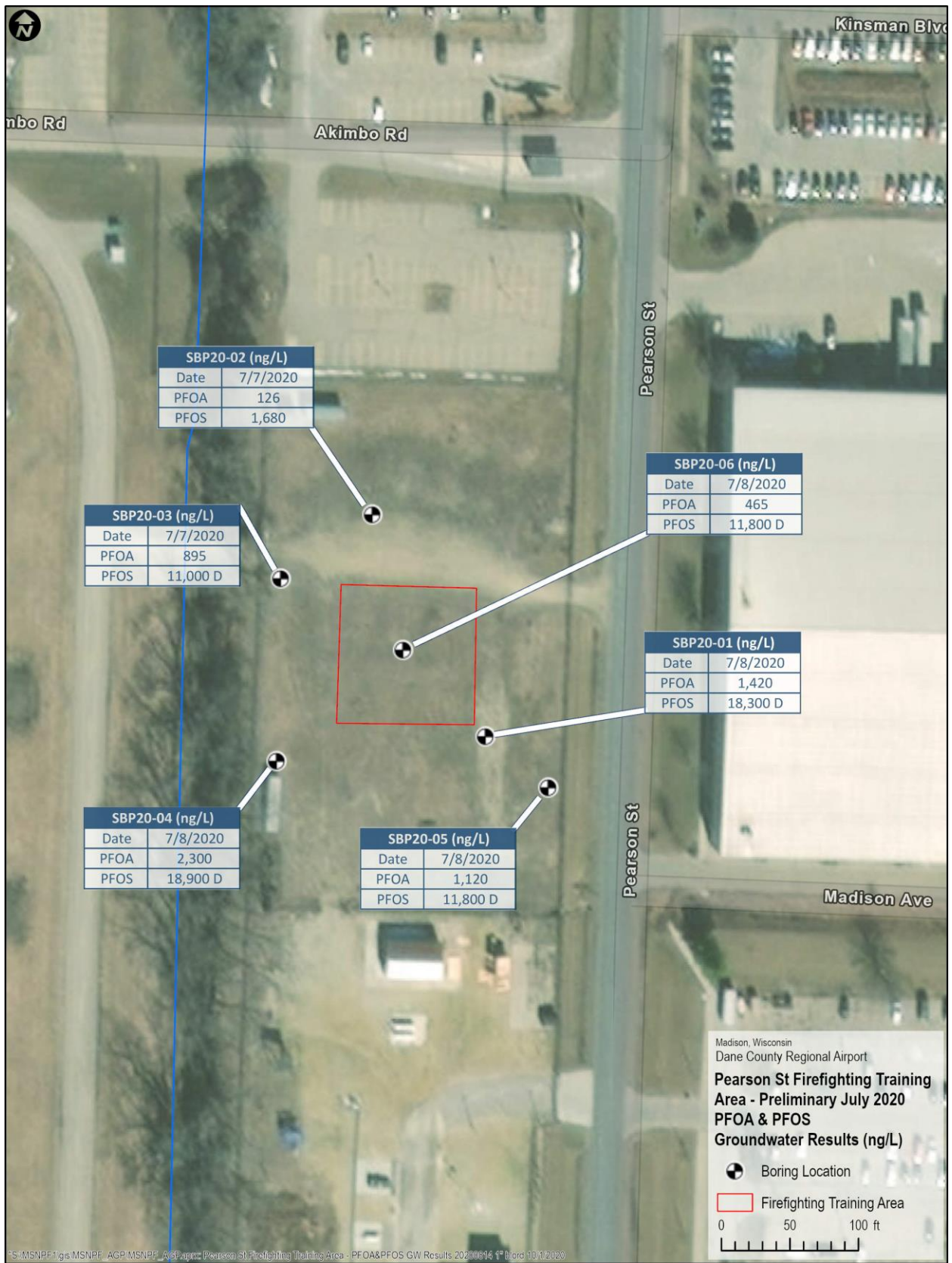


Figure 3. July 7-8 PFOA and PFOS Groundwater Results at Pearson Street/East FFTA.

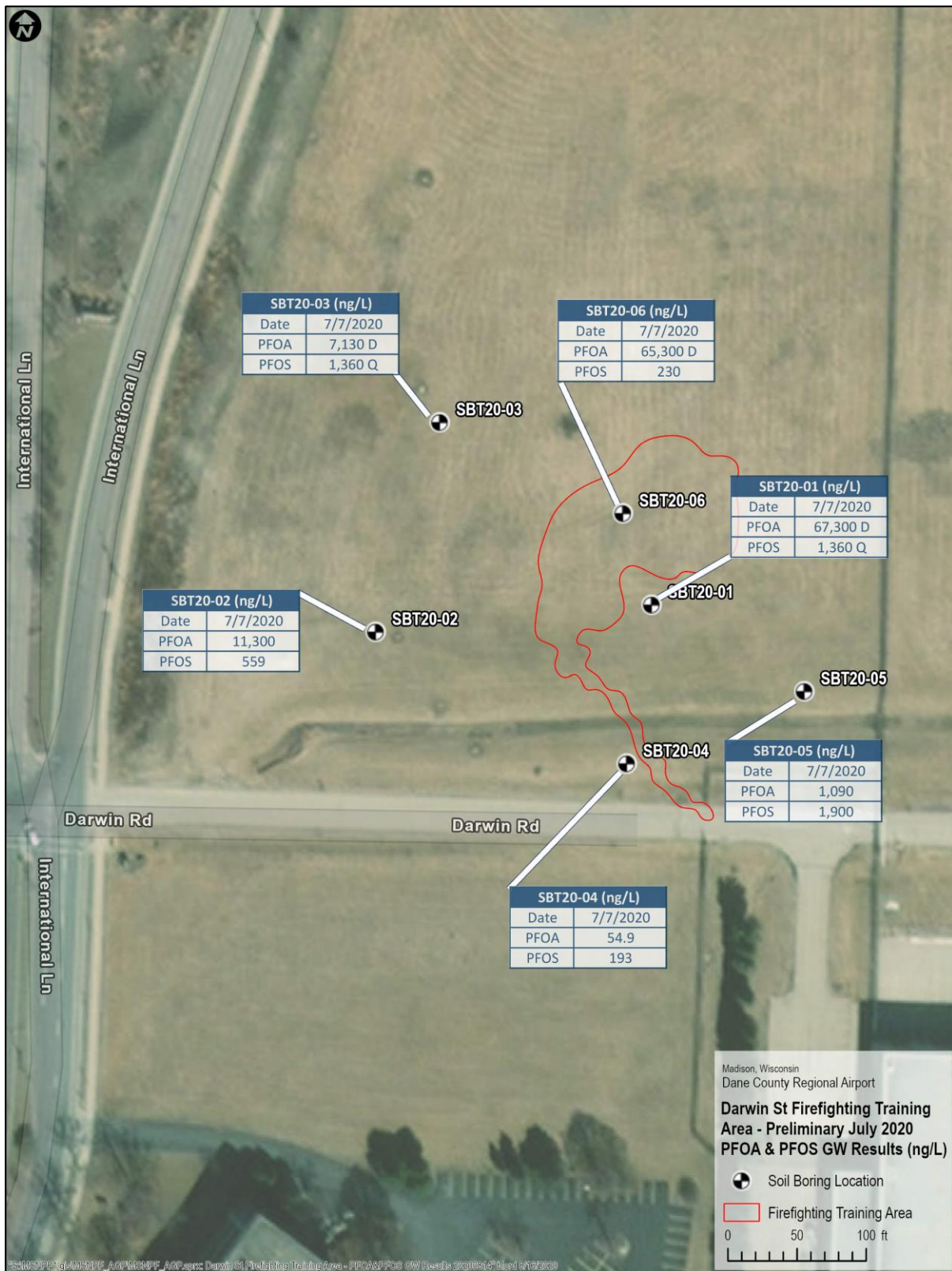


Figure 4. July 7 PFOA and PFOS Groundwater Results at Darwin Road/West FFTA.

Tables 5 and 6 contain a summary of reported soil and groundwater results, respectively, for all analyzed PFAS compounds.

Table 5. July 7-8, 2020 FFTA Soil PFAS Results (ng/g).

Location	units	PFBA	PFPeA	PFHxA	PFHpA	PFOA	PFNA	PFDA	PFUnA	PFDoA	PFTriA/PFTTrDA	PFTeA/PFTeDA	PFBS	PFPeS	PFHxS	PFHpS	PFOS	PFNS	PFDS	PFOSA	MeFOSAA	EiFOSAA	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	HFPO-DA	PFODA	EiFOSE	MeFOSE	MeFOSA	EiFOSA	PFHxDA	9Cl-PF3ONS	11Cl-PF3OUdS	PFDoS	ADONA
SBP20-01 (0.5-1)	ng/g	<0.342	<0.394	0.364 (J,Q)	<0.473	0.503	0.787	1.18	<0.255	<0.400	<0.398	<0.261	<0.301	<0.651	0.624	<0.730	126	<1.14	<0.683	3.68	<0.728	<0.681	1.09	24.6	84.2	<1.01	<1.17	<0.495	<5.32	<4.91	<5.72	<3.80	<0.168	<0.366	<0.714	<0.594	<0.336
SBP20-01 (5-5.5)	ng/g	<0.344	<0.395	0.403 (J)	<0.475	<0.467	<0.310	<0.449	<0.256	<0.401	<0.399	<0.262	<0.302	<0.654	0.447 (J)	<0.733	136	<1.14	<0.686	<1.00	<0.731	<0.684	<0.358	5.25	7.18	<1.01	<1.17	<0.497	<5.35	<4.93	<5.74	<3.82	<0.169	<0.368	<0.717	<0.596	<0.338
SBP20-02 (1-1.5)	ng/g	<0.345	<0.397	<0.215	<0.477	<0.469	<0.311	<0.451	<0.257	<0.403	<0.401	<0.263	<0.303	<0.656	<0.389	<0.736	81.5	<1.15	<0.688	<1.01	<0.734	<0.686	<0.359	7.3	12.6	<1.01	<1.18	<0.499	<5.36	<4.95	<5.76	<3.83	<0.169	<0.369	<0.720	<0.598	<0.339
SBP20-02 (5-5.6)	ng/g	0.776	2.23	5.09	1.04	<0.471	<0.313	<0.453	<0.259	<0.405	<0.403	<0.265	4.25	5.77	11.1	<0.740	<0.431	<1.15	<0.692	<1.01	<0.738	<0.690	0.577	8.42	<0.724	<1.02	<1.18	<0.501	<5.39	<4.97	<5.80	<3.85	<0.170	<0.371	<0.724	<0.602	<0.341
SBP20-03 (1-1.5)	ng/g	<0.346	<0.398	<0.216	<0.478	<0.470	0.871	0.614	<0.258	<0.404	<0.402	<0.264	<0.304	<0.658	<0.390	<0.738	<0.430	<1.15	<0.690	3.21	<0.736	<0.688	<0.360	0.913 (J)	1.18	<1.02	<1.18	<0.500	<5.38	<4.96	<5.78	<3.84	<0.170	<0.370	<0.722	<0.600	<0.340
SBP20-03 (5-5.5)	ng/g	<0.346	<0.398	0.671	0.918 (Q)	<0.470	<0.312	<0.452	<0.258	<0.404	<0.402	<0.264	<0.304	<0.659	20.4	<0.739	17	<1.15	<0.691	<1.01	<0.737	<0.689	<0.360	10.2	<0.723	<1.02	<1.18	<0.500	<5.38	<4.96	<5.78	<3.84	<0.170	<0.370	<0.723	<0.600	<0.340
SBP20-04 (0.5-1)	ng/g	<0.337	<0.388	0.232 (J,Q)	<0.466	0.684	1.39	0.941 (Q)	<0.251	<0.394	<0.392	<0.257	<0.296	<0.641	<0.380	<0.719	83.9	<1.12	<0.672	7.98	<0.717	<0.670	<0.351	4.83	51.1	<0.990	<1.15	<0.487	<5.24	<4.83	<5.63	<3.74	<0.166	<0.361	<0.703	<0.585	<0.331
SBP20-04 (7-7.5)	ng/g	<0.337	<0.388	0.594	0.835 (Q)	1.77	1.05	<0.440	<0.251	<0.394	<0.392	<0.257	<0.296	<0.641	8.26	8.61	<0.419	<1.12	<0.672	<0.982	<0.717	<0.670	<0.351	4.08	<0.703	<0.990	<1.15	<0.487	<5.24	<4.83	<5.63	<3.74	<0.166	<0.360	<0.703	<0.584	<0.331
SBP20-05 (0.5-1)	ng/g	<0.342	<0.394	0.321 (J,Q)	0.627	1.42	3.31	8.56	0.584	<0.400	<0.398	<0.261	<0.301	<0.651	<0.386	<0.730	20.2	<1.14	<0.683	<0.998	<0.728	<0.681	0.378 (J,Q)	11.3	29.9	1.68	<1.17	<0.495	<5.32	<4.91	<5.72	<3.80	<0.168	<0.366	<0.715	<0.594	<0.336
SBP20-05 (6-6.5)	ng/g	0.364 (J)	2.54	2.62	3.76	6.37	3.21	0.673	<0.257	<0.402	<0.400	<0.263	<0.302	<0.654	12.8	5.85	619 (D)	<1.14	<0.686	<1.00	<0.732	<0.684	<0.358	19.5	2.15	<1.01	<1.17	<0.497	<5.35	<4.93	<5.75	<3.82	<0.169	<0.368	<0.718	<0.597	<0.338
SBP20-06 (0.5-1)	ng/g	<0.333	<0.383	0.245 (J,Q)	<0.461	<0.453	0.674	0.609	<0.249	<0.389	<0.387	<0.254	<0.293	<0.634	<0.376	<0.711	69.1	<1.11	<0.665	<0.971	<0.709	<0.663	<0.347	<0.630	<0.696	<0.979	<1.14	<0.482	<5.18	<4.78	<5.57	<3.70	<0.164	<0.357	<0.696	<0.578	<0.328
SBP20-06 (7.4-7.9)	ng/g	0.457 (J)	0.97	3.37	1.18	<0.457	<0.304	<0.440	<0.251	<0.393	<0.391	<0.257	2.37	6.68	64.8	3.94	<0.418	<1.12	<0.671	<0.981	<0.716	<0.669	<0.350	36.3	<0.702	<0.988	<1.15	<0.486	<5.23	<4.83	<5.62	<3.74	<0.165	<0.360	<0.702	<0.584	<0.331
SBT20-01 (0.5-1)	ng/g	<0.335	0.529	1.44 (Q)	<0.463	2.05	0.546 (Q)	<0.438	<0.250	<0.391	<0.389	<0.256	<0.294	<0.637	10.1	<0.714	19.8	<1.11	<0.668	<0.976	<0.712	<0.666	<0.348	<0.633	<0.699	<0.983	<1.14	<0.484	<5.21	<4.80	<5.59	<3.72	<0.165	<0.358	<0.699	<0.581	<0.329
SBT20-01 (10.5-11)	ng/g	1.37	5.58	31.9	10.8	279	<0.301	<0.436	<0.249	<0.390	<0.388	<0.255	4.98	6.05	250	<0.712	<0.415	<1.11	<0.665	<0.972	<0.710	<0.663	<0.347	2.06	<0.696	<0.980	<1.14	<0.482	<5.19	<4.78	<5.57	<3.70	<0.164	<0.357	<0.696	<0.579	<0.328
SBT20-02 (0-1)	ng/g	1.28	2.02	1.12	0.681	2.37	2.26	0.452	0.472	<0.400	<0.398	<0.261	<0.301	<0.651	4.37	<0.730	68	<1.14	<0.682	1.29	<0.728	<0.680	<0.356	<0.647	<0.714	<1.00	<1.17	<0.495	<5.32	<4.91	<5.72	<3.80	<0.168	<0.366	<0.714	<0.593	<0.336
SBT20-02 (10-10.5)	ng/g	<0.341	<0.393	<0.213	<0.472	<0.464	<0.308	<0.446	<0.255	<0.399	<0.397	<0.261	<0.300	<0.649	0.563	<0.728	1.7	<1.13	<0.681	<0.995	<0.726	<0.679	<0.355	<0.645	<0.713	<1.00	<1.16	<0.493	<5.31	<4.89	<5.70	<3.79	<0.168	<0.365	<0.713	<0.592	<0.336
SBT20-03 (0-1)	ng/g	2.17	6.71	9.77	4.52	24.4	8.38	4.2	4.44	<0.400	<0.398	<0.261	1.84	2.29	107	2.9	363	<1.14	1.46	7.22	<0.728	<0.681	<0.356	3.36	7.27	<1.01	<1.17	<0.495	<5.32	<4.91	<5.72	<3.80	<0.168	<0.366	<0.714	0.656 (J)	<0.336
SBT20-03 (10-10.5)	ng/g	<0.342	1.25	3.45	5.1	38.5	<0.308	<0.446	<0.255	<0.399	<0.397	<0.261	0.761	2.41	188	<0.729	<0.425	<1.14	<0.682	<0.996	<0.727	<0.680	<0.356	1.13	<0.713	<1.00	<1.17	<0.494	<5.31	<4.90	<5.71	<3.79	<0.168	<0.365	<0.713	<0.593	<0.336
SBT20-04 (0.5-1)	ng/g	0.395 (J)	<0.394	0.438 (J)	<0.473	0.538	<0.309	<0.447	<0.255	<0.400	<0.398	<0.261	<0.301	<0.651	2.27	<0.730	8.35 (Q)	<1.14	<0.683	<0.997	<0.728	<0.681	<0.356	<0.647	<0.714	<1.01	<1.17	<0.495	<5.32	<4.91	<5.72	<3.80	<0.168	<0.366	<0.714	<0.594	<0.336
SBT20-04 (6-6.5)	ng/g	<0.344	<0.396	0.331 (J)	<0.475	0.573 (Q)	<0.310	<0.449	<0.256	<0.402	<0.400	<0.262	<0.302	<0.654	0.715	<0.733	2.4	<1.14	<0.686	<1.00	<0.731	<0.684	<0.358	<0.650	<0.718	<1.01	<1.17	<0.497	<5.35	<4.93	<5.74	<3.82	<0.169	<0.368	<0.718	<0.596	<0.338
SBT20-05 (10.5-11)	ng/g	<0.344	<0.395	0.222 (J,Q)	<0.475	0.581	<0.310	<0.449	<0.256	<0.401	<0.399	<0.262	<0.302	<0.654	1.96	<0.733	6.67	<1.14	<0.686	<1.00	<0.731	<0.684	<0.358	<0.650	<0.717	<1.01	<1.17	<0.497	<5.35	<4.93	<5.74	<3.82	<0.169	<0.368	<0.717	<0.596	<0.338
SBT20-05 (0.5-1)	ng/g	<0.343	<0.394	<0.214	<0.473	<0.466	<0.309	<0.448	<0.256	<0.400	<0.398	<0.262	<0.301	<0.652	0.679 (Q)	<0.731	3.31 (Q)	<1.14	<0.683	<0.999	<0.729	<0.682	<0.357	<0.648	<0.715	<1.01	<1.17	<0.495	<5.33	<4.91	<5.73	<3.80	<0.168	<0.367	<0.715	<0.594	<0.337
SBT20-06 (0-1)	ng/g	0.858	2.38	3.27	1.61	3.71	1.42	<0.447	0.285 (J,Q)	<0.399	<0.397	<0.261	0.537	<0.650	15.3	<0.729	49.4	<1.14	<0.682	<0.996	<0.727	<0.680	<0.356	<0.646	<0.713	<1.00	<1.17	<0.494	<5.31	<4.90	<5.71	<3.79	<0.168	<0.366	<0.713	<0.593	<0.336
SBT20-06 (13-13.5)	ng/g	<0.336	0.672	1.61	<0.465	<0.457	<0.303	<0.439	<0.251	<0.393	<0.391	<0.257	0.301	<0.639	<0.379	<0.717	<0.418	<1.12	<0.671	<0.980	<0.715	<0.669	<0.350	<0.636	<0.702	<0.987	<1.15	<0.486	<5.23	<4.82	<5.62	<3.73	<0.165	<0.360	<0.702	<0.583	<0.330

(J) = amount detected is below the Reporting Limit/LOQ

(D) = Dilution

(Q) = ion transition ratio outside of the acceptance criteria

Table 6. July 7-8, 2020 FFTA Groundwater PFAS Results (ng/L).

Location	units	PFBA	PFPeA	PFHxA	PFHpA	PFOA	PFNA	PFDA	PFUnA	PFDoA	PFTrA/PFTTrDA	PFTeA/PFTeDA	PFBS	PFPeS	PFHxS	PFHpS	PFOS	PFNS	PFDS	PFOSA	MeFOSAA	EtFOSAA	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	HFPO-DA	PFODA	EtFOSE	MeFOSE	MeFOSA	EtFOSA	PFHxDA	9Cl-PF3ONS	11Cl-PF3OUdS	PFDoS	ADONA
SBP20-01-GW	ng/L	256	989	1320	546	1420	104	<1.70	<1.20	<0.902	<0.562	<0.860	166	386	6490 (D)	1520	18300 (D)	<4.41	<1.40	19.3 (Q)	<1.88	<1.56	67.8	6940 (D)	334	<3.56	<5.49	<6.99	<10.7	<6.91	<4.36	<5.82	<0.335	<1.65	<2.74	<4.75	<0.822
SBP20-02-GW	ng/L	110	271	489	115	126	15.8	<1.68	<1.18	<0.890	<0.555	<0.849	302	322	1420	29.3	1680	<4.35	1.76 (J,Q)	16.7	<1.86	<1.54	19.7	537	28.4	<3.52	<5.42	<6.90	<10.6	<6.82	<4.31	<5.75	<0.331	<1.63	<2.71	<4.69	<0.812
SBP20-03-GW	ng/L	293	877	1420	394	895	41.4	8.51 (Q)	<1.16	<0.872	<0.544	<0.831	590	876	7700 (D)	316	11000 (D)	5.22	<1.35	169	<1.82	<1.51	51.8	5220 (D)	628	<3.45	<5.31	<6.76	<10.4	<6.68	<4.22	<5.63	<0.324	<1.60	<2.65	<4.59	<0.795
SBP20-04-GW	ng/L	586	2190	2250	1320	2300	120	3.99 (J)	<1.14	<0.862	<0.538	<0.822	206	623	9640 (D)	1550	18900 (D)	<4.21	<1.34	20.5 9 (Q)	<1.80	<1.49	94.5	11000 (D)	480	<3.41	<5.25	<6.68	<10.3	<6.61	<4.17	<5.56	<0.320	<1.58	<2.62	<4.54	<0.786
SBP20-05-GW	ng/L	488	1960	1210	1190	1120	231	3.86 (J)	<1.15	<0.865	<0.540	<0.825	35.7	102	2370	367	11800 (D)	<4.23	<1.34	18.2 (Q)	<1.80	<1.50	23.1	3030	332	<3.42	<5.27	<6.71	<10.3	<6.63	<4.18	<5.58	<0.321	<1.58	<2.63	<4.56	<0.789
SBP20-06-GW	ng/L	162	496	611	299	465	70.1	<1.67	<1.18	<0.887	<0.553	<0.846	140	185	2640	405	11800 (D)	<4.33	<1.38	46	<1.85	<1.53	<1.56	631	213	<3.51	<5.40	<6.88	<10.6	<6.80	<4.29	<5.72	<0.329	<1.62	<2.70	<4.67	<0.809
SBT20-01-GW	ng/L	298	800	3020	856	67300 (D)	301	1.67 (J)	<1.12	<0.842	<0.525	<0.803	377	260	8530 (D)	1740	1360 (Q)	<4.11	<1.31	19.4 (Q)	<1.75	<1.46	<1.48	378	8.61	<3.33	<5.12	<6.53	<10.0	<6.45	<4.07	<5.43	<0.313	<1.54	<2.56	<4.43	<0.767
SBT20-02-GW	ng/L	113	213	132	117	11300	31.9	<1.61	<1.14	<0.857	<0.535	<0.817	37.2	48.2	1690	31.3	559	<4.19	<1.33	4.99	<1.79	<1.48	<1.50	<2.16	<2.23	<3.39	<5.22	<6.65	<10.2	<6.57	<4.15	<5.53	<0.318	<1.57	<2.61	<4.51	<0.782
SBT20-03-GW	ng/L	1250	3610	4280	1090	7130 (D)	1640	<1.62	<1.14	<0.860	<0.536	<0.820	1230	771	18700 (D)	2460	1360 (Q)	<4.20	<1.34	4.04 (J,Q)	<1.79	<1.49	<1.51	24.4	<2.24	<3.40	<5.23	<6.67	<10.2	<6.59	<4.16	<5.55	<0.319	<1.57	<2.62	<4.53	<0.784
SBT20-04-GW	ng/L	9.25	34.3	31	13.4	54.9	13.5	7.53	<1.05	<0.790	<0.493	<0.753	14.1	5.67	228	2.29 (J,Q)	193	<3.86	<1.23	2.01 (J)	<1.65	<1.37	<1.39	<2.00	<2.06	<3.12	<4.81	<6.13	<9.42	<6.06	<3.82	<5.10	<0.293	<1.45	<2.40	<4.16	<0.720
SBT20-05-GW	ng/L	50.6	104	349	81.7	1090	143	1.71 (J)	<1.17	<0.882	<0.550	<0.841	95.9	106	4740 (D)	66.1	1900	<4.31	<1.37	10.9	<1.84	<1.53	<1.55	8.35	53.6	<3.49	<5.37	<6.84	<10.5	<6.76	<4.27	<5.69	<0.327	<1.62	<2.68	<4.64	<0.804
SBT20-06-GW	ng/L	16100 (D)	43000 (D)	53800 (D)	26200 (D)	65300 (D)	3.98 (J)	<1.66	<1.17	<0.881	<0.549	<0.840	20200 (D)	23700 (D)	79900 (D)	104	230	<4.30	<1.37	10.3	<1.84	<1.52	194	5880 (D)	34.9	<3.48	<5.36	<6.83	<10.5	<6.75	<4.26	<5.68	<0.327	<1.61	<2.68	<4.64	<0.803

(J) = estimated value, result between the Method Detection (MDL) and Reporting Limit (RL) [SGS]; amount detected is below the Reporting Limit/LOQ [Vista]

(D) = Dilution [Vista]

(Q) = ion transition ratio outside of the acceptance criteria [Vista]




Attachment 1

Boring Logs

Dane County Regional Airport
4000 International Ln,
Madison, WI, 53704

Date Started : 7/7/20
Date Completed : 7/7/20
Drilling Method : Geoprobe
Drilling Contractor : On Site
Logged By : CB

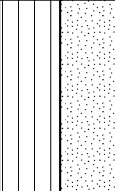

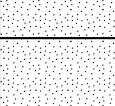
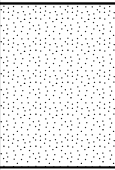
Total Logged Depth : 15'
Depth to water (bgs) : 11.1'
Ground Elevation :
Lat/Long : 43.123934, -89.337267

Depth in Feet	Surf. Elev.	Recovery (in.)	Sample Type	PID (ppm)	Moisture Content	USCS	GRAPHIC	DESCRIPTION	Water Level
0									
1		3.5'/5.0'	Soil Sample (0.5'-1.0')		dry/moist	SP		Light brown fine SAND, trace fine gravel. (42")	
2									
3								No Recovery	
4									
5		2.9'/5.0'	Soil Sample (7.4'-7.9')		v.moist	SP		Same as above. (24")	
6									
7									
8									
9									
10									
11		3.3'/5.0'	GW Sample (10'-15')		moist	ML/CL		Brown SILT/CLAY. (5")	
12									
13									
14								No Recovery	
15									
16									
17									
18									
19									
20									
End of Boring. Borehole sealed with bentonite chips upon completion.									

Dane County Regional Airport
4000 International Ln,
Madison, WI, 53704

Date Started : 7/7/20
Date Completed : 7/7/20
Drilling Method : Geoprobe
Drilling Contractor : On Site
Logged By : CB

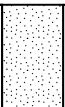








Total Logged Depth : 20'
Depth to water (bgs) : 15'
Ground Elevation :
Lat/Long : 43.129541, -89.347467

Depth in Feet	Surf. Elev.	Recovery (in.)	Sample Type	PID (ppm)	Moisture Content	USCS	GRAPHIC	DESCRIPTION	Water Level				
0													
1		4.9'/5.0'	Soil Sample (0.0'-1.0')		dry	ML/SP		Light to dark brown / black SILT and fine SAND. (48")					
2													
3													
4													
5		3.9'/5.0'			↑ moist	CL		Dark gray CLAY with silt. (11")					
6								No Recovery					
7								Dark gray CLAY with silt. (19")					
8								Fine brown SAND with silt. (17")					
9								Light brown fine SAND. Gravel piece observed at 8.8'. (11")					
10								No Recovery					
11		3.0'/5.0'	Soil Sample (10'-10.5')		↓ v.moist to wet	SP		Light brown fine SAND. (11")					
12								Light brown fine SAND with silt. (25")					
13								No Recovery					
14								No Recovery					
15		3.4'/5.0'	GW Sample (15'-20')		wet	SP		Light brown fine SAND with silt. (41")					
16								No Recovery					
17								No Recovery					
18													
19													
20													
21		End of Boring. Borehole sealed with bentonite chips upon completion. Very little groundwater observed at this location during sampling procedure.											
22													
23													
24													
25													
26													
27													
28													

Dane County Regional Airport
4000 International Ln,
Madison, WI, 53704

Date Started : 7/7/20
Date Completed : 7/7/20
Drilling Method : Geoprobe
Drilling Contractor : On Site
Logged By : CB

Total Logged Depth : 20'
Depth to water (bgs) : 10'
Ground Elevation :
Lat/Long : 43.128864, -89.346961

Depth in Feet	Surf. Elev.	Recovery (in.)	Sample Type	PID (ppm)	Moisture Content	USCS	GRAPHIC	DESCRIPTION	Water Level
0		4.4'/5.0'	Soil Sample (0.5'-1.0')		dry	SP/ML		Light brown to brown SAND/SILT mix. (28")	
1				GP			Gravel, fractured stone (road base?). (5")		
2				CL			Brown, soft CLAY with silt. (20")		
3		3.3'/5.0'	Soil Sample (6.0'-6.5')		moist			No Recovery	
4				CL			Brown soft CLAY with silt. (24")		
5							No Recovery		
6				SP			Brown very fine to fine SAND with some fine gravel. (16")		
7							No Recovery		
8		3.9'/5.0'			moist/wet			No Recovery	
9				SP			Light brown fine SAND, trace fine gravel. (25")		
10							No Recovery		
11				SP			Horizontally oriented rock fragments. (2") Light brown fine SAND with silt. (19")		
12		4.0'/5.0'	GW Sample (9'-19')		wet			No Recovery	
13				SP/ML			Soft light brown fine to very fine SAND and SILT. (22")		
14							No Recovery		
15				SP/ML			More firm light brown fine to very fine SAND and SILT. (26")		
16							No Recovery		
17		End of Boring. Borehole sealed with bentonite chips upon completion.							
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									



Water Environment | Scientists Engineers

LOG OF BORING SBT20-05

(Page 1 of 1)

Dane County Regional Airport
4000 International Ln,
Madison, WI, 53704

Date Started : 7/7/20
Date Completed : 7/7/20
Drilling Method : Geoprobe
Drilling Contractor : On Site
Logged By : CB

Total Logged Depth : 20'
Depth to water (bgs) : 11.4'
Ground Elevation :
Lat/Long : 43.129007, -89.346480

Depth in Feet	Surf. Elev.	Recovery (in.)	Sample Type	PID (ppm)	Moisture Content	USCS	GRAPHIC	DESCRIPTION	Water Level
0									
1		3.6'/5.0'	Soil Sample (0.5'-1.0')		dry	SP/ML		Light brown to brown fine SAND / SILT. (32")	
2				ML			Dark brown SILT with fine sand. (11")		
3							No Recovery		
4		4.4'/5.0'	Soil Sample (10.5'-11')		moist	ML		Dark brown / black SILT. (17")	
5				CL			Brown / gray CLAY with silt. (31")		
6				SP/GP			Light brown / tan fine SAND and fine GRAVEL. (5")		
7							No Recovery		
8		2.8'/5.0'	GW Sample (9'-19')		dry/moist dry moist wet	SP/GP		Same as above. (5")	
9				ML			Pulverized gravel? (2")		
10				SP			Gray SILT with clay. (10")		
11							Brown fine SAND. (14")		
12							No Recovery		
13		4.8'/5.0'	GW Sample (9'-19')		wet	SP		Light brown fine SAND with silt and fine gravel. (58")	
14							No Recovery		
15							No Recovery		
16		No Recovery							
17		End of Boring. Borehole sealed with bentonite chips upon completion.							
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									



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LOG OF BORING SBT20-06

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Dane County Regional Airport
4000 International Ln,
Madison, WI, 53704

Date Started : 7/7/20
Date Completed : 7/7/20
Drilling Method : Geoprobe
Drilling Contractor : On Site
Logged By : CB

Total Logged Depth : 25'
Depth to water (bgs) : 17.9'
Ground Elevation :
Lat/Long : 43.129361, -89.346971

Depth in Feet	Surf. Elev.	Recovery (in.)	Sample Type	PID (ppm)	Moisture Content	USCS	GRAPHIC	DESCRIPTION	Water Level	
0										
1		4.8'/5.0'	Soil Sample (0.5'-1.0')		dry	ML/SP		Dark brown SILT and fine SAND / CLAY. (41")		
2										
3										
4								CL		Light brown / brown CLAY. (7")
5		2.0'/5.0'			dry/moist	CL		Dark brown / gray CLAY. (10")		
6								CL		No Recovery
7							moist	SP		Same as above, harder. (17")
8							moist	CL		Brown fine SAND, tightly packed. (4")
9										Hard gray CLAY. (4")
10										No Recovery
11		3.7'/5.0'			moist/dry	CL		Same as above. (22")		
12										
13							dry	SP/ML		Gray fine SAND/SILT. (19")
14							moist	ML/SP		Light brown SILT and very fine SAND. (4")
15		4.9'/5.0'	GW Sample (13'-23')					No Recovery		
16							moist	ML/SP		Same as above. (6")
17							v.moist	SP		Gray fine SAND with silt. (11")
18							moist	SP		Fine GRAVEL with fine sand and silt. (2")
19								ML		Fine SAND with fine gravel. (5")
20							wet	SP		Black SILT / fine SAND zone. (2")
21		4.8'/5.0'						Gray SILT. (10")		
22										Light brown fine SAND. (24")
23										No Recovery
24							wet	SP		Light brown fine SAND with silt, trace fine gravel. (48")
25								No Recovery		
26								No Recovery		
27								Light brown very fine SAND. (11")		
28								No Recovery		
<p>End of Boring. Borehole sealed with bentonite chips upon completion.</p>										

Attachment 2
Laboratory Reports

August 04, 2020

Vista Work Order No. 2001473

Mr. Chris Cieciek
LimnoTech, Inc.
501 Avis Drive
Ann Arbor, MI 48108

Dear Mr. Cieciek,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on July 14, 2020 under your Project Name 'MSN FFTA Samples'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,



Martha Maier
Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Work Order No. 2001473

Case Narrative

Sample Condition on Receipt:

Thirteen soil samples and seven aqueous samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

PFAS Isotope Dilution Method - Solid

The soil samples were extracted and analyzed for a selected list of PFAS using Vista's Isotope Dilution Method. The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above the Reporting Limit (RL). The recovery of PFODA was below 50% in the OPR. The reported sample results for this analyte may be biased low. The recoveries of all other analytes were within the acceptance criteria.

The internal standard recoveries outside the acceptance criteria are flagged with an "H" qualifier.

PFAS Isotope Dilution Method - Aqueous

The aqueous samples were extracted and analyzed for a selected list of PFAS using Vista's PFAS Isotope Dilution Method. The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

The following samples contained particulate and were centrifuged prior to extraction:

<u>Laboratory ID</u>	<u>Sample Name</u>
2001473-02	SBT20-01-GW
2001473-06	SBT20-05-GW
2001473-08	SBT20-02-GW
2001473-09	SBT20-04-GW
2001473-16	SBT20-03-GW
2001473-19	SBT20-06-GW

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with each preparation batch. No analytes were detected in the Method Blank above the Reporting Limit. The OPR recoveries were within the method acceptance criteria.

The internal standard recoveries outside the acceptance criteria are flagged with an "H" qualifier.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
2001473-01	SBT20-01 (10.5-11)	07-Jul-20 11:00	14-Jul-20 09:11	HDPE Jar, 6 oz
2001473-02	SBT20-01-GW	07-Jul-20 11:35	14-Jul-20 09:11	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
2001473-03	SBT20-05(0.5-1)	07-Jul-20 11:45	14-Jul-20 09:11	HDPE Jar, 6 oz
2001473-04	SBT20-05 (10.5-11)	07-Jul-20 12:10	14-Jul-20 09:11	HDPE Jar, 6 oz
2001473-05	SBT20-04 (0.5-1)	07-Jul-20 12:20	14-Jul-20 09:11	HDPE Jar, 6 oz
2001473-06	SBT20-05-GW	07-Jul-20 12:55	14-Jul-20 09:11	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
2001473-07	SBT20-04 (6-6.5)	07-Jul-20 12:30	14-Jul-20 09:11	HDPE Jar, 6 oz
2001473-08	SBT20-02-GW	07-Jul-20 13:10	14-Jul-20 09:11	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
2001473-09	SBT20-04-GW	07-Jul-20 13:35	14-Jul-20 09:11	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
2001473-10	SOIL DUPLICATE A	07-Jul-20 00:00	14-Jul-20 09:11	HDPE Jar, 6 oz
2001473-11	SBT20-02 (0-1)	07-Jul-20 08:05	14-Jul-20 09:11	HDPE Jar, 6 oz
2001473-12	EQUIPMENT BLANK A	07-Jul-20 08:40	14-Jul-20 09:11	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
2001473-13	SBT20-02 (10-10.5)	07-Jul-20 08:15	14-Jul-20 09:11	HDPE Jar, 6 oz
2001473-14	SBT20-03 (0-1)	07-Jul-20 08:50	14-Jul-20 09:11	HDPE Jar, 6 oz
2001473-15	SBT20-03 (10-10.5)	07-Jul-20 09:05	14-Jul-20 09:11	HDPE Jar, 6 oz
2001473-16	SBT20-03-GW	07-Jul-20 09:40	14-Jul-20 09:11	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
2001473-17	SBT20-06 (0-1)	07-Jul-20 10:00	14-Jul-20 09:11	HDPE Jar, 6 oz
2001473-18	SBT20-06 (13-13.5)	07-Jul-20 10:10	14-Jul-20 09:11	HDPE Jar, 6 oz
2001473-19	SBT20-06-GW	07-Jul-20 10:40	14-Jul-20 09:11	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
2001473-20	SBT20-01 (0.5-1)	07-Jul-20 10:50	14-Jul-20 09:11	HDPE Jar, 6 oz

ANALYTICAL RESULTS

Sample ID: Method Blank
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Solid	Lab Sample:	B0G0144-BLK1	Column:	BEH C18
Project:	MSN FFTA Samples						

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.346	0.346	0.500		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
PFPeA	2706-90-3	<0.398	0.398	0.500		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
PFBS	375-73-5	<0.304	0.304	0.500		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
4:2 FTS	757124-72-4	<0.360	0.360	0.500		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
PFHxA	307-24-4	<0.216	0.216	0.500		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
PFPeS	2706-91-4	<0.658	0.658	1.00		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
HFPO-DA	13252-13-6	<1.18	1.18	1.50		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
PFHpA	375-85-9	<0.478	0.478	0.500		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
ADONA	919005-14-4	<0.340	0.340	0.500		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
PFHxS	355-46-4	<0.390	0.390	0.500		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
6:2 FTS	27619-97-2	<0.654	0.654	1.00		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
PFOA	335-67-1	<0.470	0.470	0.500		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
PFHpS	375-92-8	<0.738	0.738	1.00		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
PFNA	375-95-1	<0.312	0.312	0.500		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
PFOSA	754-91-6	<1.01	1.01	1.50		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
PFOS	1763-23-1	<0.430	0.430	0.500		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
9Cl-PF3ONS	756426-58-1	<0.370	0.370	0.500		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
PFDA	335-76-2	<0.452	0.452	0.500		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
8:2 FTS	39108-34-4	<0.722	0.722	1.00		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
PFNS	68259-12-1	<1.15	1.15	1.50		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
MeFOSAA	2355-31-9	<0.736	0.736	1.00		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
EtFOSAA	2991-50-6	<0.688	0.688	1.00		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
PFUnA	2058-94-8	<0.258	0.258	0.500		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
PFDS	335-77-3	<0.690	0.690	1.00		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
11Cl-PF3OUdS	763051-92-9	<0.722	0.722	1.00		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
10:2 FTS	120226-60-0	<1.02	1.02	1.50		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
PFDoA	307-55-1	<0.404	0.404	0.500		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
MeFOSA	31506-32-8	<5.78	5.78	10.0		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
PFTrDA	72629-94-8	<0.402	0.402	0.500		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
PFDoS	79780-39-5	<0.600	0.600	1.00		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
PFTeDA	376-06-7	<0.264	0.264	0.500		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
EtFOSA	4151-50-2	<3.84	3.84	10.0		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
PFHxDA	67905-19-5	<0.170	0.170	0.500		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
PFODA	16517-11-6	<0.500	0.500	1.00		B0G0144	20-Jul-20	1.00 g	27-Jul-20 18:12	1
MeFOSE	24448-09-7	<4.96	4.96	10.0		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
EtFOSE	1691-99-2	<5.38	5.38	10.0		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	84.1	25 - 150			B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1

Sample ID: Method Blank **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Solid	Lab Sample:	B0G0144-BLK1	Column:	BEH C18
Project:	MSN FFTA Samples						

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	76.3	25 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
13C3-PFBS	IS	83.1	25 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
13C3-HFPO-DA	IS	67.5	25 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
13C2-4:2 FTS	IS	82.0	25 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
13C2-PFHxA	IS	68.0	25 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
13C4-PFHpA	IS	67.8	25 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
13C3-PFHxS	IS	84.9	25 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
13C2-6:2 FTS	IS	84.1	25 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
13C5-PFNA	IS	66.4	25 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
13C8-PFOA	IS	33.6	10 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
13C2-PFOA	IS	70.6	25 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
13C8-PFOS	IS	70.4	25 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
13C2-PFDA	IS	54.6	25 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
13C2-8:2 FTS	IS	85.3	25 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
d3-MeFOSAA	IS	49.0	25 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
13C2-PFUnA	IS	41.4	25 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
d5-EtFOSAA	IS	49.3	25 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
13C2-10:2 FTS	IS	70.1	25 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
13C2-PFDoA	IS	41.6	25 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
d3-MeFOSA	IS	8.80	10 - 150	H	B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
13C2-PFTeDA	IS	45.9	25 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
d5-EtFOSA	IS	6.70	10 - 150	H	B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
13C2-PFHxDA	IS	37.4	25 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
d7-MeFOSE	IS	21.0	10 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1
d9-EtFOSE	IS	19.2	10 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:11	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: OPR

PFAS Isotope Dilution Method

Client Data					Laboratory Data							
Name:	LimnoTech, Inc.	Matrix:	Solid		Lab Sample:	B0G0144-BS1	Column:	BEH C18				
Project:	MSN FFTA Samples											

Analyte	CAS Number	Amt Found (ng/g)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	0.910	1.00	91.0	50 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
PFPeA	2706-90-3	0.930	1.00	93.0	50 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
PFBS	375-73-5	0.992	1.00	99.2	50 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
4:2 FTS	757124-72-4	1.01	1.00	101	50 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
PFHxA	307-24-4	0.875	1.00	87.5	50 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
PFPeS	2706-91-4	0.901	1.00	90.1	50 - 150	J	B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
HFPO-DA	13252-13-6	0.868	1.00	86.8	50 - 150	J	B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
PFHpA	375-85-9	0.897	1.00	89.7	50 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
ADONA	919005-14-4	0.609	1.00	60.9	50 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
PFHxS	355-46-4	0.997	1.00	99.7	50 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
6:2 FTS	27619-97-2	0.809	1.00	80.9	50 - 150	J	B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
PFOA	335-67-1	0.907	1.00	90.7	50 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
PFHpS	375-92-8	1.14	1.00	114	50 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
PFNA	375-95-1	0.885	1.00	88.5	50 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
PFOSA	754-91-6	0.960	1.00	96.0	50 - 150	J	B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
PFOS	1763-23-1	1.29	1.00	129	50 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
9Cl-PF3ONS	756426-58-1	1.02	1.00	102	50 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
PFDA	335-76-2	1.08	1.00	108	50 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
8:2 FTS	39108-34-4	1.10	1.00	110	50 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
PFNS	68259-12-1	0.716	1.00	71.6	50 - 150	J	B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
MeFOSAA	2355-31-9	0.986	1.00	98.6	50 - 150	J	B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
EtFOSAA	2991-50-6	0.546	1.00	54.6	50 - 150	J	B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
PFUnA	2058-94-8	0.897	1.00	89.7	50 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
PFDS	335-77-3	0.764	1.00	76.4	50 - 150	J	B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
11Cl-PF3OUdS	763051-92-9	1.36	1.00	136	50 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
10:2 FTS	120226-60-0	0.784	1.00	78.4	50 - 150	J	B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
PFDoA	307-55-1	0.918	1.00	91.8	50 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
MeFOSA	31506-32-8	5.58	5.00	112	50 - 150	J	B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
PFTTrDA	72629-94-8	0.959	1.00	95.9	50 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
PFDoS	79780-39-5	1.08	1.00	108	50 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
PFTTeDA	376-06-7	0.847	1.00	84.7	50 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
EtFOSA	4151-50-2	5.61	5.00	112	50 - 150	J	B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
PFHxDA	67905-19-5	0.846	1.00	84.6	50 - 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
PFODA	16517-11-6	0.431	1.00	43.1	50 - 150	J, H	B0G0144	20-Jul-20	1.00 g	27-Jul-20 18:22	1

Sample ID: OPR

PFAS Isotope Dilution Method

Client Data					Laboratory Data						
Name:	LimnoTech, Inc.	Matrix:	Solid		Lab Sample:	B0G0144-BS1	Column:	BEH C18			
Project:	MSN FFTA Samples										

Analyte	CAS Number	Amt Found (ng/g)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
MeFOSE	24448-09-7	4.97	5.00	99.4	50 - 150	J	B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
EtFOSE	1691-99-2	5.90	5.00	118	50 - 150	J	B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
Labeled Standards		Type		% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA		IS		101	25- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
13C3-PFPeA		IS		89.8	25- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
13C3-PFBS		IS		91.5	25- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
13C3-HFPO-DA		IS		84.7	25- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
13C2-4:2 FTS		IS		86.5	25- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
13C2-PFHxA		IS		84.9	25- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
13C4-PFHpA		IS		82.9	25- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
13C3-PFHxS		IS		82.8	25- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
13C2-6:2 FTS		IS		92.6	25- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
13C5-PFNA		IS		79.3	25- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
13C8-PFOSA		IS		36.7	10- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
13C2-PFOA		IS		84.9	25- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
13C8-PFOS		IS		79.0	25- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
13C2-PFDA		IS		67.9	25- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
13C2-8:2 FTS		IS		93.8	25- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
d3-MeFOSAA		IS		48.4	25- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
13C2-PFUnA		IS		51.1	25- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
d5-EtFOSAA		IS		52.5	25- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
13C2-10:2 FTS		IS		65.4	25- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
13C2-PFDoA		IS		47.8	25- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
d3-MeFOSA		IS		11.8	10- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
13C2-PFTeDA		IS		53.4	25- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
d5-EtFOSA		IS		9.10	10- 150	H	B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
13C2-PFHxDA		IS		45.6	25- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
d7-MeFOSE		IS		21.1	10- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1
d9-EtFOSE		IS		18.0	10- 150		B0G0144	20-Jul-20	1.00 g	23-Jul-20 14:22	1

Sample ID: SBT20-01 (10.5-11)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-01	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 11:00	Date Received:	14-Jul-20 09:11		
				% Solids:	92.6		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	1.37	0.334	0.482		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
PFPeA	2706-90-3	5.58	0.384	0.482		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
PFBS	375-73-5	4.98	0.293	0.482		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
4:2 FTS	757124-72-4	<0.347	0.347	0.482		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
PFHxA	307-24-4	31.9	0.208	0.482		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
PFPeS	2706-91-4	6.05	0.634	0.964		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
HFPO-DA	13252-13-6	<1.14	1.14	1.45		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
PFHpA	375-85-9	10.8	0.461	0.482		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
ADONA	919005-14-4	<0.328	0.328	0.482		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
PFHxS	355-46-4	250	0.376	0.482		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
6:2 FTS	27619-97-2	2.06	0.631	0.964		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
PFOA	335-67-1	279	0.453	0.482		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
PFHpS	375-92-8	<0.712	0.712	0.964		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
PFNA	375-95-1	<0.301	0.301	0.482		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
PFOSA	754-91-6	<0.972	0.972	1.45		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
PFOS	1763-23-1	<0.415	0.415	0.482		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
9Cl-PF3ONS	756426-58-1	<0.357	0.357	0.482		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
PFDA	335-76-2	<0.436	0.436	0.482		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
8:2 FTS	39108-34-4	<0.696	0.696	0.964		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
PFNS	68259-12-1	<1.11	1.11	1.45		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
MeFOSAA	2355-31-9	<0.710	0.710	0.964		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
EtFOSAA	2991-50-6	<0.663	0.663	0.964		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
PFUnA	2058-94-8	<0.249	0.249	0.482		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
PFDS	335-77-3	<0.665	0.665	0.964		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
11Cl-PF3OUdS	763051-92-9	<0.696	0.696	0.964		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
10:2 FTS	120226-60-0	<0.980	0.980	1.45		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
PFDoA	307-55-1	<0.390	0.390	0.482		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
MeFOSA	31506-32-8	<5.57	5.57	9.64		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
PFTrDA	72629-94-8	<0.388	0.388	0.482		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
PFDoS	79780-39-5	<0.579	0.579	0.964		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
PFTeDA	376-06-7	<0.255	0.255	0.482		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
EtFOSA	4151-50-2	<3.70	3.70	9.64		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
PFHxDA	67905-19-5	<0.164	0.164	0.482		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
PFODA	16517-11-6	<0.482	0.482	0.964		B0G0144	20-Jul-20	1.12 g	27-Jul-20 18:33	1
MeFOSE	24448-09-7	<4.78	4.78	9.64		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
EtFOSE	1691-99-2	<5.19	5.19	9.64		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	101	25 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1

Sample ID: SBT20-01 (10.5-11) **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-01	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 11:00	Date Received:	14-Jul-20 09:11		
				% Solids:	92.6		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	85.3	25 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
13C3-PFBS	IS	89.6	25 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
13C3-HFPO-DA	IS	75.7	25 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
13C2-4:2 FTS	IS	87.4	25 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
13C2-PFHxA	IS	78.6	25 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
13C4-PFHpA	IS	77.6	25 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
13C3-PFHxS	IS	75.3	25 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
13C2-6:2 FTS	IS	98.4	25 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
13C5-PFNA	IS	79.9	25 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
13C8-PFOA	IS	46.7	10 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
13C2-PFOA	IS	81.1	25 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
13C8-PFOS	IS	82.8	25 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
13C2-PFDA	IS	67.3	25 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
13C2-8:2 FTS	IS	89.5	25 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
d3-MeFOSAA	IS	68.8	25 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
13C2-PFUnA	IS	59.2	25 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
d5-EtFOSAA	IS	67.1	25 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
13C2-10:2 FTS	IS	70.1	25 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
13C2-PFDoA	IS	56.2	25 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
d3-MeFOSA	IS	10.7	10 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
13C2-PFTeDA	IS	65.3	25 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
d5-EtFOSA	IS	8.20	10 - 150	H	B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
13C2-PFHxDA	IS	65.2	25 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
d7-MeFOSE	IS	26.7	10 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1
d9-EtFOSE	IS	27.1	10 - 150		B0G0144	20-Jul-20	1.12 g	23-Jul-20 14:32	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBT20-05-(0.5-1)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-03	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 11:45	Date Received:	14-Jul-20 09:11		
				% Solids:	89.3		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.343	0.343	0.495		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
PFPeA	2706-90-3	<0.394	0.394	0.495		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
PFBS	375-73-5	<0.301	0.301	0.495		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
4:2 FTS	757124-72-4	<0.357	0.357	0.495		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
PFHxA	307-24-4	<0.214	0.214	0.495		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
PFPeS	2706-91-4	<0.652	0.652	0.991		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
HFPO-DA	13252-13-6	<1.17	1.17	1.49		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
PFHpA	375-85-9	<0.473	0.473	0.495		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
ADONA	919005-14-4	<0.337	0.337	0.495		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
PFHxS	355-46-4	0.679	0.386	0.495	Q	B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
6:2 FTS	27619-97-2	<0.648	0.648	0.991		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
PFOA	335-67-1	<0.466	0.466	0.495		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
PFHpS	375-92-8	<0.731	0.731	0.991		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
PFNA	375-95-1	<0.309	0.309	0.495		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
PFOSA	754-91-6	<0.999	0.999	1.49		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
PFOS	1763-23-1	3.31	0.426	0.495	Q	B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
9Cl-PF3ONS	756426-58-1	<0.367	0.367	0.495		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
PFDA	335-76-2	<0.448	0.448	0.495		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
8:2 FTS	39108-34-4	<0.715	0.715	0.991		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
PFNS	68259-12-1	<1.14	1.14	1.49		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
MeFOSAA	2355-31-9	<0.729	0.729	0.991		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
EtFOSAA	2991-50-6	<0.682	0.682	0.991		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
PFUnA	2058-94-8	<0.256	0.256	0.495		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
PFDS	335-77-3	<0.683	0.683	0.991		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
11Cl-PF3OUdS	763051-92-9	<0.715	0.715	0.991		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
10:2 FTS	120226-60-0	<1.01	1.01	1.49		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
PFDoA	307-55-1	<0.400	0.400	0.495		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
MeFOSA	31506-32-8	<5.73	5.73	9.91		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
PFTrDA	72629-94-8	<0.398	0.398	0.495		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
PFDoS	79780-39-5	<0.594	0.594	0.991		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
PFTeDA	376-06-7	<0.262	0.262	0.495		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
EtFOSA	4151-50-2	<3.80	3.80	9.91		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
PFHxDA	67905-19-5	<0.168	0.168	0.495		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
PFODA	16517-11-6	<0.495	0.495	0.991		B0G0144	20-Jul-20	1.13 g	27-Jul-20 18:43	1
MeFOSE	24448-09-7	<4.91	4.91	9.91		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
EtFOSE	1691-99-2	<5.33	5.33	9.91		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	92.9	25 - 150			B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1

Sample ID: SBT20-05-(0.5-1) **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-03	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 11:45	Date Received:	14-Jul-20 09:11		
				% Solids:	89.3		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	77.3	25 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
13C3-PFBS	IS	80.9	25 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
13C3-HFPO-DA	IS	71.5	25 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
13C2-4:2 FTS	IS	77.4	25 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
13C2-PFHxA	IS	69.9	25 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
13C4-PFHpA	IS	65.3	25 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
13C3-PFHxS	IS	81.2	25 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
13C2-6:2 FTS	IS	81.4	25 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
13C5-PFNA	IS	61.1	25 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
13C8-PFOA	IS	46.5	10 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
13C2-PFOA	IS	70.8	25 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
13C8-PFOS	IS	70.2	25 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
13C2-PFDA	IS	55.5	25 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
13C2-8:2 FTS	IS	76.7	25 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
d3-MeFOSAA	IS	55.6	25 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
13C2-PFUnA	IS	55.9	25 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
d5-EtFOSAA	IS	57.2	25 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
13C2-10:2 FTS	IS	68.6	25 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
13C2-PFDoA	IS	58.1	25 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
d3-MeFOSA	IS	19.4	10 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
13C2-PFTeDA	IS	61.7	25 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
d5-EtFOSA	IS	15.6	10 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
13C2-PFHxDA	IS	43.9	25 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
d7-MeFOSE	IS	32.7	10 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1
d9-EtFOSE	IS	33.0	10 - 150		B0G0144	20-Jul-20	1.13 g	23-Jul-20 14:43	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBT20-05 (10.5-11)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-04	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 12:10	Date Received:	14-Jul-20 09:11		
				% Solids:	91.5		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.344	0.344	0.497		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
PFPeA	2706-90-3	<0.395	0.395	0.497		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
PFBS	375-73-5	<0.302	0.302	0.497		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
4:2 FTS	757124-72-4	<0.358	0.358	0.497		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
PFHxA	307-24-4	0.222	0.215	0.497	J, Q	B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
PFPeS	2706-91-4	<0.654	0.654	0.994		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
HFPO-DA	13252-13-6	<1.17	1.17	1.49		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
PFHpA	375-85-9	<0.475	0.475	0.497		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
ADONA	919005-14-4	<0.338	0.338	0.497		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
PFHxS	355-46-4	1.96	0.388	0.497		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
6:2 FTS	27619-97-2	<0.650	0.650	0.994		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
PFOA	335-67-1	0.581	0.467	0.497		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
PFHpS	375-92-8	<0.733	0.733	0.994		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
PFNA	375-95-1	<0.310	0.310	0.497		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
PFOSA	754-91-6	<1.00	1.00	1.49		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
PFOS	1763-23-1	6.67	0.427	0.497		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
9Cl-PF3ONS	756426-58-1	<0.368	0.368	0.497		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
PFDA	335-76-2	<0.449	0.449	0.497		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
8:2 FTS	39108-34-4	<0.717	0.717	0.994		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
PFNS	68259-12-1	<1.14	1.14	1.49		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
MeFOSAA	2355-31-9	<0.731	0.731	0.994		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
EtFOSAA	2991-50-6	<0.684	0.684	0.994		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
PFUnA	2058-94-8	<0.256	0.256	0.497		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
PFDS	335-77-3	<0.686	0.686	0.994		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
11Cl-PF3OUdS	763051-92-9	<0.717	0.717	0.994		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
10:2 FTS	120226-60-0	<1.01	1.01	1.49		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
PFDoA	307-55-1	<0.401	0.401	0.497		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
MeFOSA	31506-32-8	<5.74	5.74	9.94		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
PFTTrDA	72629-94-8	<0.399	0.399	0.497		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
PFDoS	79780-39-5	<0.596	0.596	0.994		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
PFTeDA	376-06-7	<0.262	0.262	0.497		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
EtFOSA	4151-50-2	<3.82	3.82	9.94		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
PFHxDA	67905-19-5	<0.169	0.169	0.497		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
PFODA	16517-11-6	<0.497	0.497	0.994		B0G0144	20-Jul-20	1.10 g	27-Jul-20 18:54	1
MeFOSE	24448-09-7	<4.93	4.93	9.94		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
EtFOSE	1691-99-2	<5.35	5.35	9.94		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	105	25 - 150			B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1

Sample ID: SBT20-05 (10.5-11) **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-04	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 12:10	Date Received:	14-Jul-20 09:11		
				% Solids:	91.5		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	88.8	25 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
13C3-PFBS	IS	85.0	25 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
13C3-HFPO-DA	IS	82.7	25 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
13C2-4:2 FTS	IS	80.3	25 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
13C2-PFHxA	IS	78.2	25 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
13C4-PFHpA	IS	81.0	25 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
13C3-PFHxS	IS	83.9	25 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
13C2-6:2 FTS	IS	85.4	25 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
13C5-PFNA	IS	73.6	25 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
13C8-PFOA	IS	43.9	10 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
13C2-PFOA	IS	80.4	25 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
13C8-PFOS	IS	70.6	25 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
13C2-PFDA	IS	64.0	25 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
13C2-8:2 FTS	IS	82.1	25 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
d3-MeFOSAA	IS	50.0	25 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
13C2-PFUnA	IS	53.1	25 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
d5-EtFOSAA	IS	52.3	25 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
13C2-10:2 FTS	IS	65.1	25 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
13C2-PFDoA	IS	49.6	25 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
d3-MeFOSA	IS	10.7	10 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
13C2-PFTeDA	IS	55.3	25 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
d5-EtFOSA	IS	7.90	10 - 150	H	B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
13C2-PFHxDA	IS	39.5	25 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
d7-MeFOSE	IS	24.8	10 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1
d9-EtFOSE	IS	23.7	10 - 150		B0G0144	20-Jul-20	1.10 g	23-Jul-20 14:54	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBT20-04 (0.5-1)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-05	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 12:20	Date Received:	14-Jul-20 09:11		
				% Solids:	86.4		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	0.395	0.342	0.495	J	B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
PFPeA	2706-90-3	<0.394	0.394	0.495		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
PFBS	375-73-5	<0.301	0.301	0.495		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
4:2 FTS	757124-72-4	<0.356	0.356	0.495		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
PFHxA	307-24-4	0.438	0.214	0.495	J	B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
PFPeS	2706-91-4	<0.651	0.651	0.989		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
HFPO-DA	13252-13-6	<1.17	1.17	1.48		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
PFHpA	375-85-9	<0.473	0.473	0.495		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
ADONA	919005-14-4	<0.336	0.336	0.495		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
PFHxS	355-46-4	2.27	0.386	0.495		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
6:2 FTS	27619-97-2	<0.647	0.647	0.989		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
PFOA	335-67-1	0.538	0.465	0.495		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
PFHpS	375-92-8	<0.730	0.730	0.989		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
PFNA	375-95-1	<0.309	0.309	0.495		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
PFOSA	754-91-6	<0.997	0.997	1.48		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
PFOS	1763-23-1	8.35	0.425	0.495	Q	B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
9Cl-PF3ONS	756426-58-1	<0.366	0.366	0.495		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
PFDA	335-76-2	<0.447	0.447	0.495		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
8:2 FTS	39108-34-4	<0.714	0.714	0.989		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
PFNS	68259-12-1	<1.14	1.14	1.48		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
MeFOSAA	2355-31-9	<0.728	0.728	0.989		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
EtFOSAA	2991-50-6	<0.681	0.681	0.989		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
PFUnA	2058-94-8	<0.255	0.255	0.495		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
PFDS	335-77-3	<0.683	0.683	0.989		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
11Cl-PF3OUdS	763051-92-9	<0.714	0.714	0.989		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
10:2 FTS	120226-60-0	<1.01	1.01	1.48		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
PFDoA	307-55-1	<0.400	0.400	0.495		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
MeFOSA	31506-32-8	<5.72	5.72	9.89		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
PFTrDA	72629-94-8	<0.398	0.398	0.495		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
PFDoS	79780-39-5	<0.594	0.594	0.989		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
PFTeDA	376-06-7	<0.261	0.261	0.495		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
EtFOSA	4151-50-2	<3.80	3.80	9.89		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
PFHxDA	67905-19-5	<0.168	0.168	0.495		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
PFODA	16517-11-6	<0.495	0.495	0.989		B0G0144	20-Jul-20	1.17 g	27-Jul-20 19:05	1
MeFOSE	24448-09-7	<4.91	4.91	9.89		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
EtFOSE	1691-99-2	<5.32	5.32	9.89		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	93.4	25 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1

Sample ID: SBT20-04 (0.5-1) **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-05	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 12:20	Date Received:	14-Jul-20 09:11		
				% Solids:	86.4		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	75.9	25 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
13C3-PFBS	IS	80.9	25 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
13C3-HFPO-DA	IS	70.6	25 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
13C2-4:2 FTS	IS	82.5	25 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
13C2-PFHxA	IS	69.8	25 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
13C4-PFHpA	IS	69.9	25 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
13C3-PFHxS	IS	83.4	25 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
13C2-6:2 FTS	IS	86.2	25 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
13C5-PFNA	IS	63.7	25 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
13C8-PFOA	IS	47.6	10 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
13C2-PFOA	IS	72.7	25 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
13C8-PFOS	IS	78.0	25 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
13C2-PFDA	IS	52.6	25 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
13C2-8:2 FTS	IS	77.4	25 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
d3-MeFOSAA	IS	57.7	25 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
13C2-PFUnA	IS	59.4	25 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
d5-EtFOSAA	IS	63.2	25 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
13C2-10:2 FTS	IS	71.1	25 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
13C2-PFDoA	IS	61.9	25 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
d3-MeFOSA	IS	19.3	10 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
13C2-PFTeDA	IS	60.5	25 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
d5-EtFOSA	IS	18.7	10 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
13C2-PFHxDA	IS	38.6	25 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
d7-MeFOSE	IS	35.1	10 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1
d9-EtFOSE	IS	38.9	10 - 150		B0G0144	20-Jul-20	1.17 g	23-Jul-20 15:36	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBT20-04 (6-6.5)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-07	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 12:30	Date Received:	14-Jul-20 09:11		
				% Solids:	83.2		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.344	0.344	0.497		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
PFPeA	2706-90-3	<0.396	0.396	0.497		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
PFBS	375-73-5	<0.302	0.302	0.497		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
4:2 FTS	757124-72-4	<0.358	0.358	0.497		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
PFHxA	307-24-4	0.331	0.215	0.497	J	B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
PFPeS	2706-91-4	<0.654	0.654	0.994		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
HFPO-DA	13252-13-6	<1.17	1.17	1.49		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
PFHpA	375-85-9	<0.475	0.475	0.497		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
ADONA	919005-14-4	<0.338	0.338	0.497		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
PFHxS	355-46-4	0.715	0.388	0.497		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
6:2 FTS	27619-97-2	<0.650	0.650	0.994		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
PFOA	335-67-1	0.573	0.467	0.497	Q	B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
PFHpS	375-92-8	<0.733	0.733	0.994		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
PFNA	375-95-1	<0.310	0.310	0.497		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
PFOSA	754-91-6	<1.00	1.00	1.49		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
PFOS	1763-23-1	2.40	0.427	0.497		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
9Cl-PF3ONS	756426-58-1	<0.368	0.368	0.497		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
PFDA	335-76-2	<0.449	0.449	0.497		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
8:2 FTS	39108-34-4	<0.718	0.718	0.994		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
PFNS	68259-12-1	<1.14	1.14	1.49		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
MeFOSAA	2355-31-9	<0.731	0.731	0.994		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
EtFOSAA	2991-50-6	<0.684	0.684	0.994		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
PFUnA	2058-94-8	<0.256	0.256	0.497		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
PFDS	335-77-3	<0.686	0.686	0.994		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
11Cl-PF3OUdS	763051-92-9	<0.718	0.718	0.994		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
10:2 FTS	120226-60-0	<1.01	1.01	1.49		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
PFDoA	307-55-1	<0.402	0.402	0.497		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
MeFOSA	31506-32-8	<5.74	5.74	9.94		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
PFTTrDA	72629-94-8	<0.400	0.400	0.497		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
PFDoS	79780-39-5	<0.596	0.596	0.994		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
PFTeDA	376-06-7	<0.262	0.262	0.497		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
EtFOSA	4151-50-2	<3.82	3.82	9.94		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
PFHxDA	67905-19-5	<0.169	0.169	0.497		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
PFODA	16517-11-6	<0.497	0.497	0.994		B0G0144	20-Jul-20	1.21 g	27-Jul-20 19:15	1
MeFOSE	24448-09-7	<4.93	4.93	9.94		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
EtFOSE	1691-99-2	<5.35	5.35	9.94		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	83.3	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1

Sample ID: SBT20-04 (6-6.5)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-07	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 12:30	Date Received:	14-Jul-20 09:11		
				% Solids:	83.2		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	69.0	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
13C3-PFBS	IS	80.1	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
13C3-HFPO-DA	IS	59.7	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
13C2-4:2 FTS	IS	80.8	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
13C2-PFHxA	IS	62.1	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
13C4-PFHpA	IS	62.9	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
13C3-PFHxS	IS	78.8	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
13C2-6:2 FTS	IS	79.4	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
13C5-PFNA	IS	50.9	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
13C8-PFOA	IS	41.2	10 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
13C2-PFOA	IS	63.7	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
13C8-PFOS	IS	62.4	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
13C2-PFDA	IS	48.2	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
13C2-8:2 FTS	IS	70.9	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
d3-MeFOSAA	IS	57.9	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
13C2-PFUnA	IS	54.4	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
d5-EtFOSAA	IS	58.4	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
13C2-10:2 FTS	IS	66.9	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
13C2-PFDoA	IS	56.6	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
d3-MeFOSA	IS	12.7	10 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
13C2-PFTeDA	IS	56.0	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
d5-EtFOSA	IS	9.60	10 - 150	H	B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
13C2-PFHxDA	IS	36.7	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
d7-MeFOSE	IS	28.5	10 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1
d9-EtFOSE	IS	30.6	10 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 15:46	1

MDL - Method Detection Limit

RL - Reporting limit

 The results are reported in dry weight.
 The sample size is reported in wet weight.
 Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SOIL DUPLICATE A
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-10	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 00:00	Date Received:	14-Jul-20 09:11		
				% Solids:	85.5		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.340	0.340	0.492		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
PFPeA	2706-90-3	<0.391	0.391	0.492		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
PFBS	375-73-5	<0.299	0.299	0.492		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
4:2 FTS	757124-72-4	<0.354	0.354	0.492		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
PFHxA	307-24-4	<0.212	0.212	0.492		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
PFPeS	2706-91-4	<0.647	0.647	0.983		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
HFPO-DA	13252-13-6	<1.16	1.16	1.47		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
PFHpA	375-85-9	<0.470	0.470	0.492		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
ADONA	919005-14-4	<0.334	0.334	0.492		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
PFHxS	355-46-4	0.786	0.383	0.492		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
6:2 FTS	27619-97-2	<0.643	0.643	0.983		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
PFOA	335-67-1	<0.462	0.462	0.492		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
PFHpS	375-92-8	<0.726	0.726	0.983		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
PFNA	375-95-1	<0.307	0.307	0.492		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
PFOSA	754-91-6	<0.991	0.991	1.47		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
PFOS	1763-23-1	3.48	0.423	0.492	Q	B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
9Cl-PF3ONS	756426-58-1	<0.364	0.364	0.492		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
PFDA	335-76-2	<0.444	0.444	0.492		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
8:2 FTS	39108-34-4	<0.710	0.710	0.983		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
PFNS	68259-12-1	<1.13	1.13	1.47		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
MeFOSAA	2355-31-9	<0.724	0.724	0.983		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
EtFOSAA	2991-50-6	<0.677	0.677	0.983		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
PFUnA	2058-94-8	<0.254	0.254	0.492		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
PFDS	335-77-3	<0.678	0.678	0.983		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
11Cl-PF3OUdS	763051-92-9	<0.710	0.710	0.983		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
10:2 FTS	120226-60-0	<0.999	0.999	1.47		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
PFDoA	307-55-1	<0.397	0.397	0.492		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
MeFOSA	31506-32-8	<5.68	5.68	9.83		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
PFTrDA	72629-94-8	<0.395	0.395	0.492		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
PFDoS	79780-39-5	<0.590	0.590	0.983		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
PFTeDA	376-06-7	<0.260	0.260	0.492		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
EtFOSA	4151-50-2	<3.78	3.78	9.83		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
PFHxDA	67905-19-5	<0.167	0.167	0.492		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
PFODA	16517-11-6	<0.492	0.492	0.983		B0G0144	20-Jul-20	1.19 g	27-Jul-20 19:58	1
MeFOSE	24448-09-7	<4.88	4.88	9.83		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
EtFOSE	1691-99-2	<5.29	5.29	9.83		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	85.3	25 - 150			B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1

Sample ID: SOIL DUPLICATE A **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-10	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 00:00	Date Received:	14-Jul-20 09:11		
				% Solids:	85.5		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	70.3	25 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
13C3-PFBS	IS	80.6	25 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
13C3-HFPO-DA	IS	66.9	25 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
13C2-4:2 FTS	IS	80.0	25 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
13C2-PFHxA	IS	65.8	25 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
13C4-PFHpA	IS	65.0	25 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
13C3-PFHxS	IS	80.6	25 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
13C2-6:2 FTS	IS	85.6	25 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
13C5-PFNA	IS	60.8	25 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
13C8-PFOA	IS	37.4	10 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
13C2-PFOA	IS	65.1	25 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
13C8-PFOS	IS	69.6	25 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
13C2-PFDA	IS	53.7	25 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
13C2-8:2 FTS	IS	81.6	25 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
d3-MeFOSAA	IS	54.5	25 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
13C2-PFUnA	IS	55.7	25 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
d5-EtFOSAA	IS	62.1	25 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
13C2-10:2 FTS	IS	63.0	25 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
13C2-PFDoA	IS	57.8	25 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
d3-MeFOSA	IS	13.9	10 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
13C2-PFTeDA	IS	59.2	25 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
d5-EtFOSA	IS	12.4	10 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
13C2-PFHxDA	IS	41.7	25 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
d7-MeFOSE	IS	27.1	10 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1
d9-EtFOSE	IS	29.0	10 - 150		B0G0144	20-Jul-20	1.19 g	23-Jul-20 15:57	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBT20-02 (0-1)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-11	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 08:05	Date Received:	14-Jul-20 09:11		
				% Solids:	80.2		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	1.28	0.342	0.495		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
PFPeA	2706-90-3	2.02	0.394	0.495		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
PFBS	375-73-5	<0.301	0.301	0.495		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
4:2 FTS	757124-72-4	<0.356	0.356	0.495		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
PFHxA	307-24-4	1.12	0.214	0.495		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
PFPeS	2706-91-4	<0.651	0.651	0.989		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
HFPO-DA	13252-13-6	<1.17	1.17	1.48		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
PFHpA	375-85-9	0.681	0.473	0.495	Q	B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
ADONA	919005-14-4	<0.336	0.336	0.495		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
PFHxS	355-46-4	4.37	0.386	0.495		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
6:2 FTS	27619-97-2	<0.647	0.647	0.989		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
PFOA	335-67-1	2.37	0.465	0.495		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
PFHpS	375-92-8	<0.730	0.730	0.989		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
PFNA	375-95-1	2.26	0.309	0.495		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
PFOSA	754-91-6	1.29	0.997	1.48	J	B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
PFOS	1763-23-1	68.0	0.425	0.495		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
9Cl-PF3ONS	756426-58-1	<0.366	0.366	0.495		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
PFDA	335-76-2	0.452	0.447	0.495	J	B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
8:2 FTS	39108-34-4	<0.714	0.714	0.989		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
PFNS	68259-12-1	<1.14	1.14	1.48		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
MeFOSAA	2355-31-9	<0.728	0.728	0.989		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
EtFOSAA	2991-50-6	<0.680	0.680	0.989		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
PFUnA	2058-94-8	0.472	0.255	0.495	J	B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
PFDS	335-77-3	<0.682	0.682	0.989		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
11Cl-PF3OUdS	763051-92-9	<0.714	0.714	0.989		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
10:2 FTS	120226-60-0	<1.00	1.00	1.48		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
PFDoA	307-55-1	<0.400	0.400	0.495		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
MeFOSA	31506-32-8	<5.72	5.72	9.89		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
PFTrDA	72629-94-8	<0.398	0.398	0.495		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
PFDoS	79780-39-5	<0.593	0.593	0.989		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
PFTeDA	376-06-7	<0.261	0.261	0.495		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
EtFOSA	4151-50-2	<3.80	3.80	9.89		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
PFHxDA	67905-19-5	<0.168	0.168	0.495		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
PFODA	16517-11-6	<0.495	0.495	0.989		B0G0144	20-Jul-20	1.26 g	27-Jul-20 20:08	1
MeFOSE	24448-09-7	<4.91	4.91	9.89		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
EtFOSE	1691-99-2	<5.32	5.32	9.89		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	92.0	25 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1

Sample ID: SBT20-02 (0-1) **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-11	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 08:05	Date Received:	14-Jul-20 09:11		
				% Solids:	80.2		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	80.4	25 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
13C3-PFBS	IS	93.4	25 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
13C3-HFPO-DA	IS	72.1	25 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
13C2-4:2 FTS	IS	100	25 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
13C2-PFHxA	IS	79.3	25 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
13C4-PFHpA	IS	77.2	25 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
13C3-PFHxS	IS	89.0	25 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
13C2-6:2 FTS	IS	95.1	25 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
13C5-PFNA	IS	63.8	25 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
13C8-PFOA	IS	47.1	10 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
13C2-PFOA	IS	77.0	25 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
13C8-PFOS	IS	73.5	25 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
13C2-PFDA	IS	57.6	25 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
13C2-8:2 FTS	IS	87.9	25 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
d3-MeFOSAA	IS	66.3	25 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
13C2-PFUnA	IS	64.6	25 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
d5-EtFOSAA	IS	68.0	25 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
13C2-10:2 FTS	IS	72.6	25 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
13C2-PFDoA	IS	71.2	25 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
d3-MeFOSA	IS	11.3	10 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
13C2-PFTeDA	IS	62.5	25 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
d5-EtFOSA	IS	12.9	10 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
13C2-PFHxDA	IS	40.0	25 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
d7-MeFOSE	IS	36.6	10 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1
d9-EtFOSE	IS	39.3	10 - 150		B0G0144	20-Jul-20	1.26 g	23-Jul-20 16:08	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBT20-02 (10-10.5)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-13	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 08:15	Date Received:	14-Jul-20 09:11		
				% Solids:	83.7		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.341	0.341	0.493		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
PFPeA	2706-90-3	<0.393	0.393	0.493		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
PFBS	375-73-5	<0.300	0.300	0.493		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
4:2 FTS	757124-72-4	<0.355	0.355	0.493		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
PFHxA	307-24-4	<0.213	0.213	0.493		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
PFPeS	2706-91-4	<0.649	0.649	0.987		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
HFPO-DA	13252-13-6	<1.16	1.16	1.48		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
PFHpA	375-85-9	<0.472	0.472	0.493		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
ADONA	919005-14-4	<0.336	0.336	0.493		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
PFHxS	355-46-4	0.563	0.385	0.493		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
6:2 FTS	27619-97-2	<0.645	0.645	0.987		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
PFOA	335-67-1	<0.464	0.464	0.493		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
PFHpS	375-92-8	<0.728	0.728	0.987		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
PFNA	375-95-1	<0.308	0.308	0.493		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
PFOSA	754-91-6	<0.995	0.995	1.48		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
PFOS	1763-23-1	1.70	0.424	0.493		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
9Cl-PF3ONS	756426-58-1	<0.365	0.365	0.493		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
PFDA	335-76-2	<0.446	0.446	0.493		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
8:2 FTS	39108-34-4	<0.713	0.713	0.987		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
PFNS	68259-12-1	<1.13	1.13	1.48		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
MeFOSAA	2355-31-9	<0.726	0.726	0.987		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
EtFOSAA	2991-50-6	<0.679	0.679	0.987		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
PFUnA	2058-94-8	<0.255	0.255	0.493		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
PFDS	335-77-3	<0.681	0.681	0.987		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
11Cl-PF3OUdS	763051-92-9	<0.713	0.713	0.987		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
10:2 FTS	120226-60-0	<1.00	1.00	1.48		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
PFDoA	307-55-1	<0.399	0.399	0.493		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
MeFOSA	31506-32-8	<5.70	5.70	9.87		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
PFTrDA	72629-94-8	<0.397	0.397	0.493		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
PFDoS	79780-39-5	<0.592	0.592	0.987		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
PFTeDA	376-06-7	<0.261	0.261	0.493		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
EtFOSA	4151-50-2	<3.79	3.79	9.87		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
PFHxDA	67905-19-5	<0.168	0.168	0.493		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
PFODA	16517-11-6	<0.493	0.493	0.987		B0G0144	20-Jul-20	1.21 g	27-Jul-20 20:19	1
MeFOSE	24448-09-7	<4.89	4.89	9.87		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
EtFOSE	1691-99-2	<5.31	5.31	9.87		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	95.0	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1

Sample ID: SBT20-02 (10-10.5)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-13	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 08:15	Date Received:	14-Jul-20 09:11		
				% Solids:	83.7		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	80.4	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
13C3-PFBS	IS	81.2	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
13C3-HFPO-DA	IS	69.7	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
13C2-4:2 FTS	IS	76.3	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
13C2-PFHxA	IS	67.9	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
13C4-PFHpA	IS	73.7	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
13C3-PFHxS	IS	81.7	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
13C2-6:2 FTS	IS	82.1	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
13C5-PFNA	IS	64.1	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
13C8-PFOA	IS	38.4	10 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
13C2-PFOA	IS	72.4	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
13C8-PFOS	IS	67.6	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
13C2-PFDA	IS	53.4	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
13C2-8:2 FTS	IS	74.4	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
d3-MeFOSAA	IS	51.7	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
13C2-PFUnA	IS	52.7	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
d5-EtFOSAA	IS	54.7	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
13C2-10:2 FTS	IS	60.8	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
13C2-PFDoA	IS	54.1	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
d3-MeFOSA	IS	9.90	10 - 150	H	B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
13C2-PFTeDA	IS	58.4	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
d5-EtFOSA	IS	7.80	10 - 150	H	B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
13C2-PFHxDA	IS	40.7	25 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
d7-MeFOSE	IS	22.1	10 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1
d9-EtFOSE	IS	22.5	10 - 150		B0G0144	20-Jul-20	1.21 g	23-Jul-20 16:18	1

MDL - Method Detection Limit

RL - Reporting limit

 The results are reported in dry weight.
 The sample size is reported in wet weight.
 Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBT20-03 (0-1)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-14	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 08:50	Date Received:	14-Jul-20 09:11		
				% Solids:	73.2		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	2.17	0.342	0.495		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
PFPeA	2706-90-3	6.71	0.394	0.495		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
PFBS	375-73-5	1.84	0.301	0.495		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
4:2 FTS	757124-72-4	<0.356	0.356	0.495		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
PFHxA	307-24-4	9.77	0.214	0.495		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
PFPeS	2706-91-4	2.29	0.651	0.989		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
HFPO-DA	13252-13-6	<1.17	1.17	1.48		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
PFHpA	375-85-9	4.52	0.473	0.495		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
ADONA	919005-14-4	<0.336	0.336	0.495		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
PFHxS	355-46-4	107	0.386	0.495		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
6:2 FTS	27619-97-2	3.36	0.647	0.989		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
PFOA	335-67-1	24.4	0.465	0.495		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
PFHpS	375-92-8	2.90	0.730	0.989		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
PFNA	375-95-1	8.38	0.309	0.495		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
PFOSA	754-91-6	7.22	0.997	1.48		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
PFOS	1763-23-1	363	0.425	0.495		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
9Cl-PF3ONS	756426-58-1	<0.366	0.366	0.495		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
PFDA	335-76-2	4.20	0.447	0.495		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
8:2 FTS	39108-34-4	7.27	0.714	0.989		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
PFNS	68259-12-1	<1.14	1.14	1.48		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
MeFOSAA	2355-31-9	<0.728	0.728	0.989		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
EtFOSAA	2991-50-6	<0.681	0.681	0.989		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
PFUnA	2058-94-8	4.44	0.255	0.495		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
PFDS	335-77-3	1.46	0.683	0.989		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
11Cl-PF3OUdS	763051-92-9	<0.714	0.714	0.989		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
10:2 FTS	120226-60-0	<1.01	1.01	1.48		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
PFDoA	307-55-1	<0.400	0.400	0.495		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
MeFOSA	31506-32-8	<5.72	5.72	9.89		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
PFTTrDA	72629-94-8	<0.398	0.398	0.495		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
PFDoS	79780-39-5	0.656	0.594	0.989	J	B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
PFTeDA	376-06-7	<0.261	0.261	0.495		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
EtFOSA	4151-50-2	<3.80	3.80	9.89		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
PFHxDA	67905-19-5	<0.168	0.168	0.495		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
PFODA	16517-11-6	<0.495	0.495	0.989		B0G0144	20-Jul-20	1.38 g	27-Jul-20 20:29	1
MeFOSE	24448-09-7	<4.91	4.91	9.89		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
EtFOSE	1691-99-2	<5.32	5.32	9.89		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	90.2	25 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1

Sample ID: SBT20-03 (0-1) **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-14	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 08:50	Date Received:	14-Jul-20 09:11		
				% Solids:	73.2		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	77.8	25 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
13C3-PFBS	IS	82.0	25 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
13C3-HFPO-DA	IS	68.6	25 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
13C2-4:2 FTS	IS	90.9	25 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
13C2-PFHxA	IS	78.7	25 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
13C4-PFHpA	IS	74.2	25 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
13C3-PFHxS	IS	74.6	25 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
13C2-6:2 FTS	IS	93.8	25 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
13C5-PFNA	IS	68.5	25 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
13C8-PFOA	IS	46.6	10 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
13C2-PFOA	IS	75.8	25 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
13C8-PFOS	IS	68.1	25 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
13C2-PFDA	IS	63.1	25 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
13C2-8:2 FTS	IS	84.1	25 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
d3-MeFOSAA	IS	61.4	25 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
13C2-PFUnA	IS	63.2	25 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
d5-EtFOSAA	IS	60.5	25 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
13C2-10:2 FTS	IS	71.4	25 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
13C2-PFDoA	IS	67.1	25 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
d3-MeFOSA	IS	29.4	10 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
13C2-PFTeDA	IS	60.1	25 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
d5-EtFOSA	IS	29.3	10 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
13C2-PFHxDA	IS	31.0	25 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
d7-MeFOSE	IS	37.1	10 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1
d9-EtFOSE	IS	42.4	10 - 150		B0G0144	20-Jul-20	1.38 g	23-Jul-20 16:31	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBT20-03 (10-10.5)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-15	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 09:05	Date Received:	14-Jul-20 09:11		
				% Solids:	92.9		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.342	0.342	0.494		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
PFPeA	2706-90-3	1.25	0.393	0.494		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
PFBS	375-73-5	0.761	0.300	0.494		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
4:2 FTS	757124-72-4	<0.356	0.356	0.494		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
PFHxA	307-24-4	3.45	0.213	0.494		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
PFPeS	2706-91-4	2.41	0.650	0.988		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
HFPO-DA	13252-13-6	<1.17	1.17	1.48		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
PFHpA	375-85-9	5.10	0.472	0.494		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
ADONA	919005-14-4	<0.336	0.336	0.494		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
PFHxS	355-46-4	188	0.385	0.494		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
6:2 FTS	27619-97-2	1.13	0.646	0.988		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
PFOA	335-67-1	38.5	0.464	0.494		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
PFHpS	375-92-8	<0.729	0.729	0.988		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
PFNA	375-95-1	<0.308	0.308	0.494		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
PFOSA	754-91-6	<0.996	0.996	1.48		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
PFOS	1763-23-1	<0.425	0.425	0.494		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
9Cl-PF3ONS	756426-58-1	<0.365	0.365	0.494		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
PFDA	335-76-2	<0.446	0.446	0.494		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
8:2 FTS	39108-34-4	<0.713	0.713	0.988		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
PFNS	68259-12-1	<1.14	1.14	1.48		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
MeFOSAA	2355-31-9	<0.727	0.727	0.988		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
EtFOSAA	2991-50-6	<0.680	0.680	0.988		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
PFUnA	2058-94-8	<0.255	0.255	0.494		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
PFDS	335-77-3	<0.682	0.682	0.988		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
11Cl-PF3OUdS	763051-92-9	<0.713	0.713	0.988		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
10:2 FTS	120226-60-0	<1.00	1.00	1.48		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
PFDoA	307-55-1	<0.399	0.399	0.494		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
MeFOSA	31506-32-8	<5.71	5.71	9.88		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
PFTrDA	72629-94-8	<0.397	0.397	0.494		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
PFDoS	79780-39-5	<0.593	0.593	0.988		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
PFTeDA	376-06-7	<0.261	0.261	0.494		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
EtFOSA	4151-50-2	<3.79	3.79	9.88		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
PFHxDA	67905-19-5	<0.168	0.168	0.494		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
PFODA	16517-11-6	<0.494	0.494	0.988		B0G0144	20-Jul-20	1.09 g	24-Jul-20 18:22	1
MeFOSE	24448-09-7	<4.90	4.90	9.88		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
EtFOSE	1691-99-2	<5.31	5.31	9.88		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	92.2	25 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1

Sample ID: SBT20-03 (10-10.5)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-15	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 09:05	Date Received:	14-Jul-20 09:11		
				% Solids:	92.9		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	81.2	25 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
13C3-PFBS	IS	85.3	25 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
13C3-HFPO-DA	IS	70.0	25 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
13C2-4:2 FTS	IS	79.9	25 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
13C2-PFHxA	IS	69.8	25 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
13C4-PFHpA	IS	74.7	25 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
13C3-PFHxS	IS	76.6	25 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
13C2-6:2 FTS	IS	84.1	25 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
13C5-PFNA	IS	68.9	25 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
13C8-PFOA	IS	35.3	10 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
13C2-PFOA	IS	78.5	25 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
13C8-PFOS	IS	75.9	25 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
13C2-PFDA	IS	57.0	25 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
13C2-8:2 FTS	IS	83.1	25 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
d3-MeFOSAA	IS	50.8	25 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
13C2-PFUnA	IS	51.0	25 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
d5-EtFOSAA	IS	40.2	25 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
13C2-10:2 FTS	IS	53.5	25 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
13C2-PFDoA	IS	43.3	25 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
d3-MeFOSA	IS	10.2	10 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
13C2-PFTeDA	IS	52.9	25 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
d5-EtFOSA	IS	7.60	10 - 150	H	B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
13C2-PFHxDA	IS	27.0	25 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
d7-MeFOSE	IS	21.3	10 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1
d9-EtFOSE	IS	20.4	10 - 150		B0G0144	20-Jul-20	1.09 g	23-Jul-20 16:42	1

MDL - Method Detection Limit

RL - Reporting limit

 The results are reported in dry weight.
 The sample size is reported in wet weight.
 Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBT20-06 (0-1)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-17	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 10:00	Date Received:	14-Jul-20 09:11		
				% Solids:	85.8		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	0.858	0.342	0.494		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
PFPeA	2706-90-3	2.38	0.393	0.494		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
PFBS	375-73-5	0.537	0.300	0.494		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
4:2 FTS	757124-72-4	<0.356	0.356	0.494		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
PFHxA	307-24-4	3.27	0.213	0.494		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
PFPeS	2706-91-4	<0.650	0.650	0.988		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
HFPO-DA	13252-13-6	<1.17	1.17	1.48		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
PFHpA	375-85-9	1.61	0.472	0.494		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
ADONA	919005-14-4	<0.336	0.336	0.494		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
PFHxS	355-46-4	15.3	0.385	0.494		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
6:2 FTS	27619-97-2	<0.646	0.646	0.988		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
PFOA	335-67-1	3.71	0.464	0.494		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
PFHpS	375-92-8	<0.729	0.729	0.988		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
PFNA	375-95-1	1.42	0.308	0.494		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
PFOSA	754-91-6	<0.996	0.996	1.48		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
PFOS	1763-23-1	49.4	0.425	0.494		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
9Cl-PF3ONS	756426-58-1	<0.366	0.366	0.494		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
PFDA	335-76-2	<0.447	0.447	0.494		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
8:2 FTS	39108-34-4	<0.713	0.713	0.988		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
PFNS	68259-12-1	<1.14	1.14	1.48		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
MeFOSAA	2355-31-9	<0.727	0.727	0.988		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
EtFOSAA	2991-50-6	<0.680	0.680	0.988		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
PFUnA	2058-94-8	0.285	0.255	0.494	J, Q	B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
PFDS	335-77-3	<0.682	0.682	0.988		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
11Cl-PF3OUdS	763051-92-9	<0.713	0.713	0.988		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
10:2 FTS	120226-60-0	<1.00	1.00	1.48		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
PFDoA	307-55-1	<0.399	0.399	0.494		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
MeFOSA	31506-32-8	<5.71	5.71	9.88		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
PFTrDA	72629-94-8	<0.397	0.397	0.494		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
PFDoS	79780-39-5	<0.593	0.593	0.988		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
PFTeDA	376-06-7	<0.261	0.261	0.494		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
EtFOSA	4151-50-2	<3.79	3.79	9.88		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
PFHxDA	67905-19-5	<0.168	0.168	0.494		B0G0144	20-Jul-20	1.18 g	27-Jul-20 20:50	1
PFODA	16517-11-6	<0.494	0.494	0.988		B0G0144	20-Jul-20	1.18 g	27-Jul-20 20:50	1
MeFOSE	24448-09-7	<4.90	4.90	9.88		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
EtFOSE	1691-99-2	<5.31	5.31	9.88		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	85.7	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1

Sample ID: SBT20-06 (0-1) **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-17	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 10:00	Date Received:	14-Jul-20 09:11		
				% Solids:	85.8		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	74.7	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
13C3-PFBS	IS	77.2	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
13C3-HFPO-DA	IS	67.1	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
13C2-4:2 FTS	IS	79.9	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
13C2-PFHxA	IS	65.9	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
13C4-PFHpA	IS	68.2	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
13C3-PFHxS	IS	74.4	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
13C2-6:2 FTS	IS	80.5	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
13C5-PFNA	IS	63.6	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
13C8-PFOA	IS	44.4	10 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
13C2-PFOA	IS	70.5	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
13C8-PFOS	IS	64.4	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
13C2-PFDA	IS	54.3	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
13C2-8:2 FTS	IS	83.2	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
d3-MeFOSAA	IS	54.7	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
13C2-PFUnA	IS	51.5	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
d5-EtFOSAA	IS	53.3	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
13C2-10:2 FTS	IS	55.4	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
13C2-PFDoA	IS	50.6	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
d3-MeFOSA	IS	15.7	10 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
13C2-PFTeDA	IS	26.2	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
d5-EtFOSA	IS	13.3	10 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
13C2-PFHxDA	IS	22.6	25 - 150	H	B0G0144	20-Jul-20	1.18 g	27-Jul-20 20:50	1
d7-MeFOSE	IS	32.1	10 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1
d9-EtFOSE	IS	34.6	10 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 16:53	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBT20-06 (13-13.5)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-18	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 10:10	Date Received:	14-Jul-20 09:11		
				% Solids:	87.2		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.336	0.336	0.486		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
PFPeA	2706-90-3	0.672	0.387	0.486		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
PFBS	375-73-5	0.301	0.295	0.486	J	B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
4:2 FTS	757124-72-4	<0.350	0.350	0.486		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
PFHxA	307-24-4	1.61	0.210	0.486		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
PFPeS	2706-91-4	<0.639	0.639	0.972		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
HFPO-DA	13252-13-6	<1.15	1.15	1.46		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
PFHpA	375-85-9	<0.465	0.465	0.486		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
ADONA	919005-14-4	<0.330	0.330	0.486		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
PFHxS	355-46-4	<0.379	0.379	0.486		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
6:2 FTS	27619-97-2	<0.636	0.636	0.972		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
PFOA	335-67-1	<0.457	0.457	0.486		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
PFHpS	375-92-8	<0.717	0.717	0.972		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
PFNA	375-95-1	<0.303	0.303	0.486		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
PFOSA	754-91-6	<0.980	0.980	1.46		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
PFOS	1763-23-1	<0.418	0.418	0.486		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
9Cl-PF3ONS	756426-58-1	<0.360	0.360	0.486		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
PFDA	335-76-2	<0.439	0.439	0.486		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
8:2 FTS	39108-34-4	<0.702	0.702	0.972		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
PFNS	68259-12-1	<1.12	1.12	1.46		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
MeFOSAA	2355-31-9	<0.715	0.715	0.972		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
EtFOSAA	2991-50-6	<0.669	0.669	0.972		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
PFUnA	2058-94-8	<0.251	0.251	0.486		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
PFDS	335-77-3	<0.671	0.671	0.972		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
11Cl-PF3OUdS	763051-92-9	<0.702	0.702	0.972		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
10:2 FTS	120226-60-0	<0.987	0.987	1.46		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
PFDoA	307-55-1	<0.393	0.393	0.486		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
MeFOSA	31506-32-8	<5.62	5.62	9.72		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
PFTrDA	72629-94-8	<0.391	0.391	0.486		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
PFDoS	79780-39-5	<0.583	0.583	0.972		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
PFTeDA	376-06-7	<0.257	0.257	0.486		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
EtFOSA	4151-50-2	<3.73	3.73	9.72		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
PFHxDA	67905-19-5	<0.165	0.165	0.486		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
PFODA	16517-11-6	<0.486	0.486	0.972		B0G0144	20-Jul-20	1.18 g	27-Jul-20 21:01	1
MeFOSE	24448-09-7	<4.82	4.82	9.72		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
EtFOSE	1691-99-2	<5.23	5.23	9.72		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	93.9	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1

Sample ID: SBT20-06 (13-13.5) **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-18	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 10:10	Date Received:	14-Jul-20 09:11		
				% Solids:	87.2		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	83.2	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
13C3-PFBS	IS	87.8	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
13C3-HFPO-DA	IS	73.2	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
13C2-4:2 FTS	IS	91.4	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
13C2-PFHxA	IS	73.9	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
13C4-PFHpA	IS	77.6	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
13C3-PFHxS	IS	81.3	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
13C2-6:2 FTS	IS	87.5	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
13C5-PFNA	IS	73.1	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
13C8-PFOA	IS	49.7	10 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
13C2-PFOA	IS	80.8	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
13C8-PFOS	IS	74.6	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
13C2-PFDA	IS	64.5	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
13C2-8:2 FTS	IS	91.3	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
d3-MeFOSAA	IS	61.5	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
13C2-PFUnA	IS	58.4	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
d5-EtFOSAA	IS	61.3	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
13C2-10:2 FTS	IS	68.7	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
13C2-PFDoA	IS	52.0	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
d3-MeFOSA	IS	16.0	10 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
13C2-PFTeDA	IS	48.9	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
d5-EtFOSA	IS	12.3	10 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
13C2-PFHxDA	IS	40.1	25 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
d7-MeFOSE	IS	33.0	10 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1
d9-EtFOSE	IS	32.0	10 - 150		B0G0144	20-Jul-20	1.18 g	23-Jul-20 17:03	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBT20-01 (0.5-1)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-20	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 10:50	Date Received:	14-Jul-20 09:11		
				% Solids:	89.1		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.335	0.335	0.484		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
PFPeA	2706-90-3	0.529	0.385	0.484		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
PFBS	375-73-5	<0.294	0.294	0.484		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
4:2 FTS	757124-72-4	<0.348	0.348	0.484		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
PFHxA	307-24-4	1.44	0.209	0.484	Q	B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
PFPeS	2706-91-4	<0.637	0.637	0.968		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
HFPO-DA	13252-13-6	<1.14	1.14	1.45		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
PFHpA	375-85-9	<0.463	0.463	0.484		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
ADONA	919005-14-4	<0.329	0.329	0.484		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
PFHxS	355-46-4	10.1	0.378	0.484		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
6:2 FTS	27619-97-2	<0.633	0.633	0.968		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
PFOA	335-67-1	2.05	0.455	0.484		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
PFHpS	375-92-8	<0.714	0.714	0.968		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
PFNA	375-95-1	0.546	0.302	0.484	Q	B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
PFOSA	754-91-6	<0.976	0.976	1.45		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
PFOS	1763-23-1	19.8	0.416	0.484		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
9Cl-PF3ONS	756426-58-1	<0.358	0.358	0.484		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
PFDA	335-76-2	<0.438	0.438	0.484		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
8:2 FTS	39108-34-4	<0.699	0.699	0.968		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
PFNS	68259-12-1	<1.11	1.11	1.45		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
MeFOSAA	2355-31-9	<0.712	0.712	0.968		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
EtFOSAA	2991-50-6	<0.666	0.666	0.968		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
PFUnA	2058-94-8	<0.250	0.250	0.484		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
PFDS	335-77-3	<0.668	0.668	0.968		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
11Cl-PF3OUdS	763051-92-9	<0.699	0.699	0.968		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
10:2 FTS	120226-60-0	<0.983	0.983	1.45		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
PFDoA	307-55-1	<0.391	0.391	0.484		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
MeFOSA	31506-32-8	<5.59	5.59	9.68		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
PFTrDA	72629-94-8	<0.389	0.389	0.484		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
PFDoS	79780-39-5	<0.581	0.581	0.968		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
PFTeDA	376-06-7	<0.256	0.256	0.484		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
EtFOSA	4151-50-2	<3.72	3.72	9.68		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
PFHxDA	67905-19-5	<0.165	0.165	0.484		B0G0144	20-Jul-20	1.16 g	27-Jul-20 21:12	1
PFODA	16517-11-6	<0.484	0.484	0.968		B0G0144	20-Jul-20	1.16 g	27-Jul-20 21:12	1
MeFOSE	24448-09-7	<4.80	4.80	9.68		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
EtFOSE	1691-99-2	<5.21	5.21	9.68		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	99.3	25 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1

Sample ID: SBT20-01 (0.5-1)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001473-20	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 10:50	Date Received:	14-Jul-20 09:11		
				% Solids:	89.1		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	79.6	25 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
13C3-PFBS	IS	84.0	25 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
13C3-HFPO-DA	IS	72.7	25 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
13C2-4:2 FTS	IS	82.7	25 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
13C2-PFHxA	IS	74.1	25 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
13C4-PFHpA	IS	76.8	25 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
13C3-PFHxS	IS	78.1	25 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
13C2-6:2 FTS	IS	85.0	25 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
13C5-PFNA	IS	66.9	25 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
13C8-PFOA	IS	48.5	10 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
13C2-PFOA	IS	76.6	25 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
13C8-PFOS	IS	74.3	25 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
13C2-PFDA	IS	62.2	25 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
13C2-8:2 FTS	IS	78.9	25 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
d3-MeFOSAA	IS	64.3	25 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
13C2-PFUnA	IS	61.9	25 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
d5-EtFOSAA	IS	65.9	25 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
13C2-10:2 FTS	IS	67.6	25 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
13C2-PFDoA	IS	64.9	25 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
d3-MeFOSA	IS	18.2	10 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
13C2-PFTeDA	IS	51.1	25 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
d5-EtFOSA	IS	16.0	10 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
13C2-PFHxDA	IS	23.2	25 - 150	H	B0G0144	20-Jul-20	1.16 g	27-Jul-20 21:12	1
d7-MeFOSE	IS	34.2	10 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1
d9-EtFOSE	IS	36.1	10 - 150		B0G0144	20-Jul-20	1.16 g	23-Jul-20 17:14	1

MDL - Method Detection Limit

RL - Reporting limit

 The results are reported in dry weight.
 The sample size is reported in wet weight.
 Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: Method Blank					PFAS Isotope Dilution Method					
Client Data				Laboratory Data						
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	B0G0132-BLK1	Column:	BEH C18			
Project:	MSN FFTA Samples									
Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.729	0.729	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFPeA	2706-90-3	<1.28	1.28	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFBS	375-73-5	<1.79	1.79	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
4:2 FTS	757124-72-4	<1.39	1.39	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFHxA	307-24-4	<2.18	2.18	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFPeS	2706-91-4	<2.42	2.42	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
HFPO-DA	13252-13-6	<4.82	4.82	5.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFHpA	375-85-9	<0.591	0.591	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
ADONA	919005-14-4	<0.722	0.722	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFHxS	355-46-4	<0.947	0.947	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
6:2 FTS	27619-97-2	<2.00	2.00	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFOA	335-67-1	<0.651	0.651	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFHpS	375-92-8	<0.937	0.937	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFNA	375-95-1	<0.810	0.810	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFOSA	754-91-6	<1.77	1.77	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFOS	1763-23-1	<0.807	0.807	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
9Cl-PF3ONS	756426-58-1	<1.45	1.45	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFDA	335-76-2	<1.49	1.49	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
8:2 FTS	39108-34-4	<2.06	2.06	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFNS	68259-12-1	<3.87	3.87	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
MeFOSAA	2355-31-9	<1.65	1.65	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
EtFOSAA	2991-50-6	<1.37	1.37	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFUnA	2058-94-8	<1.05	1.05	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFDS	335-77-3	<1.23	1.23	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
11Cl-PF3OUdS	763051-92-9	<2.41	2.41	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
10:2 FTS	120226-60-0	<3.13	3.13	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFDoA	307-55-1	<0.792	0.792	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
MeFOSA	31506-32-8	<3.83	3.83	20.0		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFTrDA	72629-94-8	<0.494	0.494	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFDoS	79780-39-5	<4.17	4.17	5.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFTeDA	376-06-7	<0.755	0.755	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
EtFOSA	4151-50-2	<5.11	5.11	20.0		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFHxDA	67905-19-5	1.37	0.294	4.00	J, Q	B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFODA	16517-11-6	<6.14	6.14	7.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
MeFOSE	24448-09-7	<6.07	6.07	20.0		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
EtFOSE	1691-99-2	<9.44	9.44	20.0		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C3-PFBA	IS	144	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1	

Sample ID: Method Blank **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	B0G0132-BLK1	Column:	BEH C18
Project:	MSN FFTA Samples						

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	101	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C3-PFBS	IS	102	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C3-HFPO-DA	IS	90.2	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-4:2 FTS	IS	97.6	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-PFHxA	IS	95.5	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C4-PFHpA	IS	102	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C3-PFHxS	IS	104	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-6:2 FTS	IS	89.1	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C5-PFNA	IS	80.3	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C8-PFOA	IS	33.9	10 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-PFOA	IS	97.6	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C8-PFOS	IS	92.7	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-PFDA	IS	90.9	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-8:2 FTS	IS	94.5	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
d3-MeFOSAA	IS	77.3	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-PFUnA	IS	82.3	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
d5-EtFOSAA	IS	69.7	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-10:2 FTS	IS	77.9	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-PFDoA	IS	74.5	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
d3-MeFOSA	IS	10.8	10 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-PFTeDA	IS	64.5	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
d5-EtFOSA	IS	9.30	10 - 150	H	B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-PFHxDA	IS	39.2	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
d7-MeFOSE	IS	16.0	10 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
d9-EtFOSE	IS	17.2	10 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: OPR

PFAS Isotope Dilution Method

Client Data					Laboratory Data							
Name:	LimnoTech, Inc.	Matrix:	Aqueous		Lab Sample:	B0G0132-BS1	Column:	BEH C18				
Project:	MSN FFTA Samples											

Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	7.82	8.00	97.7	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFPeA	2706-90-3	7.69	8.00	96.1	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFBS	375-73-5	7.42	8.00	92.7	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
4:2 FTS	757124-72-4	7.81	8.00	97.6	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFHxA	307-24-4	7.64	8.00	95.4	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFPeS	2706-91-4	8.20	8.00	103	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
HFPO-DA	13252-13-6	7.51	8.00	93.8	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFHpA	375-85-9	7.48	8.00	93.6	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
ADONA	919005-14-4	7.54	8.00	94.2	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFHxS	355-46-4	6.14	8.00	76.7	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
6:2 FTS	27619-97-2	8.50	8.00	106	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFOA	335-67-1	7.13	8.00	89.1	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFHpS	375-92-8	7.83	8.00	97.9	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFNA	375-95-1	8.53	8.00	107	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFOSA	754-91-6	10.1	8.00	126	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFOS	1763-23-1	8.96	8.00	112	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
9Cl-PF3ONS	756426-58-1	7.13	8.00	89.1	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFDA	335-76-2	7.48	8.00	93.6	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
8:2 FTS	39108-34-4	6.64	8.00	83.0	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFNS	68259-12-1	7.56	8.00	94.5	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
MeFOSAA	2355-31-9	7.12	8.00	89.0	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
EtFOSAA	2991-50-6	6.42	8.00	80.3	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFUnA	2058-94-8	7.64	8.00	95.5	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFDS	335-77-3	7.21	8.00	90.1	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
11Cl-PF3OUdS	763051-92-9	7.38	8.00	92.3	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
10:2 FTS	120226-60-0	8.50	8.00	106	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFDoA	307-55-1	7.35	8.00	91.8	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
MeFOSA	31506-32-8	28.9	40.0	72.1	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFTTrDA	72629-94-8	7.23	8.00	90.3	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFDoS	79780-39-5	6.88	8.00	85.9	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFTeDA	376-06-7	7.21	8.00	90.2	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
EtFOSA	4151-50-2	35.5	40.0	88.8	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFHxDA	67905-19-5	7.62	8.00	95.3	50 - 150	B	B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFODA	16517-11-6	6.65	8.00	83.1	50 - 150	J	B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1

Sample ID: OPR

PFAS Isotope Dilution Method

Client Data					Laboratory Data						
Name:	LimnoTech, Inc.	Matrix:	Aqueous		Lab Sample:	B0G0132-BS1	Column:	BEH C18			
Project:	MSN FFTA Samples										

Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
MeFOSE	24448-09-7	45.9	40.0	115	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
EtFOSE	1691-99-2	26.1	40.0	65.3	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
Labeled Standards		Type		% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA		IS		145	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C3-PFPeA		IS		97.0	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C3-PFBS		IS		100	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C3-HFPO-DA		IS		86.9	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-4:2 FTS		IS		95.8	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-PFHxA		IS		87.0	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C4-PFHpA		IS		91.2	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C3-PFHxS		IS		101	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-6:2 FTS		IS		90.4	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C5-PFNA		IS		77.0	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C8-PFOSA		IS		26.2	10- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-PFOA		IS		90.1	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C8-PFOS		IS		80.2	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-PFDA		IS		89.6	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-8:2 FTS		IS		85.6	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
d3-MeFOSAA		IS		71.1	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-PFUnA		IS		75.5	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
d5-EtFOSAA		IS		70.3	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-10:2 FTS		IS		71.4	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-PFDoA		IS		81.9	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
d3-MeFOSA		IS		7.50	10- 150	H	B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-PFTeDA		IS		74.5	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
d5-EtFOSA		IS		5.90	10- 150	H	B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-PFHxDA		IS		61.5	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
d7-MeFOSE		IS		11.5	10- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
d9-EtFOSE		IS		12.9	10- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1

Sample ID: Method Blank					PFAS Isotope Dilution Method					
Client Data				Laboratory Data						
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	B0G0133-BLK1	Column:	BEH C18			
Project:	MSN FFTA Samples									
Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.729	0.729	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFPeA	2706-90-3	<1.28	1.28	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFBS	375-73-5	<1.79	1.79	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
4:2 FTS	757124-72-4	<1.39	1.39	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFHxA	307-24-4	<2.18	2.18	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFPeS	2706-91-4	<2.42	2.42	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
HFPO-DA	13252-13-6	<4.82	4.82	5.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFHpA	375-85-9	<0.591	0.591	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
ADONA	919005-14-4	<0.722	0.722	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFHxS	355-46-4	<0.947	0.947	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
6:2 FTS	27619-97-2	<2.00	2.00	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFOA	335-67-1	<0.651	0.651	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFHpS	375-92-8	<0.937	0.937	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFNA	375-95-1	<0.810	0.810	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFOSA	754-91-6	<1.77	1.77	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFOS	1763-23-1	<0.807	0.807	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
9Cl-PF3ONS	756426-58-1	<1.45	1.45	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFDA	335-76-2	<1.49	1.49	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
8:2 FTS	39108-34-4	<2.06	2.06	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFNS	68259-12-1	<3.87	3.87	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
MeFOSAA	2355-31-9	<1.65	1.65	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
EtFOSAA	2991-50-6	<1.37	1.37	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFUnA	2058-94-8	<1.05	1.05	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFDS	335-77-3	<1.23	1.23	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
11Cl-PF3OUdS	763051-92-9	<2.41	2.41	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
10:2 FTS	120226-60-0	<3.13	3.13	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFDoA	307-55-1	<0.792	0.792	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
MeFOSA	31506-32-8	<3.83	3.83	20.0		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFTrDA	72629-94-8	<0.494	0.494	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFDoS	79780-39-5	<4.17	4.17	5.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFTeDA	376-06-7	<0.755	0.755	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
EtFOSA	4151-50-2	<5.11	5.11	20.0		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFHxDA	67905-19-5	<0.294	0.294	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFODA	16517-11-6	<6.14	6.14	7.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
MeFOSE	24448-09-7	<6.07	6.07	20.0		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
EtFOSE	1691-99-2	<9.44	9.44	20.0		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C3-PFBA	IS	53.1	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1	

Sample ID: Method Blank **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	B0G0133-BLK1	Column:	BEH C18
Project:	MSN FFTA Samples						

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	68.1	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C3-PFBS	IS	73.4	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C3-HFPO-DA	IS	69.6	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C2-4:2 FTS	IS	84.0	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C2-PFHxA	IS	72.2	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C4-PFHpA	IS	73.4	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C3-PFHxS	IS	75.2	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C2-6:2 FTS	IS	65.8	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C5-PFNA	IS	69.6	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C8-PFOA	IS	28.9	10 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C2-PFOA	IS	74.9	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C8-PFOS	IS	73.7	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C2-PFDA	IS	65.2	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C2-8:2 FTS	IS	89.6	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
d3-MeFOSAA	IS	56.7	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C2-PFUnA	IS	67.8	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
d5-EtFOSAA	IS	52.9	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C2-10:2 FTS	IS	74.6	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C2-PFDoA	IS	59.0	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
d3-MeFOSA	IS	9.50	10 - 150	H	B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C2-PFTeDA	IS	55.8	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
d5-EtFOSA	IS	8.50	10 - 150	H	B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C2-PFHxDA	IS	49.0	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
d7-MeFOSE	IS	20.8	10 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
d9-EtFOSE	IS	24.1	10 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: OPR

PFAS Isotope Dilution Method

Client Data					Laboratory Data							
Name:	LimnoTech, Inc.	Matrix:	Aqueous		Lab Sample:	B0G0133-BS1	Column:	BEH C18				
Project:	MSN FFTA Samples											

Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	7.56	8.00	94.5	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFPeA	2706-90-3	7.54	8.00	94.2	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFBS	375-73-5	7.92	8.00	99.0	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
4:2 FTS	757124-72-4	7.62	8.00	95.3	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFHxA	307-24-4	7.92	8.00	99.0	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFPeS	2706-91-4	9.00	8.00	112	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
HFPO-DA	13252-13-6	6.32	8.00	79.0	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFHpA	375-85-9	8.80	8.00	110	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
ADONA	919005-14-4	7.03	8.00	87.9	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFHxS	355-46-4	5.71	8.00	71.4	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
6:2 FTS	27619-97-2	8.41	8.00	105	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFOA	335-67-1	8.22	8.00	103	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFHpS	375-92-8	9.65	8.00	121	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFNA	375-95-1	7.74	8.00	96.7	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFOSA	754-91-6	8.71	8.00	109	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFOS	1763-23-1	7.04	8.00	88.0	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
9Cl-PF3ONS	756426-58-1	7.30	8.00	91.3	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFDA	335-76-2	9.39	8.00	117	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
8:2 FTS	39108-34-4	7.79	8.00	97.4	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFNS	68259-12-1	7.01	8.00	87.6	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
MeFOSAA	2355-31-9	8.75	8.00	109	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
EtFOSAA	2991-50-6	6.91	8.00	86.4	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFUnA	2058-94-8	8.11	8.00	101	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFDS	335-77-3	6.95	8.00	86.9	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
11Cl-PF3OUdS	763051-92-9	9.41	8.00	118	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
10:2 FTS	120226-60-0	10.1	8.00	126	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFDoA	307-55-1	8.12	8.00	101	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
MeFOSA	31506-32-8	51.6	40.0	129	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFTTrDA	72629-94-8	9.11	8.00	114	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFDoS	79780-39-5	8.12	8.00	102	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFTTeDA	376-06-7	8.70	8.00	109	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
EtFOSA	4151-50-2	39.4	40.0	98.6	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFHxDA	67905-19-5	8.20	8.00	102	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFODA	16517-11-6	6.24	8.00	78.0	50 - 150	J	B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1

Sample ID: OPR

PFAS Isotope Dilution Method

Client Data					Laboratory Data						
Name:	LimnoTech, Inc.	Matrix:	Aqueous		Lab Sample:	B0G0133-BS1	Column:	BEH C18			
Project:	MSN FFTA Samples										

Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
MeFOSE	24448-09-7	54.3	40.0	136	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
EtFOSE	1691-99-2	26.7	40.0	66.8	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
Labeled Standards		Type		% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA		IS		87.8	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C3-PFPeA		IS		71.5	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C3-PFBS		IS		74.0	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C3-HFPO-DA		IS		70.6	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C2-4:2 FTS		IS		73.4	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C2-PFHxA		IS		68.4	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C4-PFHpA		IS		74.2	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C3-PFHxS		IS		78.0	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C2-6:2 FTS		IS		72.2	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C5-PFNA		IS		67.5	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C8-PFOSA		IS		29.7	10- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C2-PFOA		IS		74.4	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C8-PFOS		IS		69.2	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C2-PFDA		IS		61.4	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C2-8:2 FTS		IS		75.8	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
d3-MeFOSAA		IS		55.5	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C2-PFUnA		IS		63.9	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
d5-EtFOSAA		IS		56.7	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C2-10:2 FTS		IS		43.9	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C2-PFDoA		IS		52.4	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
d3-MeFOSA		IS		10.3	10- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C2-PFTeDA		IS		52.0	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
d5-EtFOSA		IS		10.8	10- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C2-PFHxDA		IS		42.2	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
d7-MeFOSE		IS		22.6	10- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
d9-EtFOSE		IS		25.2	10- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1

Sample ID: SBT20-01-GW
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001473-02	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 11:35	Date Received:	14-Jul-20 09:11		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	298	0.775	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
PFPeA	2706-90-3	800	1.36	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
PFBS	375-73-5	377	1.90	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
4:2 FTS	757124-72-4	<1.48	1.48	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
PFHxA	307-24-4	3020	2.32	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
PFPeS	2706-91-4	260	2.57	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
HFPO-DA	13252-13-6	<5.12	5.12	5.31		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
PFHpA	375-85-9	856	0.628	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
ADONA	919005-14-4	<0.767	0.767	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
PFHxS	355-46-4	8530	5.03	21.3	D	B0G0132	17-Jul-20	0.118 L	23-Jul-20 17:36	5
6:2 FTS	27619-97-2	378	2.13	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
PFOA	335-67-1	67300	34.6	213	D	B0G0132	17-Jul-20	0.118 L	27-Jul-20 11:14	50
PFHpS	375-92-8	1740	0.996	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
PFNA	375-95-1	301	0.861	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
PFOSA	754-91-6	19.4	1.88	4.25	Q	B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
PFOS	1763-23-1	1360	0.858	4.25	Q	B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
9Cl-PF3ONS	756426-58-1	<1.54	1.54	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
PFDA	335-76-2	1.67	1.58	4.25	J	B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
8:2 FTS	39108-34-4	8.61	2.19	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
PFNS	68259-12-1	<4.11	4.11	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
MeFOSAA	2355-31-9	<1.75	1.75	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
EtFOSAA	2991-50-6	<1.46	1.46	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
PFUnA	2058-94-8	<1.12	1.12	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
PFDS	335-77-3	<1.31	1.31	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
11Cl-PF3OUdS	763051-92-9	<2.56	2.56	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
10:2 FTS	120226-60-0	<3.33	3.33	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
PFDoA	307-55-1	<0.842	0.842	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
MeFOSA	31506-32-8	<4.07	4.07	21.3		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
PFTTrDA	72629-94-8	<0.525	0.525	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
PFDoS	79780-39-5	<4.43	4.43	5.31		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
PFTeDA	376-06-7	<0.803	0.803	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
EtFOSA	4151-50-2	<5.43	5.43	21.3		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
PFHxDA	67905-19-5	<0.313	0.313	4.25		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
PFODA	16517-11-6	<6.53	6.53	7.44		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
MeFOSE	24448-09-7	<6.45	6.45	21.3		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
EtFOSE	1691-99-2	<10.0	10.0	21.3		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	99.6	25 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1

Sample ID: SBT20-01-GW **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001473-02	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 11:35	Date Received:	14-Jul-20 09:11		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	92.3	25 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
13C3-PFBS	IS	85.5	25 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
13C3-HFPO-DA	IS	88.8	25 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
13C2-4:2 FTS	IS	96.1	25 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
13C2-PFHxA	IS	76.6	25 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
13C4-PFHpA	IS	88.5	25 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
13C3-PFHxS	IS	81.5	25 - 150	D	B0G0132	17-Jul-20	0.118 L	23-Jul-20 17:36	5
13C2-6:2 FTS	IS	74.0	25 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
13C5-PFNA	IS	83.8	25 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
13C8-PFOA	IS	67.6	10 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
13C2-PFOA	IS	137	25 - 150	D	B0G0132	17-Jul-20	0.118 L	27-Jul-20 11:14	50
13C8-PFOS	IS	92.4	25 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
13C2-PFDA	IS	92.1	25 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
13C2-8:2 FTS	IS	88.0	25 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
d3-MeFOSAA	IS	83.7	25 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
13C2-PFUnA	IS	85.7	25 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
d5-EtFOSAA	IS	84.0	25 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
13C2-10:2 FTS	IS	81.8	25 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
13C2-PFDoA	IS	99.6	25 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
d3-MeFOSA	IS	28.5	10 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
13C2-PFTeDA	IS	80.7	25 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
d5-EtFOSA	IS	23.2	10 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
13C2-PFHxDA	IS	64.0	25 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
d7-MeFOSE	IS	49.0	10 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1
d9-EtFOSE	IS	54.0	10 - 150		B0G0132	17-Jul-20	0.118 L	22-Jul-20 14:04	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBT20-05-GW
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001473-06	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 12:55	Date Received:	14-Jul-20 09:11		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	50.6	0.812	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
PFPeA	2706-90-3	104	1.43	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
PFBS	375-73-5	95.9	1.99	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
4:2 FTS	757124-72-4	<1.55	1.55	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
PFHxA	307-24-4	349	2.43	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
PFPeS	2706-91-4	106	2.70	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
HFPO-DA	13252-13-6	<5.37	5.37	5.57		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
PFHpA	375-85-9	81.7	0.658	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
ADONA	919005-14-4	<0.804	0.804	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
PFHxS	355-46-4	4740	5.27	22.3	D	B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:46	5
6:2 FTS	27619-97-2	8.35	2.23	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
PFOA	335-67-1	1090	0.725	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
PFHpS	375-92-8	66.1	1.04	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
PFNA	375-95-1	143	0.902	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
PFOSA	754-91-6	10.9	1.97	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
PFOS	1763-23-1	1900	0.899	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
9Cl-PF3ONS	756426-58-1	<1.62	1.62	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
PFDA	335-76-2	1.71	1.66	4.46	J	B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
8:2 FTS	39108-34-4	53.6	2.29	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
PFNS	68259-12-1	<4.31	4.31	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
MeFOSAA	2355-31-9	<1.84	1.84	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
EtFOSAA	2991-50-6	<1.53	1.53	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
PFUnA	2058-94-8	<1.17	1.17	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
PFDS	335-77-3	<1.37	1.37	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
11Cl-PF3OUdS	763051-92-9	<2.68	2.68	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
10:2 FTS	120226-60-0	<3.49	3.49	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
PFDoA	307-55-1	<0.882	0.882	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
MeFOSA	31506-32-8	<4.27	4.27	22.3		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
PFTTrDA	72629-94-8	<0.550	0.550	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
PFDoS	79780-39-5	<4.64	4.64	5.57		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
PFTeDA	376-06-7	<0.841	0.841	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
EtFOSA	4151-50-2	<5.69	5.69	22.3		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
PFHxDA	67905-19-5	<0.327	0.327	4.46		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
PFODA	16517-11-6	<6.84	6.84	7.80		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
MeFOSE	24448-09-7	<6.76	6.76	22.3		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
EtFOSE	1691-99-2	<10.5	10.5	22.3		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	120	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1

Sample ID: SBT20-05-GW **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001473-06	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 12:55	Date Received:	14-Jul-20 09:11		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	84.0	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
13C3-PFBS	IS	93.1	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
13C3-HFPO-DA	IS	79.5	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
13C2-4:2 FTS	IS	83.4	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
13C2-PFHxA	IS	80.6	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
13C4-PFHpA	IS	84.2	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
13C3-PFHxS	IS	81.5	25 - 150	D	B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:46	5
13C2-6:2 FTS	IS	89.1	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
13C5-PFNA	IS	76.7	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
13C8-PFOA	IS	47.7	10 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
13C2-PFOA	IS	83.1	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
13C8-PFOS	IS	87.8	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
13C2-PFDA	IS	82.8	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
13C2-8:2 FTS	IS	82.6	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
d3-MeFOSAA	IS	81.5	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
13C2-PFUnA	IS	76.3	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
d5-EtFOSAA	IS	74.4	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
13C2-10:2 FTS	IS	60.4	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
13C2-PFDoA	IS	69.9	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
d3-MeFOSA	IS	13.0	10 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
13C2-PFTeDA	IS	55.9	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
d5-EtFOSA	IS	10.6	10 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
13C2-PFHxDA	IS	48.5	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
d7-MeFOSE	IS	33.0	10 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1
d9-EtFOSE	IS	41.2	10 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 17:57	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBT20-02-GW
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001473-08	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 13:10	Date Received:	14-Jul-20 09:11		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	113	0.789	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
PFPeA	2706-90-3	213	1.39	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
PFBS	375-73-5	37.2	1.94	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
4:2 FTS	757124-72-4	<1.50	1.50	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
PFHxA	307-24-4	132	2.36	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
PFPeS	2706-91-4	48.2	2.62	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
HFPO-DA	13252-13-6	<5.22	5.22	5.41		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
PFHpA	375-85-9	117	0.640	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
ADONA	919005-14-4	<0.782	0.782	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
PFHxS	355-46-4	1690	1.03	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
6:2 FTS	27619-97-2	<2.16	2.16	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
PFOA	335-67-1	11300	3.52	21.6	D	B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:17	5
PFHpS	375-92-8	31.3	1.01	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
PFNA	375-95-1	31.9	0.877	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
PFOSA	754-91-6	4.99	1.92	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
PFOS	1763-23-1	559	0.874	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
9Cl-PF3ONS	756426-58-1	<1.57	1.57	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
PFDA	335-76-2	<1.61	1.61	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
8:2 FTS	39108-34-4	<2.23	2.23	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
PFNS	68259-12-1	<4.19	4.19	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
MeFOSAA	2355-31-9	<1.79	1.79	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
EtFOSAA	2991-50-6	<1.48	1.48	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
PFUnA	2058-94-8	<1.14	1.14	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
PFDS	335-77-3	<1.33	1.33	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
11Cl-PF3OUdS	763051-92-9	<2.61	2.61	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
10:2 FTS	120226-60-0	<3.39	3.39	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
PFDoA	307-55-1	<0.857	0.857	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
MeFOSA	31506-32-8	<4.15	4.15	21.6		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
PFTTrDA	72629-94-8	<0.535	0.535	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
PFDoS	79780-39-5	<4.51	4.51	5.41		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
PFTeDA	376-06-7	<0.817	0.817	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
EtFOSA	4151-50-2	<5.53	5.53	21.6		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
PFHxDA	67905-19-5	<0.318	0.318	4.33		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
PFODA	16517-11-6	<6.65	6.65	7.58		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
MeFOSE	24448-09-7	<6.57	6.57	21.6		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
EtFOSE	1691-99-2	<10.2	10.2	21.6		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C3-PFBA	IS	82.9	25 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1	

Sample ID: SBT20-02-GW **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001473-08	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 13:10	Date Received:	14-Jul-20 09:11		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	93.1	25 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
13C3-PFBS	IS	98.4	25 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
13C3-HFPO-DA	IS	95.5	25 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
13C2-4:2 FTS	IS	88.2	25 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
13C2-PFHxA	IS	93.6	25 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
13C4-PFHpA	IS	91.2	25 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
13C3-PFHxS	IS	82.7	25 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
13C2-6:2 FTS	IS	99.1	25 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
13C5-PFNA	IS	86.0	25 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
13C8-PFOA	IS	75.4	10 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
13C2-PFOA	IS	107	25 - 150	D	B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:17	5
13C8-PFOS	IS	108	25 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
13C2-PFDA	IS	88.8	25 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
13C2-8:2 FTS	IS	93.5	25 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
d3-MeFOSAA	IS	90.8	25 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
13C2-PFUnA	IS	84.7	25 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
d5-EtFOSAA	IS	84.4	25 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
13C2-10:2 FTS	IS	83.8	25 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
13C2-PFDoA	IS	80.6	25 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
d3-MeFOSA	IS	38.2	10 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
13C2-PFTeDA	IS	74.0	25 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
d5-EtFOSA	IS	30.1	10 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
13C2-PFHxDA	IS	70.0	25 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
d7-MeFOSE	IS	43.4	10 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1
d9-EtFOSE	IS	47.9	10 - 150		B0G0132	17-Jul-20	0.115 L	23-Jul-20 18:28	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBT20-04-GW
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001473-09	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 13:35	Date Received:	14-Jul-20 09:11		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	9.25	0.727	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
PFPeA	2706-90-3	34.3	1.28	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
PFBS	375-73-5	14.1	1.79	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
4:2 FTS	757124-72-4	<1.39	1.39	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
PFHxA	307-24-4	31.0	2.17	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
PFPeS	2706-91-4	5.67	2.41	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
HFPO-DA	13252-13-6	<4.81	4.81	4.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
PFHpA	375-85-9	13.4	0.590	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
ADONA	919005-14-4	<0.720	0.720	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
PFHxS	355-46-4	228	0.945	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
6:2 FTS	27619-97-2	<2.00	2.00	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
PFOA	335-67-1	54.9	0.649	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
PFHpS	375-92-8	2.29	0.935	3.99	J, Q	B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
PFNA	375-95-1	13.5	0.808	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
PFOSA	754-91-6	2.01	1.77	3.99	J	B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
PFOS	1763-23-1	193	0.805	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
9Cl-PF3ONS	756426-58-1	<1.45	1.45	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
PFDA	335-76-2	7.53	1.49	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
8:2 FTS	39108-34-4	<2.06	2.06	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
PFNS	68259-12-1	<3.86	3.86	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
MeFOSAA	2355-31-9	<1.65	1.65	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
EtFOSAA	2991-50-6	<1.37	1.37	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
PFUnA	2058-94-8	<1.05	1.05	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
PFDS	335-77-3	<1.23	1.23	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
11Cl-PF3OUdS	763051-92-9	<2.40	2.40	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
10:2 FTS	120226-60-0	<3.12	3.12	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
PFDoA	307-55-1	<0.790	0.790	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
MeFOSA	31506-32-8	<3.82	3.82	20.0		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
PFTrDA	72629-94-8	<0.493	0.493	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
PFDoS	79780-39-5	<4.16	4.16	4.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
PFTeDA	376-06-7	<0.753	0.753	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
EtFOSA	4151-50-2	<5.10	5.10	20.0		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
PFHxDA	67905-19-5	<0.293	0.293	3.99		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
PFODA	16517-11-6	<6.13	6.13	6.98		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
MeFOSE	24448-09-7	<6.06	6.06	20.0		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
EtFOSE	1691-99-2	<9.42	9.42	20.0		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	110	25 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1

Sample ID: SBT20-04-GW **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001473-09	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 13:35	Date Received:	14-Jul-20 09:11		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	83.5	25 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
13C3-PFBS	IS	95.3	25 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
13C3-HFPO-DA	IS	85.7	25 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
13C2-4:2 FTS	IS	82.6	25 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
13C2-PFHxA	IS	87.3	25 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
13C4-PFHpA	IS	78.8	25 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
13C3-PFHxS	IS	89.7	25 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
13C2-6:2 FTS	IS	86.9	25 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
13C5-PFNA	IS	75.5	25 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
13C8-PFOA	IS	58.6	10 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
13C2-PFOA	IS	86.8	25 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
13C8-PFOS	IS	90.5	25 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
13C2-PFDA	IS	82.6	25 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
13C2-8:2 FTS	IS	76.9	25 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
d3-MeFOSAA	IS	79.6	25 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
13C2-PFUnA	IS	72.1	25 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
d5-EtFOSAA	IS	72.3	25 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
13C2-10:2 FTS	IS	55.9	25 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
13C2-PFDoA	IS	59.4	25 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
d3-MeFOSA	IS	17.9	10 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
13C2-PFTeDA	IS	28.4	25 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
d5-EtFOSA	IS	11.7	10 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
13C2-PFHxDA	IS	19.5	25 - 150	H	B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
d7-MeFOSE	IS	26.8	10 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1
d9-EtFOSE	IS	26.0	10 - 150		B0G0132	17-Jul-20	0.125 L	23-Jul-20 18:48	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: EQUIPMENT BLANK A
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001473-12	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 08:40	Date Received:	14-Jul-20 09:11		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.845	0.845	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
PFPeA	2706-90-3	<1.48	1.48	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
PFBS	375-73-5	<2.07	2.07	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
4:2 FTS	757124-72-4	<1.61	1.61	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
PFHxA	307-24-4	<2.53	2.53	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
PFPeS	2706-91-4	<2.80	2.80	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
HFPO-DA	13252-13-6	<5.58	5.58	5.79		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
PFHpA	375-85-9	<0.685	0.685	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
ADONA	919005-14-4	<0.837	0.837	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
PFHxS	355-46-4	<1.10	1.10	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
6:2 FTS	27619-97-2	<2.32	2.32	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
PFOA	335-67-1	<0.754	0.754	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
PFHpS	375-92-8	<1.09	1.09	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
PFNA	375-95-1	<0.938	0.938	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
PFOSA	754-91-6	<2.05	2.05	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
PFOS	1763-23-1	<0.935	0.935	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
9Cl-PF3ONS	756426-58-1	<1.68	1.68	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
PFDA	335-76-2	<1.73	1.73	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
8:2 FTS	39108-34-4	<2.39	2.39	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
PFNS	68259-12-1	<4.48	4.48	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
MeFOSAA	2355-31-9	<1.91	1.91	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
EtFOSAA	2991-50-6	<1.59	1.59	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
PFUnA	2058-94-8	<1.22	1.22	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
PFDS	335-77-3	<1.43	1.43	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
11Cl-PF3OUdS	763051-92-9	<2.79	2.79	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
10:2 FTS	120226-60-0	<3.63	3.63	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
PFDoA	307-55-1	<0.918	0.918	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
MeFOSA	31506-32-8	<4.07	4.07	21.3		B0G0133	25-Jul-20	0.118 L	27-Jul-20 13:19	1
PFTrDA	72629-94-8	<0.572	0.572	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
PFDoS	79780-39-5	<4.83	4.83	5.79		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
PFTeDA	376-06-7	<0.875	0.875	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
EtFOSA	4151-50-2	<5.43	5.43	21.3		B0G0133	25-Jul-20	0.118 L	27-Jul-20 13:19	1
PFHxDA	67905-19-5	<0.341	0.341	4.63		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
PFODA	16517-11-6	<7.11	7.11	8.11		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
MeFOSE	24448-09-7	<7.03	7.03	23.2		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
EtFOSE	1691-99-2	<10.9	10.9	23.2		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C3-PFBA	IS	124	25 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1	

Sample ID: EQUIPMENT BLANK A **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001473-12	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 08:40	Date Received:	14-Jul-20 09:11		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	86.4	25 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
13C3-PFBS	IS	97.3	25 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
13C3-HFPO-DA	IS	90.2	25 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
13C2-4:2 FTS	IS	83.0	25 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
13C2-PFHxA	IS	85.3	25 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
13C4-PFHpA	IS	87.5	25 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
13C3-PFHxS	IS	84.7	25 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
13C2-6:2 FTS	IS	101	25 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
13C5-PFNA	IS	87.5	25 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
13C8-PFOA	IS	42.6	10 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
13C2-PFOA	IS	91.4	25 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
13C8-PFOS	IS	95.5	25 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
13C2-PFDA	IS	89.2	25 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
13C2-8:2 FTS	IS	86.2	25 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
d3-MeFOSAA	IS	83.0	25 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
13C2-PFUnA	IS	80.8	25 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
d5-EtFOSAA	IS	80.3	25 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
13C2-10:2 FTS	IS	64.6	25 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
13C2-PFDoA	IS	75.9	25 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
d3-MeFOSA	IS	12.9	10 - 150		B0G0133	25-Jul-20	0.118 L	27-Jul-20 13:19	1
13C2-PFTeDA	IS	62.5	25 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
d5-EtFOSA	IS	12.7	10 - 150		B0G0133	25-Jul-20	0.118 L	27-Jul-20 13:19	1
13C2-PFHxDA	IS	51.4	25 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
d7-MeFOSE	IS	25.9	10 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1
d9-EtFOSE	IS	24.5	10 - 150		B0G0132	17-Jul-20	0.108 L	23-Jul-20 18:59	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBT20-03-GW
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001473-16	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 09:40	Date Received:	14-Jul-20 09:11		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	1250	0.791	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
PFPeA	2706-90-3	3610	1.39	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
PFBS	375-73-5	1230	1.94	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
4:2 FTS	757124-72-4	<1.51	1.51	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
PFHxA	307-24-4	4280	2.37	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
PFPeS	2706-91-4	771	2.63	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
HFPO-DA	13252-13-6	<5.23	5.23	5.43		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
PFHpA	375-85-9	1090	0.642	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
ADONA	919005-14-4	<0.784	0.784	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
PFHxS	355-46-4	18700	10.3	43.4	D	B0G0132	17-Jul-20	0.115 L	23-Jul-20 19:09	10
6:2 FTS	27619-97-2	24.4	2.17	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
PFOA	335-67-1	7130	7.07	43.4	D	B0G0132	17-Jul-20	0.115 L	23-Jul-20 19:09	10
PFHpS	375-92-8	2460	1.02	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
PFNA	375-95-1	1640	0.879	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
PFOSA	754-91-6	4.04	1.92	4.34	J, Q	B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
PFOS	1763-23-1	1360	0.876	4.34	Q	B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
9Cl-PF3ONS	756426-58-1	<1.57	1.57	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
PFDA	335-76-2	<1.62	1.62	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
8:2 FTS	39108-34-4	<2.24	2.24	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
PFNS	68259-12-1	<4.20	4.20	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
MeFOSAA	2355-31-9	<1.79	1.79	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
EtFOSAA	2991-50-6	<1.49	1.49	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
PFUnA	2058-94-8	<1.14	1.14	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
PFDS	335-77-3	<1.34	1.34	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
11Cl-PF3OUdS	763051-92-9	<2.62	2.62	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
10:2 FTS	120226-60-0	<3.40	3.40	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
PFDoA	307-55-1	<0.860	0.860	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
MeFOSA	31506-32-8	<4.16	4.16	21.7		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
PFTrDA	72629-94-8	<0.536	0.536	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
PFDoS	79780-39-5	<4.53	4.53	5.43		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
PFTeDA	376-06-7	<0.820	0.820	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
EtFOSA	4151-50-2	<5.55	5.55	21.7		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
PFHxDA	67905-19-5	<0.319	0.319	4.34		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
PFODA	16517-11-6	<6.67	6.67	7.60		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
MeFOSE	24448-09-7	<6.59	6.59	21.7		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
EtFOSE	1691-99-2	<10.2	10.2	21.7		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C3-PFBA	IS	111	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1	

Sample ID: SBT20-03-GW **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001473-16	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 09:40	Date Received:	14-Jul-20 09:11		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	86.1	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
13C3-PFBS	IS	86.0	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
13C3-HFPO-DA	IS	80.2	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
13C2-4:2 FTS	IS	93.5	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
13C2-PFHxA	IS	76.5	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
13C4-PFHpA	IS	84.7	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
13C3-PFHxS	IS	110	25 - 150	D	B0G0132	17-Jul-20	0.115 L	23-Jul-20 19:09	10
13C2-6:2 FTS	IS	82.6	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
13C5-PFNA	IS	78.1	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
13C8-PFOA	IS	54.7	10 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
13C2-PFOA	IS	139	25 - 150	D	B0G0132	17-Jul-20	0.115 L	23-Jul-20 19:09	10
13C8-PFOS	IS	84.9	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
13C2-PFDA	IS	97.4	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
13C2-8:2 FTS	IS	82.3	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
d3-MeFOSAA	IS	79.1	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
13C2-PFUnA	IS	87.5	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
d5-EtFOSAA	IS	81.3	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
13C2-10:2 FTS	IS	88.3	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
13C2-PFDoA	IS	92.6	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
d3-MeFOSA	IS	21.2	10 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
13C2-PFTeDA	IS	69.3	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
d5-EtFOSA	IS	16.1	10 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
13C2-PFHxDA	IS	66.7	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
d7-MeFOSE	IS	45.5	10 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1
d9-EtFOSE	IS	45.4	10 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 14:56	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBT20-06-GW
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001473-19	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 10:40	Date Received:	14-Jul-20 09:11		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	16100	12.2	66.7	D	B0G0132	17-Jul-20	0.112 L	23-Jul-20 20:12	15
PFPeA	2706-90-3	43000	21.4	66.7	D	B0G0132	17-Jul-20	0.112 L	23-Jul-20 20:12	15
PFBS	375-73-5	20200	29.9	66.7	D	B0G0132	17-Jul-20	0.112 L	23-Jul-20 20:12	15
4:2 FTS	757124-72-4	194	1.55	4.45		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
PFHxA	307-24-4	53800	84.9	156	D	B0G0132	17-Jul-20	0.112 L	23-Jul-20 19:30	35
PFPeS	2706-91-4	23700	40.4	66.7	D	B0G0132	17-Jul-20	0.112 L	23-Jul-20 20:12	15
HFPO-DA	13252-13-6	<5.36	5.36	5.56		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
PFHpA	375-85-9	26200	23.0	156	D	B0G0132	17-Jul-20	0.112 L	23-Jul-20 19:30	35
ADONA	919005-14-4	<0.803	0.803	4.45		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
PFHxS	355-46-4	79900	36.9	156	D	B0G0132	17-Jul-20	0.112 L	23-Jul-20 19:30	35
6:2 FTS	27619-97-2	5880	33.4	66.7	D	B0G0132	17-Jul-20	0.112 L	23-Jul-20 20:12	15
PFOA	335-67-1	65300	25.3	156	D	B0G0132	17-Jul-20	0.112 L	23-Jul-20 19:30	35
PFHpS	375-92-8	104	1.04	4.45		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
PFNA	375-95-1	3.98	0.901	4.45	J	B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
PFOSA	754-91-6	10.3	1.97	4.45		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
PFOS	1763-23-1	230	0.898	4.45		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
9Cl-PF3ONS	756426-58-1	<1.61	1.61	4.45		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
PFDA	335-76-2	<1.66	1.66	4.45		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
8:2 FTS	39108-34-4	34.9	2.29	4.45		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
PFNS	68259-12-1	<4.30	4.30	4.45		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
MeFOSAA	2355-31-9	<1.84	1.84	4.45		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
EtFOSAA	2991-50-6	<1.52	1.52	4.45		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
PFUnA	2058-94-8	<1.17	1.17	4.45		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
PFDS	335-77-3	<1.37	1.37	4.45		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
11Cl-PF3OUdS	763051-92-9	<2.68	2.68	4.45		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
10:2 FTS	120226-60-0	<3.48	3.48	4.45		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
PFDoA	307-55-1	<0.881	0.881	4.45		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
MeFOSA	31506-32-8	<4.26	4.26	22.2		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
PFTrDA	72629-94-8	<0.549	0.549	4.45		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
PFDoS	79780-39-5	<4.64	4.64	5.56		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
PFTeDA	376-06-7	<0.840	0.840	4.45		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
EtFOSA	4151-50-2	<5.68	5.68	22.2		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
PFHxDA	67905-19-5	<0.327	0.327	4.45		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
PFODA	16517-11-6	<6.83	6.83	7.79		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
MeFOSE	24448-09-7	<6.75	6.75	22.2		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
EtFOSE	1691-99-2	<10.5	10.5	22.2		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	72.0	25 - 150		D	B0G0132	17-Jul-20	0.112 L	23-Jul-20 20:12	15

Sample ID: SBT20-06-GW **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001473-19	Column:	BEH C18
Project:	MSN FFTA Samples	Date Collected:	07-Jul-20 10:40	Date Received:	14-Jul-20 09:11		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	70.5	25 - 150	D	B0G0132	17-Jul-20	0.112 L	23-Jul-20 20:12	15
13C3-PFBS	IS	76.5	25 - 150	D	B0G0132	17-Jul-20	0.112 L	23-Jul-20 20:12	15
13C3-HFPO-DA	IS	64.4	25 - 150		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
13C2-4:2 FTS	IS	71.2	25 - 150		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
13C2-PFHxA	IS	137	25 - 150	D	B0G0132	17-Jul-20	0.112 L	23-Jul-20 19:30	35
13C4-PFHpA	IS	84.0	25 - 150	D	B0G0132	17-Jul-20	0.112 L	23-Jul-20 19:30	35
13C3-PFHxS	IS	66.5	25 - 150	D	B0G0132	17-Jul-20	0.112 L	23-Jul-20 19:30	35
13C2-6:2 FTS	IS	129	25 - 150	D	B0G0132	17-Jul-20	0.112 L	23-Jul-20 20:12	15
13C5-PFNA	IS	94.9	25 - 150		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
13C8-PFOA	IS	71.5	10 - 150		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
13C2-PFOA	IS	126	25 - 150	D	B0G0132	17-Jul-20	0.112 L	23-Jul-20 19:30	35
13C8-PFOS	IS	87.0	25 - 150		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
13C2-PFDA	IS	99.7	25 - 150		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
13C2-8:2 FTS	IS	94.9	25 - 150		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
d3-MeFOSAA	IS	86.5	25 - 150		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
13C2-PFUnA	IS	91.1	25 - 150		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
d5-EtFOSAA	IS	88.6	25 - 150		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
13C2-10:2 FTS	IS	86.0	25 - 150		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
13C2-PFDoA	IS	102	25 - 150		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
d3-MeFOSA	IS	22.4	10 - 150		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
13C2-PFTeDA	IS	82.8	25 - 150		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
d5-EtFOSA	IS	20.9	10 - 150		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
13C2-PFHxDA	IS	71.1	25 - 150		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
d7-MeFOSE	IS	51.9	10 - 150		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1
d9-EtFOSE	IS	59.2	10 - 150		B0G0132	17-Jul-20	0.112 L	22-Jul-20 15:06	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
CRS	Cleanup Recovery Standard
D	Dilution
DL	Detection Limit
E	The associated compound concentration exceeded the calibration range of the instrument
H	Recovery and/or RPD was outside laboratory acceptance limits
I	Chemical Interference
IS	Internal Standard
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limit of Detection
LOQ	Limit of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
MDL	Method Detection Limit
NA	Not applicable
ND	Not Detected
OPR	Ongoing Precision and Recovery sample
P	The reported concentration may include contribution from chlorinated diphenyl ether(s).
Q	The ion transition ratio is outside of the acceptance criteria.
RL	Reporting Limit
TEQ	Toxic Equivalency
U	Not Detected (specific projects only)
*	See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Vista Analytical Laboratory Certifications

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	19-013-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-23
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2018017
Massachusetts Department of Environmental Protection	N/A
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	1521520
New Hampshire Environmental Accreditation Program	207718-B
New Jersey Department of Environmental Protection	190001
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-010
Pennsylvania Department of Environmental Protection	016
Texas Commission on Environmental Quality	T104704189-19-10
Vermont Department of Health	VT-4042
Virginia Department of General Services	10272
Washington Department of Ecology	C584-19
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	Method
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA 23
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA TO-9A

MATRIX: Biological Tissue	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	Method
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613/1613B
1,4-Dioxane (1,4-Diethyleneoxide) analysis by GC/HRMS	EPA 522
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	ISO 25101 2009

MATRIX: Non-Potable Water	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	Method
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A



CHAIN OF CUSTODY

For Laboratory Use Only
 Work Order #: 2001473 Temp: 1.4 °C
 Storage ID: R-13, WR-2 Storage Secured: Yes No

Project ID: MSN FFTA SAMPLES PO#: MSNPF1 Sampler: C. Behrke
 (name)

TAT Standard: 21 days
 (check one): Rush (surcharge may apply)
 14 days 7 days Specify: _____

Relinquished by (printed name and signature) [Signature] Date 7/13/20 Time 1300 Received by (printed name and signature) William R Wright [Signature] Date 07/14/20 Time 09:11

Relinquished by (printed name and signature) _____ Date _____ Time _____ Received by (printed name and signature) _____ Date _____ Time _____

SHIP TO: Vista Analytical Laboratory
 1104 Windfield Way
 El Dorado Hills, CA 95762
 (916) 673-1520 * Fax (916) 673-0106

Method of Shipment: _____
 Tracking No.: _____

ATTN: _____

Add Analysis(es) Requested

Container(s) _____

PFAS by Isotope Dilution _____

EPA Method 537 (DW only) _____

Sample ID	Date	Time	Location/ Sample Description	Quantity	Type	Matrix	PFOA/ PFOS	UCMR3 PFAS List:6	537.1 List: 14 or 18 (Circle One)	EPA Draft List of 24	OTHER: Please attach analyte list	PFOA/ PFOS	UCMR3 PFAS List:6	537.1 List of 14	537.1 List of 18	Comments
SBT20-01 (10.5-11)	7/7/20	1100		1	PJ	SO					*					
SBT20-01-GW	7/7/20	1135		2	P	AQ					*					* WISCONSIN PFAS LIST
SBT20-05-(0.5-1)	7/7/20	1145		1	PJ	SO					*					
SBT20-05(10.5-11)	7/7/20	1210		1	PJ	SO					*					
SBT20-04(0.5-1)	7/7/20	1220		1	PJ	SO					*					
SBT20-05-GW	7/7/20	1255		2	P	AQ					*					
SBT20-04(6-6.5)	7/7/20	1230		1	PJ	SO					*					
SBT20-02-GW	7/7/20	1310		2	P	AQ					*					
SBT20-04-GW	7/7/20	1335		2	P	AQ					*					
SIBIL DUPLICATE A	7/7/20	—		1	PJ	SO					*					

Special Instructions/Comments: _____

SEND DOCUMENTATION AND RESULTS TO:

Name: CHRIS CIECIEK
 Company: LIMNOECH
 Address: 501 AVIS DRIVE
 City: ANN ARBOR MI 48108
 Phone: 734 332 1200
 Email: CCIECIK@LIMNOE.COM

Container Types: P= HDPE, PJ= HDPE Jar
 PY= Polypropylene, O = Other: _____

Bottle Preservation Type:
 TZ = Trizma: _____

Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment,
 SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other: _____



CHAIN OF CUSTODY

For Laboratory Use Only
 Work Order #: 2001473 Temp: 1.4 °C
 Storage ID: R-13, WR-2 Storage Secured: Yes No

Project ID: MSN FFTA SAMPLES PO#: MSNPF1 Sampler: C. Behnke
 (name)

TAT Standard: 21 days
 (check one): Rush (surcharge may apply)
 14 days 7 days Specify: _____

[Signature] 7/12/20 1300 William R. Wright William R. Wright 07/14/2020 09:11
 Relinquished by (printed name and signature) Date Time Received by (printed name and signature) Date Time

Relinquished by (printed name and signature) Date Time Received by (printed name and signature) Date Time

SHIP TO: Vista Analytical Laboratory
 1104 Windfield Way
 El Dorado Hills, CA 95762
 (916) 673-1520 * Fax (916) 673-0106

Method of Shipment: _____
 Tracking No.: _____

ATTN: _____

Add Analysis(es) Requested

Container(s)

PFAS by Isotope Dilution

EPA Method 537 (DW only)

OTHER: Please attach analyte list

PFOA/PFOS UCMR3 PFAS List: 14 or 18 (Circle One)

PFOA/PFOS UCMR3 PFAS List: 6

537.1 List: 14 or 18

537.1 List of 24

Sample ID	Date	Time	Location/ Sample Description	Quantity	Type	Matrix	PFOA/PFOS	UCMR3 PFAS List: 6	537.1 List: 14 or 18 (Circle One)	EPA Draft List of 24	OTHER: Please attach analyte list	PFOA/PFOS	UCMR3 PFAS List: 6	537.1 List of 14	537.1 List of 18	Comments
SBT20-02 (0-1)	7/7/20	0805		1	PJ	SO					*					
EQUIPMENT BLANK A	7/7/20	0840		2	P	AQ					*					* WISCONSIN PFAS LIST
SBT20-02 (10-10.5)	7/7/20	0815		1	PJ	SO					*					
SBT20-03 (0-1)	7/7/20	0850		1	PJ	SO					*					
SBT20-03 (10-10.5)	7/7/20	0905		1	PJ	SO					*					
SBT20-03 - GW	7/7/20	0940		2	P	AQ					*					
SBT20-06 (0-1)	7/7/20	1000		1	PJ	SO					*					
SBT20-06 (13-13.5)	7/7/20	1010		1	PJ	SO					*					
SBT20-06 - GW	7/7/20	1040		2	P	AQ					*					
SBT20-01 (0.5-1)	7/7/20	1050		1	PJ	SO					*					

Special Instructions/Comments: _____

Name: CHRIS CIECIK
 Company: LIMNOTECH
 Address: 501 AVIS DRIVE
 City: ANN ARBOR MI 48108
 Phone: 734 332 1200
 Email: CCIECIK@LIMNO.COM

SEND DOCUMENTATION AND RESULTS TO:

Container Types: P= HDPE, PJ= HDPE Jar
 PY= Polypropylene, O = Other: _____

Bottle Preservation Type:
 TZ = Trizma: _____

Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment,
 SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other: _____

Sample Log-In Checklist

 Page # 1 of 1

 Vista Work Order #: 2001473 TAT std

Samples Arrival:	Date/Time <u>07/14/20 09:11</u>		Initials: <u>Wew</u>		Location: <u>UR-2</u>		
	Shelf/Rack: <u>NA</u>						
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> On Trac	<input type="checkbox"/> GLS	<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> Other
Preservation:	<input checked="" type="checkbox"/> Ice		<input type="checkbox"/> Blue Ice		<input type="checkbox"/> Dry Ice		<input type="checkbox"/> None
Temp °C: <u>1.4</u>	(uncorrected)		Probe used: Y / <input checked="" type="checkbox"/> N		Thermometer ID: <u>IR-3</u>		
Temp °C: <u>1.4</u>	(corrected)						

	YES	NO	NA
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Custody Seals Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Airbill <u>3d4</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trk # <u>3947 7925 1814</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Documentation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Container	<input checked="" type="checkbox"/> Vista	<input type="checkbox"/> Client	<input type="checkbox"/> Retain
	<input type="checkbox"/> Return	<input type="checkbox"/> Dispose	
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chain of Custody / Sample Documentation Complete?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Holding Time Acceptable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Logged In:	Date/Time <u>07/14/20 1333</u>		Initials: <u>MUS</u>
	Location: <u>R-13, UR-2</u>		Shelf/Rack: <u>A-2, F-4</u>
COC Anomaly/Sample Acceptance Form completed?			<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>

Comments:

CoC/Label Reconciliation Report WO# 2001473

LabNumber	CoC Sample ID	SampleAlias	Sample Date/Time	Container	BaseMatrix	Sample Comments
2001473-01	A SBT20-01 (10.5-11)	<input checked="" type="checkbox"/>	07-Jul-20 11:00	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid
2001473-02	A SBT20-01-GW	<input checked="" type="checkbox"/>	07-Jul-20 11:35	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001473-02	B SBT20-01-GW	<input checked="" type="checkbox"/>	07-Jul-20 11:35	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001473-03	A SBT20-05-(0.5-1)	<input type="checkbox"/> A	07-Jul-20 11:45	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid
2001473-04	A SBT20-05 (10.5-11)	<input checked="" type="checkbox"/>	07-Jul-20 12:10	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid
2001473-05	A SBT20-04 (0.5-1)	<input checked="" type="checkbox"/>	07-Jul-20 12:20	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid
2001473-06	A SBT20-05-GW	<input checked="" type="checkbox"/>	07-Jul-20 12:55	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001473-06	B SBT20-05-GW	<input checked="" type="checkbox"/>	07-Jul-20 12:55	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001473-07	A SBT20-04 (6-6.5)	<input checked="" type="checkbox"/>	07-Jul-20 12:30	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid
2001473-08	A SBT20-02-GW	<input checked="" type="checkbox"/>	07-Jul-20 13:10	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001473-08	B SBT20-02-GW	<input checked="" type="checkbox"/>	07-Jul-20 13:10	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001473-09	A SBT20-04-GW	<input checked="" type="checkbox"/>	07-Jul-20 13:35	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001473-09	B SBT20-04-GW	<input checked="" type="checkbox"/>	07-Jul-20 13:35	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001473-10	A SOIL DUPLICATE A	<input checked="" type="checkbox"/>	07-Jul-20 00:00	<input type="checkbox"/> B	HDPE Jar, 6 oz	Solid
2001473-11	A SBT20-02 (0-1)	<input checked="" type="checkbox"/>	07-Jul-20 08:05	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid
2001473-12	A EQUIPMENT BLANK A	<input checked="" type="checkbox"/>	07-Jul-20 08:40	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001473-12	B EQUIPMENT BLANK A	<input checked="" type="checkbox"/>	07-Jul-20 08:40	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001473-13	A SBT20-02 (10-10.5)	<input checked="" type="checkbox"/>	07-Jul-20 08:15	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid
2001473-14	A SBT20-03 (0-1)	<input checked="" type="checkbox"/>	07-Jul-20 08:50	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid
2001473-15	A SBT20-03 (10-10.5)	<input checked="" type="checkbox"/>	07-Jul-20 09:05	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid
2001473-16	A SBT20-03-GW	<input checked="" type="checkbox"/>	07-Jul-20 09:40	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001473-16	B SBT20-03-GW	<input checked="" type="checkbox"/>	07-Jul-20 09:40	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001473-17	A SBT20-06 (0-1)	<input checked="" type="checkbox"/>	07-Jul-20 10:00	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid
2001473-18	A SBT20-06 (13-13.5)	<input checked="" type="checkbox"/>	07-Jul-20 10:10	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid
2001473-19	A SBT20-06-GW	<input checked="" type="checkbox"/>	07-Jul-20 10:40	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001473-19	B SBT20-06-GW	<input checked="" type="checkbox"/>	07-Jul-20 10:40	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001473-20	A SBT20-01 (0.5-1)	<input checked="" type="checkbox"/>	07-Jul-20 10:50	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid

Checkmarks indicate that information on the COC reconciled with the sample label.
Any discrepancies are noted in the following columns.

	Yes	No	NA
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Adequate Sample Volume?	✓		
Container Type Appropriate for Analysis(es)	✓		
Preservation Documented: Na2S2O3 Trizma <u>None</u> Other		✓	✓
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

Comments: ① Sample Label
SBT00-05 (0.5-1)

② No time on sample label

All Aqueous samples Except EB contain particulate

Verified by/Date: KA. 07/14/20

August 03, 2020

Vista Work Order No. 2001475

Mr. Chris Cieciek
LimnoTech, Inc.
501 Avis Drive
Ann Arbor, MI 48108

Dear Mr. Cieciek,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on July 14, 2020 under your Project Name 'MSN FFTA SAMPLES'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,



Martha Maier
Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Work Order No. 2001475

Case Narrative

Sample Condition on Receipt:

Seven soil samples and six aqueous samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology. A relinquishing signature was not included on the Chain-of-Custody (CoC).

Analytical Notes:

PFAS Isotope Dilution Method - Solid

The soil samples were extracted and analyzed for a selected list of PFAS using Vista's Isotope Dilution Method. The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above the Reporting Limit (RL). The recoveries of 11Cl-PF3OUdS and PFDoS were greater than 135% in the OPR. These analytes were not detected in the samples. The recoveries of all other analytes were within the acceptance criteria.

The internal standard recoveries outside the acceptance criteria are flagged with an "H" qualifier.

PFAS Isotope Dilution Method - Aqueous

The following samples contained particulate and were centrifuged prior to extraction:

<u>Laboratory ID</u>	<u>Sample Name</u>
2001475-07	SBP20-02-GW
2001475-08	SBP20-03-GW
2001475-12	GW Duplicate A
2001475-13	GW Duplicate B

The aqueous samples were extracted and analyzed for a selected list of PFAS using Vista's PFAS Isotope Dilution Method. The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above the Reporting Limit. The OPR recoveries were within the method acceptance criteria.

The labeled standard recoveries for all QC and field samples were within the acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
2001475-01	SBP20-02 (1-1.5)	07-Jul-20 15:05	14-Jul-20 09:11	HDPE Jar, 6 oz
2001475-02	SBP20-02 (5.5-6)	07-Jul-20 15:15	14-Jul-20 09:11	HDPE Jar, 6 oz
2001475-03	SBP20-03 (1-1.5)	07-Jul-20 15:30	14-Jul-20 09:11	HDPE Jar, 6 oz
2001475-04	SBP20-03 (5-5.5)	07-Jul-20 15:40	14-Jul-20 09:11	HDPE Jar, 6 oz
2001475-05	SBP20-06 (0.5-1)	07-Jul-20 16:00	14-Jul-20 09:11	HDPE Jar, 6 oz
2001475-06	SBP20-06 (7.4-7.9)	07-Jul-20 16:05	14-Jul-20 09:11	HDPE Jar, 6 oz
2001475-07	SBP20-02-GW	07-Jul-20 16:10	14-Jul-20 09:11	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
2001475-08	SBP20-03-GW	07-Jul-20 16:35	14-Jul-20 09:11	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
2001475-09	SBP20-04-(7-7.5)	08-Jul-20 07:40	14-Jul-20 09:11	HDPE Jar, 6 oz
2001475-10	Geoprobe decon blank	08-Jul-20 09:30	14-Jul-20 09:11	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
2001475-11	EQUIPMENT BLANK-070920	09-Jul-20 16:30	14-Jul-20 09:11	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
2001475-12	GW Duplicate A	09-Jul-20 00:00	14-Jul-20 09:11	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
2001475-13	GW Duplicate B	09-Jul-20 00:00	14-Jul-20 09:11	HDPE Bottle, 125 mL HDPE Bottle, 125 mL

ANALYTICAL RESULTS

Sample ID: Method Blank
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Solid	Lab Sample:	B0G0151-BLK1	Column:	BEH C18
Project:	MSN FFTA SAMPLES						

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.346	0.346	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFPeA	2706-90-3	<0.398	0.398	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFBS	375-73-5	<0.304	0.304	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
4:2 FTS	757124-72-4	<0.360	0.360	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFHxA	307-24-4	<0.216	0.216	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFPeS	2706-91-4	<0.658	0.658	1.00		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
HFPO-DA	13252-13-6	<1.18	1.18	1.50		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFHpA	375-85-9	<0.478	0.478	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
ADONA	919005-14-4	<0.340	0.340	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFHxS	355-46-4	<0.390	0.390	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
6:2 FTS	27619-97-2	<0.654	0.654	1.00		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFOA	335-67-1	<0.470	0.470	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFHpS	375-92-8	<0.738	0.738	1.00		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFNA	375-95-1	<0.312	0.312	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFOSA	754-91-6	<1.01	1.01	1.50		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFOS	1763-23-1	<0.430	0.430	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
9Cl-PF3ONS	756426-58-1	<0.370	0.370	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFDA	335-76-2	<0.452	0.452	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
8:2 FTS	39108-34-4	<0.722	0.722	1.00		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFNS	68259-12-1	<1.15	1.15	1.50		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
MeFOSAA	2355-31-9	<0.736	0.736	1.00		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
EtFOSAA	2991-50-6	<0.688	0.688	1.00		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFUnA	2058-94-8	<0.258	0.258	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFDS	335-77-3	<0.690	0.690	1.00		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
11Cl-PF3OUdS	763051-92-9	<0.722	0.722	1.00		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
10:2 FTS	120226-60-0	<1.02	1.02	1.50		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFDoA	307-55-1	<0.404	0.404	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
MeFOSA	31506-32-8	<5.78	5.78	10.0		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFTrDA	72629-94-8	<0.402	0.402	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFDoS	79780-39-5	<0.600	0.600	1.00		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFTeDA	376-06-7	<0.264	0.264	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
EtFOSA	4151-50-2	<3.84	3.84	10.0		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFHxDA	67905-19-5	<0.170	0.170	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFODA	16517-11-6	<0.500	0.500	1.00		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
MeFOSE	24448-09-7	<4.96	4.96	10.0		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
EtFOSE	1691-99-2	<5.38	5.38	10.0		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	109	25 - 150			B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1

Sample ID: Method Blank **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Solid	Lab Sample:	B0G0151-BLK1	Column:	BEH C18
Project:	MSN FFTA SAMPLES						

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	65.3	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C3-PFBS	IS	78.0	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C3-HFPO-DA	IS	57.7	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C2-4:2 FTS	IS	66.1	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C2-PFHxA	IS	66.8	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C4-PFHpA	IS	65.6	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C3-PFHxS	IS	73.6	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C2-6:2 FTS	IS	65.2	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C5-PFNA	IS	59.5	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C8-PFOA	IS	27.4	10 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C2-PFOA	IS	56.7	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C8-PFOS	IS	66.4	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C2-PFDA	IS	50.7	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C2-8:2 FTS	IS	72.5	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
d3-MeFOSAA	IS	48.5	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C2-PFUnA	IS	41.0	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
d5-EtFOSAA	IS	41.1	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C2-10:2 FTS	IS	54.1	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C2-PFDoA	IS	38.9	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
d3-MeFOSA	IS	4.40	10 - 150	H	B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C2-PFTeDA	IS	45.1	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
d5-EtFOSA	IS	4.40	10 - 150	H	B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C2-PFHxDA	IS	32.0	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
d7-MeFOSE	IS	20.5	10 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
d9-EtFOSE	IS	20.1	10 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: OPR

PFAS Isotope Dilution Method

Client Data					Laboratory Data							
Name:	LimnoTech, Inc.	Matrix:	Solid		Lab Sample:	B0G0151-BS1	Column:	BEH C18				
Project:	MSN FFTA SAMPLES											

Analyte	CAS Number	Amt Found (ng/g)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	10.7	10.0	107	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFPeA	2706-90-3	10.3	10.0	103	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFBS	375-73-5	10.7	10.0	107	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
4:2 FTS	757124-72-4	10.2	10.0	102	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFHxA	307-24-4	10.7	10.0	107	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFPeS	2706-91-4	11.4	10.0	114	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
HFPO-DA	13252-13-6	11.1	10.0	111	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFHpA	375-85-9	10.8	10.0	108	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
ADONA	919005-14-4	11.1	10.0	111	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFHxS	355-46-4	9.72	10.0	97.2	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
6:2 FTS	27619-97-2	9.33	10.0	93.3	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFOA	335-67-1	10.9	10.0	109	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFHpS	375-92-8	11.6	10.0	116	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFNA	375-95-1	12.0	10.0	120	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFOSA	754-91-6	10.6	10.0	106	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFOS	1763-23-1	11.0	10.0	110	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
9Cl-PF3ONS	756426-58-1	10.6	10.0	106	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFDA	335-76-2	10.1	10.0	101	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
8:2 FTS	39108-34-4	8.49	10.0	84.9	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFNS	68259-12-1	10.8	10.0	108	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
MeFOSAA	2355-31-9	10.2	10.0	102	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
EtFOSAA	2991-50-6	11.2	10.0	112	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFUnA	2058-94-8	9.57	10.0	95.7	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFDS	335-77-3	9.61	10.0	96.1	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
11Cl-PF3OUdS	763051-92-9	18.0	10.0	180	60 - 135	H	B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
10:2 FTS	120226-60-0	11.0	10.0	110	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFDoA	307-55-1	10.1	10.0	101	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
MeFOSA	31506-32-8	53.4	50.0	107	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFTTrDA	72629-94-8	11.1	10.0	111	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFDoS	79780-39-5	14.9	10.0	149	60 - 135	H	B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFTTeDA	376-06-7	10.7	10.0	107	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
EtFOSA	4151-50-2	48.0	50.0	96.0	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFHxDA	67905-19-5	10.3	10.0	103	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFODA	16517-11-6	9.37	10.0	93.7	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1

Sample ID: OPR						PFAS Isotope Dilution Method					
Client Data					Laboratory Data						
Name:	LimnoTech, Inc.	Matrix:	Solid			Lab Sample:	B0G0151-BS1	Column:	BEH C18		
Project:	MSN FFTA SAMPLES										
Analyte	CAS Number	Amt Found (ng/g)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
MeFOSE	24448-09-7	57.8	50.0	116	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
EtFOSE	1691-99-2	51.3	50.0	103	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
Labeled Standards		Type		% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA		IS		108	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C3-PFPeA		IS		62.1	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C3-PFBS		IS		84.9	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C3-HFPO-DA		IS		58.5	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C2-4:2 FTS		IS		91.1	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C2-PFHxA		IS		63.6	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C4-PFHpA		IS		62.8	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C3-PFHxS		IS		84.3	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C2-6:2 FTS		IS		77.5	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C5-PFNA		IS		53.6	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C8-PFOSA		IS		28.5	10- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C2-PFOA		IS		59.5	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C8-PFOS		IS		81.4	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C2-PFDA		IS		54.3	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C2-8:2 FTS		IS		88.2	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
d3-MeFOSAA		IS		51.9	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C2-PFUnA		IS		42.8	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
d5-EtFOSAA		IS		48.6	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C2-10:2 FTS		IS		61.7	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C2-PFDoA		IS		37.9	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
d3-MeFOSA		IS		5.10	10- 150	H	B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C2-PFTeDA		IS		43.0	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
d5-EtFOSA		IS		4.80	10- 150	H	B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C2-PFHxDA		IS		36.3	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
d7-MeFOSE		IS		21.3	10- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
d9-EtFOSE		IS		21.9	10- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1

Sample ID: SBP20-02 (1-1.5)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001475-01	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	07-Jul-20 15:05	Date Received:	14-Jul-20 09:11		
				% Solids:	93.7		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.345	0.345	0.499		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
PFPeA	2706-90-3	<0.397	0.397	0.499		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
PFBS	375-73-5	<0.303	0.303	0.499		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
4:2 FTS	757124-72-4	<0.359	0.359	0.499		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
PFHxA	307-24-4	<0.215	0.215	0.499		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
PFPeS	2706-91-4	<0.656	0.656	0.997		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
HFPO-DA	13252-13-6	<1.18	1.18	1.50		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
PFHpA	375-85-9	<0.477	0.477	0.499		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
ADONA	919005-14-4	<0.339	0.339	0.499		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
PFHxS	355-46-4	<0.389	0.389	0.499		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
6:2 FTS	27619-97-2	7.30	0.652	0.997		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
PFOA	335-67-1	<0.469	0.469	0.499		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
PFHpS	375-92-8	<0.736	0.736	0.997		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
PFNA	375-95-1	<0.311	0.311	0.499		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
PFOSA	754-91-6	<1.01	1.01	1.50		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
PFOS	1763-23-1	81.5	0.429	0.499		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
9Cl-PF3ONS	756426-58-1	<0.369	0.369	0.499		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
PFDA	335-76-2	<0.451	0.451	0.499		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
8:2 FTS	39108-34-4	12.6	0.720	0.997		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
PFNS	68259-12-1	<1.15	1.15	1.50		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
MeFOSAA	2355-31-9	<0.734	0.734	0.997		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
EtFOSAA	2991-50-6	<0.686	0.686	0.997		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
PFUnA	2058-94-8	<0.257	0.257	0.499		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
PFDS	335-77-3	<0.688	0.688	0.997		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
11Cl-PF3OUdS	763051-92-9	<0.720	0.720	0.997		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
10:2 FTS	120226-60-0	<1.01	1.01	1.50		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
PFDoA	307-55-1	<0.403	0.403	0.499		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
MeFOSA	31506-32-8	<5.76	5.76	9.97		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
PFTrDA	72629-94-8	<0.401	0.401	0.499		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
PFDoS	79780-39-5	<0.598	0.598	0.997		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
PFTeDA	376-06-7	<0.263	0.263	0.499		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
EtFOSA	4151-50-2	<3.83	3.83	9.97		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
PFHxDA	67905-19-5	<0.169	0.169	0.499		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
PFODA	16517-11-6	<0.499	0.499	0.997		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
MeFOSE	24448-09-7	<4.95	4.95	9.97		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
EtFOSE	1691-99-2	<5.36	5.36	9.97		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	117	25 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1

Sample ID: SBP20-02 (1-1.5) **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001475-01	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	07-Jul-20 15:05	Date Received:	14-Jul-20 09:11		
				% Solids:	93.7		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	67.5	25 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
13C3-PFBS	IS	79.4	25 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
13C3-HFPO-DA	IS	69.0	25 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
13C2-4:2 FTS	IS	81.7	25 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
13C2-PFHxA	IS	71.0	25 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
13C4-PFHpA	IS	67.9	25 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
13C3-PFHxS	IS	81.4	25 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
13C2-6:2 FTS	IS	83.5	25 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
13C5-PFNA	IS	51.4	25 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
13C8-PFOA	IS	42.1	10 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
13C2-PFOA	IS	61.5	25 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
13C8-PFOS	IS	69.2	25 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
13C2-PFDA	IS	45.4	25 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
13C2-8:2 FTS	IS	85.8	25 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
d3-MeFOSAA	IS	52.6	25 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
13C2-PFUnA	IS	49.5	25 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
d5-EtFOSAA	IS	54.2	25 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
13C2-10:2 FTS	IS	67.8	25 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
13C2-PFDoA	IS	49.7	25 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
d3-MeFOSA	IS	9.60	10 - 150	H	B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
13C2-PFTeDA	IS	55.4	25 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
d5-EtFOSA	IS	10.1	10 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
13C2-PFHxDA	IS	43.3	25 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
d7-MeFOSE	IS	32.1	10 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1
d9-EtFOSE	IS	33.5	10 - 150		B0G0151	22-Jul-20	1.07 g	27-Jul-20 16:57	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBP20-02 (5.5-6)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001475-02	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	07-Jul-20 15:15	Date Received:	14-Jul-20 09:11		
				% Solids:	66.5		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	0.776	0.347	0.501		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
PFPeA	2706-90-3	2.23	0.399	0.501		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
PFBS	375-73-5	4.25	0.305	0.501		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
4:2 FTS	757124-72-4	0.577	0.361	0.501		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
PFHxA	307-24-4	5.09	0.217	0.501		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
PFPeS	2706-91-4	5.77	0.660	1.00		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
HFPO-DA	13252-13-6	<1.18	1.18	1.50		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
PFHpA	375-85-9	1.04	0.479	0.501		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
ADONA	919005-14-4	<0.341	0.341	0.501		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
PFHxS	355-46-4	11.1	0.391	0.501		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
6:2 FTS	27619-97-2	8.42	0.656	1.00		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
PFOA	335-67-1	<0.471	0.471	0.501		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
PFHpS	375-92-8	<0.740	0.740	1.00		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
PFNA	375-95-1	<0.313	0.313	0.501		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
PFOSA	754-91-6	<1.01	1.01	1.50		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
PFOS	1763-23-1	<0.431	0.431	0.501		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
9Cl-PF3ONS	756426-58-1	<0.371	0.371	0.501		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
PFDA	335-76-2	<0.453	0.453	0.501		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
8:2 FTS	39108-34-4	<0.724	0.724	1.00		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
PFNS	68259-12-1	<1.15	1.15	1.50		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
MeFOSAA	2355-31-9	<0.738	0.738	1.00		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
EtFOSAA	2991-50-6	<0.690	0.690	1.00		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
PFUnA	2058-94-8	<0.259	0.259	0.501		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
PFDS	335-77-3	<0.692	0.692	1.00		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
11Cl-PF3OUdS	763051-92-9	<0.724	0.724	1.00		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
10:2 FTS	120226-60-0	<1.02	1.02	1.50		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
PFDoA	307-55-1	<0.405	0.405	0.501		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
MeFOSA	31506-32-8	<5.80	5.80	10.0		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
PFTrDA	72629-94-8	<0.403	0.403	0.501		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
PFDoS	79780-39-5	<0.602	0.602	1.00		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
PFTeDA	376-06-7	<0.265	0.265	0.501		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
EtFOSA	4151-50-2	<3.85	3.85	10.0		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
PFHxDA	67905-19-5	<0.170	0.170	0.501		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
PFODA	16517-11-6	<0.501	0.501	1.00		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
MeFOSE	24448-09-7	<4.97	4.97	10.0		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
EtFOSE	1691-99-2	<5.39	5.39	10.0		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	116	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1

Sample ID: SBP20-02 (5.5-6)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001475-02	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	07-Jul-20 15:15	Date Received:	14-Jul-20 09:11		
				% Solids:	66.5		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	69.9	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
13C3-PFBS	IS	76.1	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
13C3-HFPO-DA	IS	69.3	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
13C2-4:2 FTS	IS	82.6	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
13C2-PFHxA	IS	72.9	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
13C4-PFHpA	IS	69.0	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
13C3-PFHxS	IS	81.5	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
13C2-6:2 FTS	IS	66.5	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
13C5-PFNA	IS	64.4	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
13C8-PFOA	IS	47.5	10 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
13C2-PFOA	IS	63.5	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
13C8-PFOS	IS	67.5	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
13C2-PFDA	IS	60.5	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
13C2-8:2 FTS	IS	80.3	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
d3-MeFOSAA	IS	69.8	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
13C2-PFUnA	IS	63.0	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
d5-EtFOSAA	IS	65.8	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
13C2-10:2 FTS	IS	64.4	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
13C2-PFDoA	IS	57.0	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
d3-MeFOSA	IS	24.6	10 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
13C2-PFTeDA	IS	44.7	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
d5-EtFOSA	IS	30.5	10 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
13C2-PFHxDA	IS	21.6	25 - 150	H	B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
d7-MeFOSE	IS	43.9	10 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1
d9-EtFOSE	IS	43.4	10 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 17:07	1

MDL - Method Detection Limit

RL - Reporting limit

 The results are reported in dry weight.
 The sample size is reported in wet weight.
 Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBP20-03 (1-1.5)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001475-03	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	07-Jul-20 15:30	Date Received:	14-Jul-20 09:11		
				% Solids:	95.3		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.346	0.346	0.500		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
PFPeA	2706-90-3	<0.398	0.398	0.500		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
PFBS	375-73-5	<0.304	0.304	0.500		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
4:2 FTS	757124-72-4	<0.360	0.360	0.500		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
PFHxA	307-24-4	<0.216	0.216	0.500		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
PFPeS	2706-91-4	<0.658	0.658	1.00		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
HFPO-DA	13252-13-6	<1.18	1.18	1.50		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
PFHpA	375-85-9	<0.478	0.478	0.500		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
ADONA	919005-14-4	<0.340	0.340	0.500		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
PFHxS	355-46-4	<0.390	0.390	0.500		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
6:2 FTS	27619-97-2	0.913	0.654	1.00	J	B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
PFOA	335-67-1	<0.470	0.470	0.500		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
PFHpS	375-92-8	<0.738	0.738	1.00		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
PFNA	375-95-1	0.871	0.312	0.500		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
PFOSA	754-91-6	3.21	1.01	1.50		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
PFOS	1763-23-1	<0.430	0.430	0.500		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
9Cl-PF3ONS	756426-58-1	<0.370	0.370	0.500		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
PFDA	335-76-2	0.614	0.452	0.500		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
8:2 FTS	39108-34-4	1.18	0.722	1.00		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
PFNS	68259-12-1	<1.15	1.15	1.50		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
MeFOSAA	2355-31-9	<0.736	0.736	1.00		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
EtFOSAA	2991-50-6	<0.688	0.688	1.00		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
PFUnA	2058-94-8	<0.258	0.258	0.500		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
PFDS	335-77-3	<0.690	0.690	1.00		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
11Cl-PF3OUdS	763051-92-9	<0.722	0.722	1.00		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
10:2 FTS	120226-60-0	<1.02	1.02	1.50		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
PFDoA	307-55-1	<0.404	0.404	0.500		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
MeFOSA	31506-32-8	<5.78	5.78	10.0		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
PFTrDA	72629-94-8	<0.402	0.402	0.500		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
PFDoS	79780-39-5	<0.600	0.600	1.00		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
PFTeDA	376-06-7	<0.264	0.264	0.500		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
EtFOSA	4151-50-2	<3.84	3.84	10.0		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
PFHxDA	67905-19-5	<0.170	0.170	0.500		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
PFODA	16517-11-6	<0.500	0.500	1.00		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
MeFOSE	24448-09-7	<4.96	4.96	10.0		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
EtFOSE	1691-99-2	<5.38	5.38	10.0		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	129	25 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1

Sample ID: SBP20-03 (1-1.5)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001475-03	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	07-Jul-20 15:30	Date Received:	14-Jul-20 09:11		
				% Solids:	95.3		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	80.7	25 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
13C3-PFBS	IS	89.1	25 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
13C3-HFPO-DA	IS	79.7	25 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
13C2-4:2 FTS	IS	80.6	25 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
13C2-PFHxA	IS	84.6	25 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
13C4-PFHpA	IS	78.1	25 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
13C3-PFHxS	IS	83.2	25 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
13C2-6:2 FTS	IS	80.0	25 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
13C5-PFNA	IS	78.6	25 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
13C8-PFOA	IS	41.3	10 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
13C2-PFOA	IS	80.2	25 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
13C8-PFOS	IS	75.9	25 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
13C2-PFDA	IS	60.8	25 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
13C2-8:2 FTS	IS	88.2	25 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
d3-MeFOSAA	IS	55.8	25 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
13C2-PFUnA	IS	57.7	25 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
d5-EtFOSAA	IS	59.2	25 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
13C2-10:2 FTS	IS	69.9	25 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
13C2-PFDoA	IS	55.8	25 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
d3-MeFOSA	IS	11.0	10 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
13C2-PFTeDA	IS	60.8	25 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
d5-EtFOSA	IS	11.3	10 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
13C2-PFHxDA	IS	52.2	25 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
d7-MeFOSE	IS	30.8	10 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1
d9-EtFOSE	IS	32.1	10 - 150		B0G0151	22-Jul-20	1.05 g	27-Jul-20 17:49	1

MDL - Method Detection Limit

RL - Reporting limit

 The results are reported in dry weight.
 The sample size is reported in wet weight.
 Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBP20-03 (5-5.5)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001475-04	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	07-Jul-20 15:40	Date Received:	14-Jul-20 09:11		
				% Solids:	78.1		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.346	0.346	0.500		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
PFPeA	2706-90-3	<0.398	0.398	0.500		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
PFBS	375-73-5	<0.304	0.304	0.500		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
4:2 FTS	757124-72-4	<0.360	0.360	0.500		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
PFHxA	307-24-4	0.671	0.216	0.500		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
PFPeS	2706-91-4	<0.659	0.659	1.00		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
HFPO-DA	13252-13-6	<1.18	1.18	1.50		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
PFHpA	375-85-9	0.918	0.478	0.500	Q	B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
ADONA	919005-14-4	<0.340	0.340	0.500		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
PFHxS	355-46-4	20.4	0.390	0.500		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
6:2 FTS	27619-97-2	10.2	0.655	1.00		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
PFOA	335-67-1	<0.470	0.470	0.500		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
PFHpS	375-92-8	<0.739	0.739	1.00		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
PFNA	375-95-1	<0.312	0.312	0.500		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
PFOSA	754-91-6	<1.01	1.01	1.50		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
PFOS	1763-23-1	17.0	0.430	0.500		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
9Cl-PF3ONS	756426-58-1	<0.370	0.370	0.500		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
PFDA	335-76-2	<0.452	0.452	0.500		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
8:2 FTS	39108-34-4	<0.723	0.723	1.00		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
PFNS	68259-12-1	<1.15	1.15	1.50		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
MeFOSAA	2355-31-9	<0.737	0.737	1.00		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
EtFOSAA	2991-50-6	<0.689	0.689	1.00		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
PFUnA	2058-94-8	<0.258	0.258	0.500		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
PFDS	335-77-3	<0.691	0.691	1.00		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
11Cl-PF3OUdS	763051-92-9	<0.723	0.723	1.00		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
10:2 FTS	120226-60-0	<1.02	1.02	1.50		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
PFDoA	307-55-1	<0.404	0.404	0.500		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
MeFOSA	31506-32-8	<5.78	5.78	10.0		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
PFTTrDA	72629-94-8	<0.402	0.402	0.500		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
PFDoS	79780-39-5	<0.600	0.600	1.00		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
PFTeDA	376-06-7	<0.264	0.264	0.500		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
EtFOSA	4151-50-2	<3.84	3.84	10.0		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
PFHxDA	67905-19-5	<0.170	0.170	0.500		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
PFODA	16517-11-6	<0.500	0.500	1.00		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
MeFOSE	24448-09-7	<4.96	4.96	10.0		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
EtFOSE	1691-99-2	<5.38	5.38	10.0		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	114	25 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1

Sample ID: SBP20-03 (5-5.5)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001475-04	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	07-Jul-20 15:40	Date Received:	14-Jul-20 09:11		
				% Solids:	78.1		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	70.8	25 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
13C3-PFBS	IS	75.5	25 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
13C3-HFPO-DA	IS	70.3	25 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
13C2-4:2 FTS	IS	82.5	25 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
13C2-PFHxA	IS	76.9	25 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
13C4-PFHpA	IS	73.9	25 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
13C3-PFHxS	IS	78.3	25 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
13C2-6:2 FTS	IS	74.7	25 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
13C5-PFNA	IS	66.0	25 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
13C8-PFOA	IS	46.6	10 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
13C2-PFOA	IS	72.9	25 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
13C8-PFOS	IS	77.5	25 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
13C2-PFDA	IS	65.2	25 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
13C2-8:2 FTS	IS	80.6	25 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
d3-MeFOSAA	IS	67.1	25 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
13C2-PFUnA	IS	65.6	25 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
d5-EtFOSAA	IS	65.1	25 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
13C2-10:2 FTS	IS	69.2	25 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
13C2-PFDoA	IS	61.2	25 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
d3-MeFOSA	IS	19.0	10 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
13C2-PFTeDA	IS	57.0	25 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
d5-EtFOSA	IS	20.5	10 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
13C2-PFHxDA	IS	38.8	25 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
d7-MeFOSE	IS	41.1	10 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1
d9-EtFOSE	IS	46.2	10 - 150		B0G0151	22-Jul-20	1.28 g	27-Jul-20 17:59	1

MDL - Method Detection Limit

RL - Reporting limit

 The results are reported in dry weight.
 The sample size is reported in wet weight.
 Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBP20-06 (0.5-1)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001475-05	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	07-Jul-20 16:00	Date Received:	14-Jul-20 09:11		
				% Solids:	95.2		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.333	0.333	0.482		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
PFPeA	2706-90-3	<0.383	0.383	0.482		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
PFBS	375-73-5	<0.293	0.293	0.482		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
4:2 FTS	757124-72-4	<0.347	0.347	0.482		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
PFHxA	307-24-4	0.245	0.208	0.482	J, Q	B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
PFPeS	2706-91-4	<0.634	0.634	0.964		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
HFPO-DA	13252-13-6	<1.14	1.14	1.45		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
PFHpA	375-85-9	<0.461	0.461	0.482		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
ADONA	919005-14-4	<0.328	0.328	0.482		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
PFHxS	355-46-4	<0.376	0.376	0.482		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
6:2 FTS	27619-97-2	<0.630	0.630	0.964		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
PFOA	335-67-1	<0.453	0.453	0.482		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
PFHpS	375-92-8	<0.711	0.711	0.964		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
PFNA	375-95-1	0.674	0.301	0.482		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
PFOSA	754-91-6	<0.971	0.971	1.45		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
PFOS	1763-23-1	69.1	0.414	0.482		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
9Cl-PF3ONS	756426-58-1	<0.357	0.357	0.482		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
PFDA	335-76-2	0.609	0.436	0.482		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
8:2 FTS	39108-34-4	<0.696	0.696	0.964		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
PFNS	68259-12-1	<1.11	1.11	1.45		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
MeFOSAA	2355-31-9	<0.709	0.709	0.964		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
EtFOSAA	2991-50-6	<0.663	0.663	0.964		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
PFUnA	2058-94-8	<0.249	0.249	0.482		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
PFDS	335-77-3	<0.665	0.665	0.964		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
11Cl-PF3OUdS	763051-92-9	<0.696	0.696	0.964		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
10:2 FTS	120226-60-0	<0.979	0.979	1.45		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
PFDoA	307-55-1	<0.389	0.389	0.482		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
MeFOSA	31506-32-8	<5.57	5.57	9.64		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
PFTTrDA	72629-94-8	<0.387	0.387	0.482		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
PFDoS	79780-39-5	<0.578	0.578	0.964		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
PFTeDA	376-06-7	<0.254	0.254	0.482		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
EtFOSA	4151-50-2	<3.70	3.70	9.64		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
PFHxDA	67905-19-5	<0.164	0.164	0.482		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
PFODA	16517-11-6	<0.482	0.482	0.964		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
MeFOSE	24448-09-7	<4.78	4.78	9.64		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
EtFOSE	1691-99-2	<5.18	5.18	9.64		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	124	25 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1

Sample ID: SBP20-06 (0.5-1)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001475-05	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	07-Jul-20 16:00	Date Received:	14-Jul-20 09:11		
				% Solids:	95.2		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	76.2	25 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
13C3-PFBS	IS	81.3	25 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
13C3-HFPO-DA	IS	81.6	25 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
13C2-4:2 FTS	IS	80.0	25 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
13C2-PFHxA	IS	79.4	25 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
13C4-PFHpA	IS	73.6	25 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
13C3-PFHxS	IS	73.1	25 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
13C2-6:2 FTS	IS	79.3	25 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
13C5-PFNA	IS	68.0	25 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
13C8-PFOA	IS	49.0	10 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
13C2-PFOA	IS	68.7	25 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
13C8-PFOS	IS	73.7	25 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
13C2-PFDA	IS	62.9	25 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
13C2-8:2 FTS	IS	90.7	25 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
d3-MeFOSAA	IS	66.1	25 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
13C2-PFUnA	IS	66.8	25 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
d5-EtFOSAA	IS	61.1	25 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
13C2-10:2 FTS	IS	78.7	25 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
13C2-PFDoA	IS	59.0	25 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
d3-MeFOSA	IS	24.3	10 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
13C2-PFTeDA	IS	63.2	25 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
d5-EtFOSA	IS	26.8	10 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
13C2-PFHxDA	IS	62.4	25 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
d7-MeFOSE	IS	37.0	10 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1
d9-EtFOSE	IS	41.0	10 - 150		B0G0151	22-Jul-20	1.09 g	27-Jul-20 18:10	1

MDL - Method Detection Limit

RL - Reporting limit

 The results are reported in dry weight.
 The sample size is reported in wet weight.
 Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBP20-06 (7.4-7.9)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001475-06	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	07-Jul-20 16:05	Date Received:	14-Jul-20 09:11		
				% Solids:	68.5		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	0.457	0.337	0.486	J	B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
PFPeA	2706-90-3	0.970	0.387	0.486		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
PFBS	375-73-5	2.37	0.296	0.486		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
4:2 FTS	757124-72-4	<0.350	0.350	0.486		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
PFHxA	307-24-4	3.37	0.210	0.486		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
PFPeS	2706-91-4	6.68	0.640	0.973		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
HFPO-DA	13252-13-6	<1.15	1.15	1.46		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
PFHpA	375-85-9	1.18	0.465	0.486		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
ADONA	919005-14-4	<0.331	0.331	0.486		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
PFHxS	355-46-4	64.8	0.379	0.486		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
6:2 FTS	27619-97-2	36.3	0.636	0.973		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
PFOA	335-67-1	<0.457	0.457	0.486		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
PFHpS	375-92-8	3.94	0.718	0.973		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
PFNA	375-95-1	<0.304	0.304	0.486		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
PFOSA	754-91-6	<0.981	0.981	1.46		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
PFOS	1763-23-1	<0.418	0.418	0.486		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
9Cl-PF3ONS	756426-58-1	<0.360	0.360	0.486		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
PFDA	335-76-2	<0.440	0.440	0.486		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
8:2 FTS	39108-34-4	<0.702	0.702	0.973		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
PFNS	68259-12-1	<1.12	1.12	1.46		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
MeFOSAA	2355-31-9	<0.716	0.716	0.973		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
EtFOSAA	2991-50-6	<0.669	0.669	0.973		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
PFUnA	2058-94-8	<0.251	0.251	0.486		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
PFDS	335-77-3	<0.671	0.671	0.973		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
11Cl-PF3OUdS	763051-92-9	<0.702	0.702	0.973		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
10:2 FTS	120226-60-0	<0.988	0.988	1.46		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
PFDoA	307-55-1	<0.393	0.393	0.486		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
MeFOSA	31506-32-8	<5.62	5.62	9.73		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
PFTrDA	72629-94-8	<0.391	0.391	0.486		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
PFDoS	79780-39-5	<0.584	0.584	0.973		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
PFTeDA	376-06-7	<0.257	0.257	0.486		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
EtFOSA	4151-50-2	<3.74	3.74	9.73		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
PFHxDA	67905-19-5	<0.165	0.165	0.486		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
PFODA	16517-11-6	<0.486	0.486	0.973		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
MeFOSE	24448-09-7	<4.83	4.83	9.73		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
EtFOSE	1691-99-2	<5.23	5.23	9.73		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	105	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1

Sample ID: SBP20-06 (7.4-7.9)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001475-06	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	07-Jul-20 16:05	Date Received:	14-Jul-20 09:11		
				% Solids:	68.5		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	67.3	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
13C3-PFBS	IS	80.3	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
13C3-HFPO-DA	IS	67.4	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
13C2-4:2 FTS	IS	75.3	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
13C2-PFHxA	IS	64.5	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
13C4-PFHpA	IS	61.8	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
13C3-PFHxS	IS	76.1	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
13C2-6:2 FTS	IS	81.2	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
13C5-PFNA	IS	51.5	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
13C8-PFOA	IS	45.7	10 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
13C2-PFOA	IS	62.9	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
13C8-PFOS	IS	65.0	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
13C2-PFDA	IS	56.7	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
13C2-8:2 FTS	IS	84.4	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
d3-MeFOSAA	IS	54.1	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
13C2-PFUnA	IS	48.4	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
d5-EtFOSAA	IS	55.6	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
13C2-10:2 FTS	IS	57.0	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
13C2-PFDoA	IS	38.9	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
d3-MeFOSA	IS	19.8	10 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
13C2-PFTeDA	IS	15.8	25 - 150	H	B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
d5-EtFOSA	IS	21.9	10 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
13C2-PFHxDA	IS	10.6	25 - 150	H	B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
d7-MeFOSE	IS	41.7	10 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1
d9-EtFOSE	IS	50.5	10 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 18:20	1

MDL - Method Detection Limit

RL - Reporting limit

 The results are reported in dry weight.
 The sample size is reported in wet weight.
 Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBP20-04-(7-7.5)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001475-09	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 07:40	Date Received:	14-Jul-20 09:11		
				% Solids:	74.9		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.337	0.337	0.487		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
PFPeA	2706-90-3	<0.388	0.388	0.487		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
PFBS	375-73-5	<0.296	0.296	0.487		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
4:2 FTS	757124-72-4	<0.351	0.351	0.487		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
PFHxA	307-24-4	0.594	0.210	0.487		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
PFPeS	2706-91-4	<0.641	0.641	0.974		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
HFPO-DA	13252-13-6	<1.15	1.15	1.46		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
PFHpA	375-85-9	0.835	0.466	0.487	Q	B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
ADONA	919005-14-4	<0.331	0.331	0.487		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
PFHxS	355-46-4	8.26	0.380	0.487		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
6:2 FTS	27619-97-2	4.08	0.637	0.974		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
PFOA	335-67-1	1.77	0.458	0.487		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
PFHpS	375-92-8	8.61	0.719	0.974		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
PFNA	375-95-1	1.05	0.304	0.487		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
PFOSA	754-91-6	<0.982	0.982	1.46		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
PFOS	1763-23-1	<0.419	0.419	0.487		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
9Cl-PF3ONS	756426-58-1	<0.360	0.360	0.487		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
PFDA	335-76-2	<0.440	0.440	0.487		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
8:2 FTS	39108-34-4	<0.703	0.703	0.974		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
PFNS	68259-12-1	<1.12	1.12	1.46		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
MeFOSAA	2355-31-9	<0.717	0.717	0.974		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
EtFOSAA	2991-50-6	<0.670	0.670	0.974		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
PFUnA	2058-94-8	<0.251	0.251	0.487		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
PFDS	335-77-3	<0.672	0.672	0.974		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
11Cl-PF3OUdS	763051-92-9	<0.703	0.703	0.974		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
10:2 FTS	120226-60-0	<0.990	0.990	1.46		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
PFDoA	307-55-1	<0.394	0.394	0.487		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
MeFOSA	31506-32-8	<5.63	5.63	9.74		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
PFTrDA	72629-94-8	<0.392	0.392	0.487		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
PFDoS	79780-39-5	<0.584	0.584	0.974		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
PFTeDA	376-06-7	<0.257	0.257	0.487		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
EtFOSA	4151-50-2	<3.74	3.74	9.74		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
PFHxDA	67905-19-5	<0.166	0.166	0.487		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
PFODA	16517-11-6	<0.487	0.487	0.974		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
MeFOSE	24448-09-7	<4.83	4.83	9.74		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
EtFOSE	1691-99-2	<5.24	5.24	9.74		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	75.7	25 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1

Sample ID: SBP20-04-(7-7.5)

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001475-09	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 07:40	Date Received:	14-Jul-20 09:11		
				% Solids:	74.9		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	76.2	25 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
13C3-PFBS	IS	76.2	25 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
13C3-HFPO-DA	IS	82.6	25 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
13C2-4:2 FTS	IS	101	25 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
13C2-PFHxA	IS	84.8	25 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
13C4-PFHpA	IS	83.2	25 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
13C3-PFHxS	IS	82.9	25 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
13C2-6:2 FTS	IS	71.8	25 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
13C5-PFNA	IS	65.4	25 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
13C8-PFOA	IS	55.5	10 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
13C2-PFOA	IS	75.3	25 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
13C8-PFOS	IS	66.7	25 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
13C2-PFDA	IS	57.1	25 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
13C2-8:2 FTS	IS	88.6	25 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
d3-MeFOSAA	IS	60.8	25 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
13C2-PFUnA	IS	63.1	25 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
d5-EtFOSAA	IS	53.9	25 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
13C2-10:2 FTS	IS	79.3	25 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
13C2-PFDoA	IS	54.9	25 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
d3-MeFOSA	IS	24.8	10 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
13C2-PFTeDA	IS	34.2	25 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
d5-EtFOSA	IS	24.6	10 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
13C2-PFHxDA	IS	15.5	25 - 150	H	B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
d7-MeFOSE	IS	39.3	10 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1
d9-EtFOSE	IS	41.2	10 - 150		B0G0151	22-Jul-20	1.37 g	28-Jul-20 17:10	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: Method Blank
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	B0G0132-BLK1	Column:	BEH C18
Project:	MSN FFTA SAMPLES						

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.729	0.729	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFPeA	2706-90-3	<1.28	1.28	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFBS	375-73-5	<1.79	1.79	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
4:2 FTS	757124-72-4	<1.39	1.39	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFHxA	307-24-4	<2.18	2.18	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFPeS	2706-91-4	<2.42	2.42	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
HFPO-DA	13252-13-6	<4.82	4.82	5.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFHpA	375-85-9	<0.591	0.591	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
ADONA	919005-14-4	<0.722	0.722	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFHxS	355-46-4	<0.947	0.947	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
6:2 FTS	27619-97-2	<2.00	2.00	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFOA	335-67-1	<0.651	0.651	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFHpS	375-92-8	<0.937	0.937	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFNA	375-95-1	<0.810	0.810	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFOSA	754-91-6	<1.77	1.77	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFOS	1763-23-1	<0.807	0.807	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
9Cl-PF3ONS	756426-58-1	<1.45	1.45	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFDA	335-76-2	<1.49	1.49	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
8:2 FTS	39108-34-4	<2.06	2.06	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFNS	68259-12-1	<3.87	3.87	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
MeFOSAA	2355-31-9	<1.65	1.65	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
EtFOSAA	2991-50-6	<1.37	1.37	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFUnA	2058-94-8	<1.05	1.05	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFDS	335-77-3	<1.23	1.23	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
11Cl-PF3OUdS	763051-92-9	<2.41	2.41	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
10:2 FTS	120226-60-0	<3.13	3.13	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFDoA	307-55-1	<0.792	0.792	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
MeFOSA	31506-32-8	<3.83	3.83	20.0		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFTrDA	72629-94-8	<0.494	0.494	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFDoS	79780-39-5	<4.17	4.17	5.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFTeDA	376-06-7	<0.755	0.755	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
EtFOSA	4151-50-2	<5.11	5.11	20.0		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFHxDA	67905-19-5	1.37	0.294	4.00	J, Q	B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFODA	16517-11-6	<6.14	6.14	7.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
MeFOSE	24448-09-7	<6.07	6.07	20.0		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
EtFOSE	1691-99-2	<9.44	9.44	20.0		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	144	25 - 150			B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1

Sample ID: Method Blank **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	B0G0132-BLK1	Column:	BEH C18
Project:	MSN FFTA SAMPLES						

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	101	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C3-PFBS	IS	102	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C3-HFPO-DA	IS	90.2	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-4:2 FTS	IS	97.6	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-PFHxA	IS	95.5	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C4-PFHpA	IS	102	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C3-PFHxS	IS	104	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-6:2 FTS	IS	89.1	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C5-PFNA	IS	80.3	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C8-PFOA	IS	33.9	10 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-PFOA	IS	97.6	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C8-PFOS	IS	92.7	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-PFDA	IS	90.9	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-8:2 FTS	IS	94.5	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
d3-MeFOSAA	IS	77.3	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-PFUnA	IS	82.3	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
d5-EtFOSAA	IS	69.7	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-10:2 FTS	IS	77.9	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-PFDoA	IS	74.5	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
d3-MeFOSA	IS	10.8	10 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-PFTeDA	IS	64.5	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
d5-EtFOSA	IS	9.30	10 - 150	H	B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-PFHxDA	IS	39.2	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
d7-MeFOSE	IS	16.0	10 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
d9-EtFOSE	IS	17.2	10 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: OPR						PFAS Isotope Dilution Method					
Client Data					Laboratory Data						
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	B0G0132-BS1	Column:	BEH C18				
Project:	MSN FFTA SAMPLES										
Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	7.82	8.00	97.7	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFPeA	2706-90-3	7.69	8.00	96.1	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFBS	375-73-5	7.42	8.00	92.7	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
4:2 FTS	757124-72-4	7.81	8.00	97.6	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFHxA	307-24-4	7.64	8.00	95.4	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFPeS	2706-91-4	8.20	8.00	103	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
HFPO-DA	13252-13-6	7.51	8.00	93.8	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFHpA	375-85-9	7.48	8.00	93.6	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
ADONA	919005-14-4	7.54	8.00	94.2	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFHxS	355-46-4	6.14	8.00	76.7	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
6:2 FTS	27619-97-2	8.50	8.00	106	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFOA	335-67-1	7.13	8.00	89.1	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFHpS	375-92-8	7.83	8.00	97.9	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFNA	375-95-1	8.53	8.00	107	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFOSA	754-91-6	10.1	8.00	126	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFOS	1763-23-1	8.96	8.00	112	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
9Cl-PF3ONS	756426-58-1	7.13	8.00	89.1	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFDA	335-76-2	7.48	8.00	93.6	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
8:2 FTS	39108-34-4	6.64	8.00	83.0	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFNS	68259-12-1	7.56	8.00	94.5	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
MeFOSAA	2355-31-9	7.12	8.00	89.0	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
EtFOSAA	2991-50-6	6.42	8.00	80.3	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFUnA	2058-94-8	7.64	8.00	95.5	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFDS	335-77-3	7.21	8.00	90.1	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
11Cl-PF3OUdS	763051-92-9	7.38	8.00	92.3	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
10:2 FTS	120226-60-0	8.50	8.00	106	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFDoA	307-55-1	7.35	8.00	91.8	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
MeFOSA	31506-32-8	28.9	40.0	72.1	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFTTrDA	72629-94-8	7.23	8.00	90.3	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFDoS	79780-39-5	6.88	8.00	85.9	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFTTeDA	376-06-7	7.21	8.00	90.2	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
EtFOSA	4151-50-2	35.5	40.0	88.8	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFHxDA	67905-19-5	7.62	8.00	95.3	50 - 150	B	B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFODA	16517-11-6	6.65	8.00	83.1	50 - 150	J	B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1

Sample ID: OPR						PFAS Isotope Dilution Method					
Client Data					Laboratory Data						
Name:	LimnoTech, Inc.	Matrix:	Aqueous			Lab Sample:	B0G0132-BS1	Column:	BEH C18		
Project:	MSN FFTA SAMPLES										
Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
MeFOSE	24448-09-7	45.9	40.0	115	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
EtFOSE	1691-99-2	26.1	40.0	65.3	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
Labeled Standards		Type		% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA		IS		145	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C3-PFPeA		IS		97.0	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C3-PFBS		IS		100	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C3-HFPO-DA		IS		86.9	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-4:2 FTS		IS		95.8	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-PFHxA		IS		87.0	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C4-PFHpA		IS		91.2	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C3-PFHxS		IS		101	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-6:2 FTS		IS		90.4	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C5-PFNA		IS		77.0	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C8-PFOSA		IS		26.2	10- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-PFOA		IS		90.1	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C8-PFOS		IS		80.2	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-PFDA		IS		89.6	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-8:2 FTS		IS		85.6	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
d3-MeFOSAA		IS		71.1	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-PFUnA		IS		75.5	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
d5-EtFOSAA		IS		70.3	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-10:2 FTS		IS		71.4	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-PFDoA		IS		81.9	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
d3-MeFOSA		IS		7.50	10- 150	H	B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-PFTeDA		IS		74.5	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
d5-EtFOSA		IS		5.90	10- 150	H	B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-PFHxDA		IS		61.5	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
d7-MeFOSE		IS		11.5	10- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
d9-EtFOSE		IS		12.9	10- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1

Sample ID: SBP20-02-GW
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001475-07	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	07-Jul-20 16:10	Date Received:	14-Jul-20 09:11		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	110	0.820	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
PFPeA	2706-90-3	271	1.44	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
PFBS	375-73-5	302	2.01	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
4:2 FTS	757124-72-4	19.7	1.56	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
PFHxA	307-24-4	489	2.45	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
PFPeS	2706-91-4	322	2.72	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
HFPO-DA	13252-13-6	<5.42	5.42	5.62		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
PFHpA	375-85-9	115	0.664	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
ADONA	919005-14-4	<0.812	0.812	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
PFHxS	355-46-4	1420	1.06	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
6:2 FTS	27619-97-2	537	2.25	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
PFOA	335-67-1	126	0.732	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
PFHpS	375-92-8	29.3	1.05	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
PFNA	375-95-1	15.8	0.911	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
PFOSA	754-91-6	16.7	1.99	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
PFOS	1763-23-1	1680	0.907	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
9Cl-PF3ONS	756426-58-1	<1.63	1.63	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
PFDA	335-76-2	<1.68	1.68	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
8:2 FTS	39108-34-4	28.4	2.32	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
PFNS	68259-12-1	<4.35	4.35	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
MeFOSAA	2355-31-9	<1.86	1.86	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
EtFOSAA	2991-50-6	<1.54	1.54	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
PFUnA	2058-94-8	<1.18	1.18	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
PFDS	335-77-3	1.76	1.38	4.50	J, Q	B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
11Cl-PF3OUdS	763051-92-9	<2.71	2.71	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
10:2 FTS	120226-60-0	<3.52	3.52	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
PFDoA	307-55-1	<0.890	0.890	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
MeFOSA	31506-32-8	<4.31	4.31	22.5		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
PFTrDA	72629-94-8	<0.555	0.555	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
PFDoS	79780-39-5	<4.69	4.69	5.62		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
PFTeDA	376-06-7	<0.849	0.849	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
EtFOSA	4151-50-2	<5.75	5.75	22.5		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
PFHxDA	67905-19-5	<0.331	0.331	4.50		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
PFODA	16517-11-6	<6.90	6.90	7.87		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
MeFOSE	24448-09-7	<6.82	6.82	22.5		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
EtFOSE	1691-99-2	<10.6	10.6	22.5		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	85.6	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1

Sample ID: SBP20-02-GW **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001475-07	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	07-Jul-20 16:10	Date Received:	14-Jul-20 09:11		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	87.1	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
13C3-PFBS	IS	95.5	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
13C3-HFPO-DA	IS	84.2	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
13C2-4:2 FTS	IS	84.5	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
13C2-PFHxA	IS	85.9	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
13C4-PFHpA	IS	85.0	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
13C3-PFHxS	IS	80.3	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
13C2-6:2 FTS	IS	85.0	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
13C5-PFNA	IS	83.3	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
13C8-PFOA	IS	64.3	10 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
13C2-PFOA	IS	92.3	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
13C8-PFOS	IS	101	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
13C2-PFDA	IS	78.5	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
13C2-8:2 FTS	IS	78.6	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
d3-MeFOSAA	IS	88.3	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
13C2-PFUnA	IS	79.8	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
d5-EtFOSAA	IS	82.3	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
13C2-10:2 FTS	IS	66.0	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
13C2-PFDoA	IS	77.9	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
d3-MeFOSA	IS	22.9	10 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
13C2-PFTeDA	IS	75.2	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
d5-EtFOSA	IS	20.6	10 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
13C2-PFHxDA	IS	68.3	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
d7-MeFOSE	IS	43.6	10 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1
d9-EtFOSE	IS	46.9	10 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 20:32	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBP20-03-GW
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001475-08	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	07-Jul-20 16:35	Date Received:	14-Jul-20 09:11		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	293	0.803	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
PFPeA	2706-90-3	877	1.41	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
PFBS	375-73-5	590	1.97	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
4:2 FTS	757124-72-4	51.8	1.53	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
PFHxA	307-24-4	1420	2.40	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
PFPeS	2706-91-4	876	2.66	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
HFPO-DA	13252-13-6	<5.31	5.31	5.50		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
PFHpA	375-85-9	394	0.651	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
ADONA	919005-14-4	<0.795	0.795	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
PFHxS	355-46-4	7700	5.21	22.0	D	B0G0132	17-Jul-20	0.114 L	23-Jul-20 20:43	5
6:2 FTS	27619-97-2	5220	11.0	22.0	D	B0G0132	17-Jul-20	0.114 L	23-Jul-20 20:43	5
PFOA	335-67-1	895	0.717	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
PFHpS	375-92-8	316	1.03	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
PFNA	375-95-1	41.4	0.892	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
PFOSA	754-91-6	169	1.95	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
PFOS	1763-23-1	11000	4.44	22.0	D	B0G0132	17-Jul-20	0.114 L	23-Jul-20 20:43	5
9Cl-PF3ONS	756426-58-1	<1.60	1.60	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
PFDA	335-76-2	8.51	1.64	4.40	Q	B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
8:2 FTS	39108-34-4	628	2.27	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
PFNS	68259-12-1	5.22	4.26	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
MeFOSAA	2355-31-9	<1.82	1.82	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
EtFOSAA	2991-50-6	<1.51	1.51	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
PFUnA	2058-94-8	<1.16	1.16	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
PFDS	335-77-3	<1.35	1.35	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
11Cl-PF3OUdS	763051-92-9	<2.65	2.65	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
10:2 FTS	120226-60-0	<3.45	3.45	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
PFDoA	307-55-1	<0.872	0.872	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
MeFOSA	31506-32-8	<4.22	4.22	22.0		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
PFTrDA	72629-94-8	<0.544	0.544	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
PFDoS	79780-39-5	<4.59	4.59	5.50		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
PFTeDA	376-06-7	<0.831	0.831	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
EtFOSA	4151-50-2	<5.63	5.63	22.0		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
PFHxDA	67905-19-5	<0.324	0.324	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
PFODA	16517-11-6	<6.76	6.76	7.71		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
MeFOSE	24448-09-7	<6.68	6.68	22.0		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
EtFOSE	1691-99-2	<10.4	10.4	22.0		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C3-PFBA	IS	82.4	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1	

Sample ID: SBP20-03-GW **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001475-08	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	07-Jul-20 16:35	Date Received:	14-Jul-20 09:11		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	103	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
13C3-PFBS	IS	101	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
13C3-HFPO-DA	IS	99.7	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
13C2-4:2 FTS	IS	100	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
13C2-PFHxA	IS	95.5	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
13C4-PFHpA	IS	99.6	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
13C3-PFHxS	IS	73.0	25 - 150	D	B0G0132	17-Jul-20	0.114 L	23-Jul-20 20:43	5
13C2-6:2 FTS	IS	119	25 - 150	D	B0G0132	17-Jul-20	0.114 L	23-Jul-20 20:43	5
13C5-PFNA	IS	89.5	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
13C8-PFOA	IS	52.2	10 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
13C2-PFOA	IS	96.5	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
13C8-PFOS	IS	88.0	25 - 150	D	B0G0132	17-Jul-20	0.114 L	23-Jul-20 20:43	5
13C2-PFDA	IS	105	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
13C2-8:2 FTS	IS	92.3	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
d3-MeFOSAA	IS	96.5	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
13C2-PFUnA	IS	97.5	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
d5-EtFOSAA	IS	88.3	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
13C2-10:2 FTS	IS	92.4	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
13C2-PFDoA	IS	104	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
d3-MeFOSA	IS	21.1	10 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
13C2-PFTeDA	IS	84.1	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
d5-EtFOSA	IS	19.4	10 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
13C2-PFHxDA	IS	64.5	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
d7-MeFOSE	IS	55.5	10 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1
d9-EtFOSE	IS	52.2	10 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:27	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: Geoprobe decon blank
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001475-10	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 09:30	Date Received:	14-Jul-20 09:11		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.807	0.807	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
PFPeA	2706-90-3	<1.42	1.42	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
PFBS	375-73-5	<1.98	1.98	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
4:2 FTS	757124-72-4	<1.54	1.54	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
PFHxA	307-24-4	<2.41	2.41	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
PFPeS	2706-91-4	<2.68	2.68	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
HFPO-DA	13252-13-6	<5.33	5.33	5.53		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
PFHpA	375-85-9	<0.654	0.654	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
ADONA	919005-14-4	<0.799	0.799	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
PFHxS	355-46-4	<1.05	1.05	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
6:2 FTS	27619-97-2	<2.21	2.21	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
PFOA	335-67-1	2.56	0.720	4.43	J	B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
PFHpS	375-92-8	<1.04	1.04	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
PFNA	375-95-1	<0.896	0.896	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
PFOSA	754-91-6	32.2	1.96	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
PFOS	1763-23-1	1.09	0.893	4.43	J, Q	B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
9Cl-PF3ONS	756426-58-1	<1.60	1.60	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
PFDA	335-76-2	<1.65	1.65	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
8:2 FTS	39108-34-4	<2.28	2.28	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
PFNS	68259-12-1	<4.28	4.28	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
MeFOSAA	2355-31-9	<1.83	1.83	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
EtFOSAA	2991-50-6	<1.52	1.52	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
PFUnA	2058-94-8	<1.16	1.16	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
PFDS	335-77-3	<1.36	1.36	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
11Cl-PF3OUdS	763051-92-9	<2.67	2.67	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
10:2 FTS	120226-60-0	<3.46	3.46	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
PFDoA	307-55-1	<0.876	0.876	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
MeFOSA	31506-32-8	<4.24	4.24	22.1		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
PFTrDA	72629-94-8	<0.547	0.547	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
PFDoS	79780-39-5	<4.61	4.61	5.53		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
PFTeDA	376-06-7	<0.835	0.835	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
EtFOSA	4151-50-2	<5.65	5.65	22.1		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
PFHxDA	67905-19-5	<0.325	0.325	4.43		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
PFODA	16517-11-6	<6.79	6.79	7.74		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
MeFOSE	24448-09-7	<6.72	6.72	22.1		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
EtFOSE	1691-99-2	<10.4	10.4	22.1		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	139	25 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1

Sample ID: Geoprobe decon blank **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001475-10	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 09:30	Date Received:	14-Jul-20 09:11		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	96.3	25 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
13C3-PFBS	IS	109	25 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
13C3-HFPO-DA	IS	102	25 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
13C2-4:2 FTS	IS	93.0	25 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
13C2-PFHxA	IS	99.2	25 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
13C4-PFHpA	IS	89.6	25 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
13C3-PFHxS	IS	93.1	25 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
13C2-6:2 FTS	IS	100	25 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
13C5-PFNA	IS	91.1	25 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
13C8-PFOA	IS	68.2	10 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
13C2-PFOA	IS	101	25 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
13C8-PFOS	IS	114	25 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
13C2-PFDA	IS	99.3	25 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
13C2-8:2 FTS	IS	91.9	25 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
d3-MeFOSAA	IS	92.8	25 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
13C2-PFUnA	IS	91.9	25 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
d5-EtFOSAA	IS	87.8	25 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
13C2-10:2 FTS	IS	80.5	25 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
13C2-PFDoA	IS	87.2	25 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
d3-MeFOSA	IS	13.8	10 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
13C2-PFTeDA	IS	86.3	25 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
d5-EtFOSA	IS	10.1	10 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
13C2-PFHxDA	IS	79.2	25 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
d7-MeFOSE	IS	26.8	10 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1
d9-EtFOSE	IS	31.9	10 - 150		B0G0132	17-Jul-20	0.113 L	23-Jul-20 20:53	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: EQUIPMENT BLANK-070920
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001475-11	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	09-Jul-20 16:30	Date Received:	14-Jul-20 09:11		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.802	0.802	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
PFPeA	2706-90-3	<1.41	1.41	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
PFBS	375-73-5	<1.97	1.97	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
4:2 FTS	757124-72-4	<1.53	1.53	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
PFHxA	307-24-4	<2.40	2.40	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
PFPeS	2706-91-4	<2.66	2.66	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
HFPO-DA	13252-13-6	<5.30	5.30	5.50		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
PFHpA	375-85-9	<0.650	0.650	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
ADONA	919005-14-4	<0.795	0.795	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
PFHxS	355-46-4	<1.04	1.04	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
6:2 FTS	27619-97-2	<2.20	2.20	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
PFOA	335-67-1	<0.716	0.716	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
PFHpS	375-92-8	<1.03	1.03	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
PFNA	375-95-1	<0.891	0.891	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
PFOSA	754-91-6	<1.95	1.95	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
PFOS	1763-23-1	<0.888	0.888	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
9Cl-PF3ONS	756426-58-1	<1.60	1.60	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
PFDA	335-76-2	<1.64	1.64	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
8:2 FTS	39108-34-4	<2.27	2.27	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
PFNS	68259-12-1	<4.26	4.26	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
MeFOSAA	2355-31-9	<1.82	1.82	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
EtFOSAA	2991-50-6	<1.51	1.51	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
PFUnA	2058-94-8	<1.16	1.16	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
PFDS	335-77-3	<1.35	1.35	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
11Cl-PF3OUdS	763051-92-9	<2.65	2.65	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
10:2 FTS	120226-60-0	<3.44	3.44	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
PFDoA	307-55-1	<0.872	0.872	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
MeFOSA	31506-32-8	<4.21	4.21	22.0		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
PFTrDA	72629-94-8	<0.544	0.544	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
PFDoS	79780-39-5	<4.59	4.59	5.50		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
PFTeDA	376-06-7	<0.831	0.831	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
EtFOSA	4151-50-2	<5.62	5.62	22.0		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
PFHxDA	67905-19-5	<0.324	0.324	4.40		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
PFODA	16517-11-6	<6.76	6.76	7.70		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
MeFOSE	24448-09-7	<6.68	6.68	22.0		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
EtFOSE	1691-99-2	<10.4	10.4	22.0		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	142	25 - 150			B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1

Sample ID: EQUIPMENT BLANK-070920

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001475-11	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	09-Jul-20 16:30	Date Received:	14-Jul-20 09:11		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	97.4	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
13C3-PFBS	IS	93.8	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
13C3-HFPO-DA	IS	87.6	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
13C2-4:2 FTS	IS	97.8	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
13C2-PFHxA	IS	97.3	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
13C4-PFHpA	IS	102	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
13C3-PFHxS	IS	106	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
13C2-6:2 FTS	IS	99.4	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
13C5-PFNA	IS	88.6	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
13C8-PFOA	IS	40.4	10 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
13C2-PFOA	IS	97.1	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
13C8-PFOS	IS	85.7	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
13C2-PFDA	IS	111	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
13C2-8:2 FTS	IS	105	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
d3-MeFOSAA	IS	77.9	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
13C2-PFUnA	IS	98.6	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
d5-EtFOSAA	IS	74.2	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
13C2-10:2 FTS	IS	76.5	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
13C2-PFDoA	IS	92.2	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
d3-MeFOSA	IS	14.5	10 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
13C2-PFTeDA	IS	69.7	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
d5-EtFOSA	IS	13.7	10 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
13C2-PFHxDA	IS	49.3	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
d7-MeFOSE	IS	18.0	10 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1
d9-EtFOSE	IS	18.1	10 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 15:47	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: GW Duplicate A
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001475-12	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	09-Jul-20 00:00	Date Received:	14-Jul-20 09:11		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	19000	12.3	67.4	D	B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:14	15
PFPeA	2706-90-3	41500	21.6	67.4	D	B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:14	15
PFBS	375-73-5	19600	30.2	67.4		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:14	15
4:2 FTS	757124-72-4	197	1.56	4.50		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
PFHxA	307-24-4	56300	36.8	67.4	D	B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:14	15
PFPeS	2706-91-4	23700	40.8	67.4	D	B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:14	15
HFPO-DA	13252-13-6	<5.42	5.42	5.62		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
PFHpA	375-85-9	25400	9.97	67.4	D	B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:14	15
ADONA	919005-14-4	<0.812	0.812	4.50		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
PFHxS	355-46-4	85900	31.9	135	D	B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:03	30
6:2 FTS	27619-97-2	6230	33.7	67.4	D	B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:14	15
PFOA	335-67-1	66600	11.0	67.4	D	B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:14	15
PFHpS	375-92-8	91.5	1.05	4.50		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
PFNA	375-95-1	2.98	0.911	4.50	J	B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
PFOSA	754-91-6	8.47	1.99	4.50		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
PFOS	1763-23-1	175	0.907	4.50		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
9Cl-PF3ONS	756426-58-1	<1.63	1.63	4.50		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
PFDA	335-76-2	<1.67	1.67	4.50		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
8:2 FTS	39108-34-4	24.8	2.32	4.50		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
PFNS	68259-12-1	<4.35	4.35	4.50		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
MeFOSAA	2355-31-9	<1.85	1.85	4.50		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
EtFOSAA	2991-50-6	<1.54	1.54	4.50		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
PFUnA	2058-94-8	<1.18	1.18	4.50		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
PFDS	335-77-3	<1.38	1.38	4.50		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
11Cl-PF3OUdS	763051-92-9	<2.71	2.71	4.50		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
10:2 FTS	120226-60-0	<3.52	3.52	4.50		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
PFDoA	307-55-1	<0.890	0.890	4.50		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
MeFOSA	31506-32-8	<4.31	4.31	22.5		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
PFTTrDA	72629-94-8	<0.555	0.555	4.50		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
PFDoS	79780-39-5	<4.69	4.69	5.62		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
PFTeDA	376-06-7	<0.849	0.849	4.50		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
EtFOSA	4151-50-2	<5.74	5.74	22.5		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
PFHxDA	67905-19-5	<0.330	0.330	4.50		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
PFODA	16517-11-6	<6.90	6.90	7.87		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
MeFOSE	24448-09-7	<6.82	6.82	22.5		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
EtFOSE	1691-99-2	<10.6	10.6	22.5		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	36.0	25 - 150	D	B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:14	15

Sample ID: GW Duplicate A **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001475-12	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	09-Jul-20 00:00	Date Received:	14-Jul-20 09:11		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	69.0	25 - 150	D	B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:14	15
13C3-PFBS	IS	76.5	25 - 150	D	B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:14	15
13C3-HFPO-DA	IS	66.2	25 - 150		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
13C2-4:2 FTS	IS	69.7	25 - 150		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
13C2-PFHxA	IS	107	25 - 150	D	B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:14	15
13C4-PFHpA	IS	75.0	25 - 150	D	B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:14	15
13C3-PFHxS	IS	57.0	25 - 150	D	B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:03	30
13C2-6:2 FTS	IS	108	25 - 150	D	B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:14	15
13C5-PFNA	IS	83.7	25 - 150		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
13C8-PFOA	IS	56.8	10 - 150		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
13C2-PFOA	IS	105	25 - 150	D	B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:14	15
13C8-PFOS	IS	87.6	25 - 150		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
13C2-PFDA	IS	91.3	25 - 150		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
13C2-8:2 FTS	IS	83.1	25 - 150		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
d3-MeFOSAA	IS	77.8	25 - 150		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
13C2-PFUnA	IS	89.8	25 - 150		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
d5-EtFOSAA	IS	82.5	25 - 150		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
13C2-10:2 FTS	IS	83.8	25 - 150		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
13C2-PFDoA	IS	95.1	25 - 150		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
d3-MeFOSA	IS	14.4	10 - 150		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
13C2-PFTeDA	IS	76.2	25 - 150		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
d5-EtFOSA	IS	13.6	10 - 150		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
13C2-PFHxDA	IS	69.2	25 - 150		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
d7-MeFOSE	IS	53.4	10 - 150		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1
d9-EtFOSE	IS	55.4	10 - 150		B0G0132	17-Jul-20	0.111 L	22-Jul-20 15:58	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: GW Duplicate B
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001475-13	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	09-Jul-20 00:00	Date Received:	14-Jul-20 09:11		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	530	0.817	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
PFPeA	2706-90-3	2130	1.44	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
PFBS	375-73-5	194	2.01	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
4:2 FTS	757124-72-4	76.5	1.56	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
PFHxA	307-24-4	2280	2.44	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
PFPeS	2706-91-4	518	2.71	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
HFPO-DA	13252-13-6	<5.40	5.40	5.61		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
PFHpA	375-85-9	1200	0.663	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
ADONA	919005-14-4	<0.810	0.810	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
PFHxS	355-46-4	12000	5.31	22.4	D	B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:34	5
6:2 FTS	27619-97-2	9720	11.2	22.4	D	B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:34	5
PFOA	335-67-1	2150	0.730	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
PFHpS	375-92-8	1630	1.05	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
PFNA	375-95-1	110	0.908	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
PFOSA	754-91-6	16.6	1.98	4.49	Q	B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
PFOS	1763-23-1	44200	9.05	44.9	D	B0G0132	17-Jul-20	0.111 L	28-Jul-20 15:06	10
9Cl-PF3ONS	756426-58-1	<1.63	1.63	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
PFDA	335-76-2	4.28	1.67	4.49	J, Q	B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
8:2 FTS	39108-34-4	443	2.31	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
PFNS	68259-12-1	<4.34	4.34	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
MeFOSAA	2355-31-9	<1.85	1.85	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
EtFOSAA	2991-50-6	<1.54	1.54	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
PFUnA	2058-94-8	<1.18	1.18	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
PFDS	335-77-3	<1.38	1.38	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
11Cl-PF3OUdS	763051-92-9	<2.70	2.70	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
10:2 FTS	120226-60-0	<3.51	3.51	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
PFDoA	307-55-1	<0.888	0.888	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
MeFOSA	31506-32-8	<4.29	4.29	22.4		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
PFTrDA	72629-94-8	<0.554	0.554	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
PFDoS	79780-39-5	<4.68	4.68	5.61		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
PFTeDA	376-06-7	<0.847	0.847	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
EtFOSA	4151-50-2	<5.73	5.73	22.4		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
PFHxDA	67905-19-5	<0.330	0.330	4.49		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
PFODA	16517-11-6	<6.88	6.88	7.85		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
MeFOSE	24448-09-7	<6.81	6.81	22.4		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
EtFOSE	1691-99-2	<10.6	10.6	22.4		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	110	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1

Sample ID: GW Duplicate B **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001475-13	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	09-Jul-20 00:00	Date Received:	14-Jul-20 09:11		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	87.8	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
13C3-PFBS	IS	112	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
13C3-HFPO-DA	IS	88.6	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
13C2-4:2 FTS	IS	101	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
13C2-PFHxA	IS	88.6	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
13C4-PFHpA	IS	87.8	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
13C3-PFHxS	IS	99.8	25 - 150	D	B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:34	5
13C2-6:2 FTS	IS	131	25 - 150	D	B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:34	5
13C5-PFNA	IS	80.6	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
13C8-PFOA	IS	59.1	10 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
13C2-PFOA	IS	93.5	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
13C8-PFOS	IS	99.0	25 - 150	D	B0G0132	17-Jul-20	0.111 L	28-Jul-20 15:06	10
13C2-PFDA	IS	94.9	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
13C2-8:2 FTS	IS	91.8	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
d3-MeFOSAA	IS	95.0	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
13C2-PFUnA	IS	97.8	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
d5-EtFOSAA	IS	96.9	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
13C2-10:2 FTS	IS	83.4	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
13C2-PFDoA	IS	85.3	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
d3-MeFOSA	IS	14.3	10 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
13C2-PFTeDA	IS	82.9	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
d5-EtFOSA	IS	12.2	10 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
13C2-PFHxDA	IS	79.8	25 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
d7-MeFOSE	IS	44.6	10 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1
d9-EtFOSE	IS	49.9	10 - 150		B0G0132	17-Jul-20	0.111 L	23-Jul-20 21:45	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
CRS	Cleanup Recovery Standard
D	Dilution
DL	Detection Limit
E	The associated compound concentration exceeded the calibration range of the instrument
H	Recovery and/or RPD was outside laboratory acceptance limits
I	Chemical Interference
IS	Internal Standard
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limit of Detection
LOQ	Limit of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
MDL	Method Detection Limit
NA	Not applicable
ND	Not Detected
OPR	Ongoing Precision and Recovery sample
P	The reported concentration may include contribution from chlorinated diphenyl ether(s).
Q	The ion transition ratio is outside of the acceptance criteria.
RL	Reporting Limit
TEQ	Toxic Equivalency
U	Not Detected (specific projects only)
*	See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Vista Analytical Laboratory Certifications

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	19-013-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-23
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2018017
Massachusetts Department of Environmental Protection	N/A
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	1521520
New Hampshire Environmental Accreditation Program	207718-B
New Jersey Department of Environmental Protection	190001
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-010
Pennsylvania Department of Environmental Protection	016
Texas Commission on Environmental Quality	T104704189-19-10
Vermont Department of Health	VT-4042
Virginia Department of General Services	10272
Washington Department of Ecology	C584-19
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

NELAP Accredited Test Methods

MATR 000 Air	
Description of Test	Method
Determination of Polychlorinated p-Dioxins □ Polychlorinated Dibenzofurans	EPA 23
Determination of Polychlorinated p-Dioxins □ Polychlorinated Dibenzofurans	EPA TO-9A

MATR 000 Biological Tissue	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water □ Soil □ Sediment □ and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water □ Soil □ Sediment □ Biosolids □ and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenz-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins □ PCDDs □ and Polychlorinated Dibenzofurans □ PCDFs □ by GC/HRMS	EPA 8290/8290A

MATR 000 Drinking Water	
Description of Test	Method
2,3,7,8-Tetrachlorodibenzo-p-dioxin □ 2,3,7,8-TCDD □ GC/HRMS	EPA 1613/1613B
1,4-Dioxane □ 1,4-Diethyleneoxide □ analysis by GC/HRMS	EPA 522
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	ISO 25101 2009

MATR ☐☐ Non-Potable Water	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by ☐otope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water☐Soil☐Sediment☐and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water☐Soil☐Sediment☐Biosolids☐and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Diben☐o-p-Dioxins and Polychlorinated Diben☐ofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Diben☐odioxins ☐PCDDs☐and Polychlorinated Diben☐ofurans ☐PCDFs☐by GC/HRMS	EPA 8290/8290A

MATR ☐☐ Solids	
Description of Test	Method
Tetra-Octa Chlorinated Dioxins and Furans by ☐otope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by ☐otope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water☐Soil☐Sediment☐and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water☐Soil☐Sediment☐Biosolids☐and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Diben☐o-p-Dioxins and Polychlorinated Diben☐ofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Diben☐odioxins ☐PCDDs☐and Polychlorinated Diben☐ofurans ☐PCDFs☐by GC/HRMS	EPA 8290/8290A



CHAIN OF CUSTODY

For Laboratory Use Only
 Work Order #: 2001475 Temp: 3.4 °C
 Storage ID: R-13, WR-2 Storage Secured: Yes No

Project ID: MSN FFTA SAMPLES PO#: MSNPF1 Sampler: C. Schinke
 (name)

TAT Standard: 21 days
 (check one): Rush (surcharge may apply)
 14 days 7 days Specify: _____

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
			<u>William Winkler</u>	<u>07/14/20</u>	<u>09:11</u>
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time

SHIP TO: Vista Analytical Laboratory
 1104 Windfield Way
 El Dorado Hills, CA 95762
 (916) 673-1520 * Fax (916) 673-0106

Method of Shipment: _____
 Tracking No.: _____

ATTN: _____

Add Analysis(es) Requested

Container(s)

PFAS by Isotope Dilution

EPA Method 537 (DW only)

OTHER: Please attach analyte list

PFDA/PFOA UCMR3 PFAS List: 6
 537.1 List: 14 or 18 (Circle One)
 EPA Draft List of 24

PFDA/PFOA UCMR3 PFAS List: 6
 537.1 List of 14
 537.1 List of 18

Sample ID	Date	Time	Location/ Sample Description	Quantity	Type	Matrix	PFDA/PFOA	UCMR3 PFAS List: 6	537.1 List: 14 or 18 (Circle One)	EPA Draft List of 24	OTHER: Please attach analyte list	PFDA/PFOA	UCMR3 PFAS List: 6	537.1 List of 14	537.1 List of 18	Comments
SBP20-02 (1-1.5)	7/7/20	1505		1	PJ	SO					*					
SBP20-02 (5.5-6)	7/7/20	1515		1	PJ	SO					*					* WISCONSIN PFAS LIST
SBP20-03 (1-1.5)	7/7/20	1530		1	PJ	SO					*					
SBP20-03 (5-5.5)	7/7/20	1540		1	PJ	SO					*					
SBP20-06 (0.5-1)	7/7/20	1600		1	PJ	SO					*					
SBP20-06 (7.4-7.9)	7/7/20	1605		1	PJ	SO					*					
SBP20-02 -GW	7/7/20	1610		2	P	AQ					*					
SBP20-03 -GW	7/7/20	1635		2	P	AQ					*					
SBP20-04-(7-7.5)	7/8/20	0740		1	PJ	SO					*					
Geoprobe decon blank	7/8/20	0930		2	P	AQ					*					

Special Instructions/Comments: _____

SEND DOCUMENTATION AND RESULTS TO:

Name: CHRIS CIECIK
 Company: LIMNOTECH
 Address: 501 AVIS DRIVE
 City: ANN ARBOR MI 48108
 Phone: 734 332 1200
 Email: CCIECIK@LIMNO.COM

Container Types: P= HDPE, PJ= HDPE Jar
 PY= Polypropylene, O = Other: _____

Bottle Preservation Type:
 TZ = Trizma: _____

Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment,
 SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other: _____



CHAIN OF CUSTODY

For Laboratory Use Only
 Work Order #: 2001475 Temp: 34 °C
 Storage ID: R-13, WR-2 Storage Secured: Yes No

Project ID: MSN FFTA SAMPLES PO#: MSNPF1 Sampler: C. Schake
 (name)

TAT Standard: 21 days
 (check one): Rush (surcharge may apply)
 14 days 7 days Specify: _____

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
			<u>William Wright</u>	<u>02/14/20</u>	<u>09:11</u>
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time

SHIP TO: Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 (916) 673-1520 * Fax (916) 673-0106				Method of Shipment:		Add Analysis(es) Requested										
ATTN: _____				Tracking No.: _____		Container(s)										
Sample ID	Date	Time	Location/ Sample Description	Quantity	Type	Matrix	PFOS/PFOA	UCMR3 PFAS List:6	537.1 List: 14 or 18 (Circle One)	EPA Draft List of 24	OTHER: Please attach analyte list	PFOS/PFOA	UCMR3 PFAS List:6	537.1 List of 14	537.1 List of 18	Comments
<u>EQUIPMENT BLANK - 070920</u>	<u>7/9/20</u>	<u>1630</u>		<u>2</u>	<u>P</u>	<u>AQ</u>					<u>*</u>					<u>* WISCONSIN PFAS LIST</u>
<u>GW Duplicate A</u>	<u>-</u>	<u>-</u>		<u>2</u>	<u>P</u>	<u>AQ</u>					<u>*</u>					
<u>GW Duplicate B</u>	<u>-</u>	<u>-</u>		<u>2</u>	<u>P</u>	<u>AQ</u>					<u>*</u>					

Special Instructions/Comments: _____

SEND DOCUMENTATION AND RESULTS TO:

Name: CHRIS CIECIK
 Company: LIMNOTECH
 Address: 501 AVIS DRIVE
 City: ANN ARBOR MI 48108
 Phone: 734 332 1200
 Email: CCIECIK@LIMNO.COM

Container Types: P= HDPE, PJ= HDPE Jar
 PY= Polypropylene, O = Other: _____

Bottle Preservation Type:
 TZ = Trizma: _____

Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment,
 SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other: _____

Sample Log-In Checklist

 Page # 1 of 1

 Vista Work Order #: 2001475 TAT std

Samples Arrival:	Date/Time: <u>07/14/20 09:11</u>	Initials: <u>WRW</u>	Location: <u>WR-2</u>
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> On Trac
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
Temp °C: <u>3.4</u> (uncorrected)	Probe used: Y / <input checked="" type="checkbox"/> N		Shelf/Rack: <u>NA</u>
Temp °C: <u>3.4</u> (corrected)			Thermometer ID: <u>IR-3</u>

	YES	NO	NA
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>		
Shipping Custody Seals Intact?	<input checked="" type="checkbox"/>		
Airbill <u>4 of 4</u> Trk # <u>3947 7925 1825</u>	<input checked="" type="checkbox"/>		
Shipping Documentation Present?	<input checked="" type="checkbox"/>		
Shipping Container	<input checked="" type="checkbox"/> Vista	<input type="checkbox"/> Client	<input checked="" type="checkbox"/> Retain
	<input type="checkbox"/> Return	<input type="checkbox"/> Dispose	
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>		
Chain of Custody / Sample Documentation Complete?	<input checked="" type="checkbox"/>		
Holding Time Acceptable?	<input checked="" type="checkbox"/>		
Logged In:	Date/Time: <u>07/14/20 1545</u>	Initials: <u>WWS</u>	Location: <u>R-13, WR-2</u>
			Shelf/Rack: <u>2-3, F-4</u>
COC Anomaly/Sample Acceptance Form completed?	<input checked="" type="checkbox"/>		

Comments:

CoC/Label Reconciliation Report WO# 2001475

LabNumber	CoC Sample ID	SampleAlias	Sample Date/Time	Container	BaseMatrix	Sample Comments
2001475-01	A SBP20-02 (1-1.5)	<input checked="" type="checkbox"/>	07-Jul-20 15:05	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid
2001475-02	A SBP20-02 (5.5-6)	<input checked="" type="checkbox"/>	07-Jul-20 15:15	<input type="checkbox"/>	HDPE Jar, 6 oz	Solid
2001475-03	A SBP20-03 (1-1.5)	<input type="checkbox"/> A	07-Jul-20 15:30	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid
2001475-04	A SBP20-03 (5.5-5.5)	<input checked="" type="checkbox"/>	07-Jul-20 15:40	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid
2001475-05	A SBP20-06 (0.5-1)	<input checked="" type="checkbox"/>	07-Jul-20 16:00	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid
2001475-06	A SBP20-06 (7.4-7.9)	<input checked="" type="checkbox"/>	07-Jul-20 16:05	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid
E 2001475-07	A SBP20-02-GW	<input checked="" type="checkbox"/>	07-Jul-20 16:10	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001475-07	B SBP20-02-GW	<input type="checkbox"/>	07-Jul-20 16:10	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001475-08	A SBP20-03-GW	<input checked="" type="checkbox"/>	07-Jul-20 16:35	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
E 2001475-08	B SBP20-03-GW	<input checked="" type="checkbox"/>	07-Jul-20 16:35	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001475-09	A SBP20-04-(7-7.5)	<input type="checkbox"/> B	08-Jul-20 07:40	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid
2001475-10	A Geoprobe decon blank	<input type="checkbox"/> C	08-Jul-20 09:30	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001475-10	B Geoprobe decon blank	<input type="checkbox"/>	08-Jul-20 09:30	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001475-11	A EQUIPMENT BLANK-070920	<input checked="" type="checkbox"/>	09-Jul-20 16:30	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001475-11	B EQUIPMENT BLANK-070920	<input checked="" type="checkbox"/>	09-Jul-20 16:30	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
E 2001475-12	A GW Duplicate A	<input checked="" type="checkbox"/>	09-Jul-20 00:00	<input type="checkbox"/> D	HDPE Bottle, 125 mL	Aqueous
2001475-12	B GW Duplicate A	<input checked="" type="checkbox"/>	09-Jul-20 00:00	<input type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
E 2001475-13	A GW Duplicate B	<input checked="" type="checkbox"/>	09-Jul-20 00:00	<input type="checkbox"/> D	HDPE Bottle, 125 mL	Aqueous
2001475-13	B GW Duplicate B	<input checked="" type="checkbox"/>	09-Jul-20 00:00	<input type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous

Checkmarks indicate that information on the COC reconciled with the sample label.
Any discrepancies are noted in the following columns.

	Yes	No	NA
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Adequate Sample Volume?	✓		
Container Type Appropriate for Analysis(es)	✓		
Preservation Documented: Na ₂ S ₂ O ₃ Trizma <u>None</u> Other			✓
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

Verified by/Date: FA 02/15/20

Comments:	COC Label:	Sample Label:
A	SBP20-03 (1-1.5)	SBP20-03
B	SBP20-04 (7-7.5)	SBP20-04 (7-7.5)
C	Geoprobe <u>decon</u> <u>blank</u>	Geoprobe <u>Decon</u> <u>Blank</u>
D	No date and time on samples labels.	
E	Sample contain particulate	



ANOMALY FORM

Vista Work Order 2001475

Initial/Date The following checked issues were noted during sample receipt and login:

- 1. The samples were received out of temperature at (WI-PHT): _____
Was Ice present: Yes No Melted Blue Ice
- was off (15/20) 2. The Chain-of-Custody (CoC) was not relinquished properly.
- 3. The CoC did not include collection time(s). 00:00 will be used unless notified otherwise.
- 4. The sample(s) did not include a sample collection time. All or Sample Name: _____
- 5. A sample ID discrepancy was found. See the Reconciliation report.
The CoC Sample ID will be used unless notified otherwise.
- 6. A sample date and/or time discrepancy was found. See the Reconciliation report.
The CoC Sample date/time will be used unless notified otherwise.
- 7. The CoC did not include a sample matrix. The following sample matrix will be used: _____
- 8. Insufficient volume received for analysis. All or Sample Name: _____
- 9. The backup bottle was received broken. Sample Name: _____
- 10. CoC not received, illegible or destroyed.
- 11. The sample(s) were received out of holding time. All or Sample Name: _____
- 12. The CoC did not include an analysis. All or Sample Name: _____
- 13. Sample(s) received without collection date. All or Sample Name: _____
- 14. Sample(s) not received. All or Sample Name: _____
- 15. Sample(s) received broken. All or Sample Name: _____
- 16. An incorrect container-type was used. All or Sample Name: _____
- 17. Other:

Bolded items require sign-off

Client Contacted: _____

Date of Contact: _____

Vista Client Manager: _____

Resolution:

August 03, 2020

Vista Work Order No. 2001478

Mr. Chris Cieciek
LimnoTech, Inc.
501 Avis Drive
Ann Arbor, MI 48108

Dear Mr. Cieciek,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on July 14, 2020 under your Project Name 'MSN FFTA SAMPLES'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,



Martha Maier
Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Work Order No. 2001478

Case Narrative

Sample Condition on Receipt:

Five aqueous samples and five soil samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

PFAS Isotope Dilution Method - Aqueous

The following samples contained particulate and were centrifuged prior to extraction:

<u>Laboratory ID</u>	<u>Sample Name</u>
2001478-01	SBP20-01-GW
2001478-03	SBP20-06-GW
2001478-06	SBP20-05-GW
2001478-10	SBP20-04-GW

The aqueous samples were extracted and analyzed for a selected list of PFAS using Vista's PFAS Isotope Dilution Method. The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The samples were extracted and analyzed within the EPA-recommended hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with each preparation batch. No analytes were detected in the Method Blanks above the Reporting Limit. The OPR recoveries were within the method acceptance criteria.

The internal standard recoveries outside the acceptance criteria are flagged with an "H" qualifier.

PFAS Isotope Dilution Method - Solid

The soil samples were extracted and analyzed for a selected list of PFAS using Vista's Isotope Dilution Method. The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The samples were extracted and analyzed within the EPA-recommended hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above the Reporting Limit. The recoveries of 11Cl-PF3OUdS and PFDoS were greater than 135% in the OPR. These analytes were not detected in the associated samples. The recoveries of all other analytes were within the acceptance criteria.

The internal standard recoveries outside the acceptance criteria are flagged with an "H" qualifier.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
2001478-01	SBP20-01-GW	08-Jul-20 09:40	14-Jul-20 09:11	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
2001478-02	SBP20-04 (0.5-1)	08-Jul-20 07:35	14-Jul-20 09:11	HDPE Jar, 6 oz
2001478-03	SBP20-06-GW	08-Jul-20 07:50	14-Jul-20 09:11	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
2001478-04	SBP20-05 (0.5-1)	08-Jul-20 08:10	14-Jul-20 09:11	HDPE Jar, 6 oz
2001478-05	SBP20-05 (6-6.5)	08-Jul-20 08:20	14-Jul-20 09:11	HDPE Jar, 6 oz
2001478-06	SBP20-05-GW	08-Jul-20 08:55	14-Jul-20 09:11	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
2001478-07	SBP20-01 (0.5-1)	08-Jul-20 09:00	14-Jul-20 09:11	HDPE Jar, 6 oz
2001478-08	SBP20-01 (5-5.5)	08-Jul-20 09:05	14-Jul-20 09:11	HDPE Jar, 6 oz
2001478-09	Field Blank A	08-Jul-20 09:55	14-Jul-20 09:11	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
2001478-10	SBP20-04-GW	08-Jul-20 10:05	14-Jul-20 09:11	HDPE Bottle, 125 mL HDPE Bottle, 125 mL

ANALYTICAL RESULTS

Sample ID: Method Blank
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	B0G0132-BLK1	Column:	BEH C18
Project:	MSN FFTA SAMPLES						

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.729	0.729	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFPeA	2706-90-3	<1.28	1.28	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFBS	375-73-5	<1.79	1.79	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
4:2 FTS	757124-72-4	<1.39	1.39	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFHxA	307-24-4	<2.18	2.18	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFPeS	2706-91-4	<2.42	2.42	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
HFPO-DA	13252-13-6	<4.82	4.82	5.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFHpA	375-85-9	<0.591	0.591	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
ADONA	919005-14-4	<0.722	0.722	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFHxS	355-46-4	<0.947	0.947	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
6:2 FTS	27619-97-2	<2.00	2.00	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFOA	335-67-1	<0.651	0.651	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFHpS	375-92-8	<0.937	0.937	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFNA	375-95-1	<0.810	0.810	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFOSA	754-91-6	<1.77	1.77	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFOS	1763-23-1	<0.807	0.807	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
9Cl-PF3ONS	756426-58-1	<1.45	1.45	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFDA	335-76-2	<1.49	1.49	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
8:2 FTS	39108-34-4	<2.06	2.06	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFNS	68259-12-1	<3.87	3.87	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
MeFOSAA	2355-31-9	<1.65	1.65	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
EtFOSAA	2991-50-6	<1.37	1.37	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFUnA	2058-94-8	<1.05	1.05	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFDS	335-77-3	<1.23	1.23	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
11Cl-PF3OUdS	763051-92-9	<2.41	2.41	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
10:2 FTS	120226-60-0	<3.13	3.13	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFDoA	307-55-1	<0.792	0.792	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
MeFOSA	31506-32-8	<3.83	3.83	20.0		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFTrDA	72629-94-8	<0.494	0.494	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFDoS	79780-39-5	<4.17	4.17	5.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFTeDA	376-06-7	<0.755	0.755	4.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
EtFOSA	4151-50-2	<5.11	5.11	20.0		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFHxDA	67905-19-5	1.37	0.294	4.00	J, Q	B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
PFODA	16517-11-6	<6.14	6.14	7.00		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
MeFOSE	24448-09-7	<6.07	6.07	20.0		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
EtFOSE	1691-99-2	<9.44	9.44	20.0		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	144	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1

Sample ID: Method Blank **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	B0G0132-BLK1	Column:	BEH C18
Project:	MSN FFTA SAMPLES						

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	101	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C3-PFBS	IS	102	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C3-HFPO-DA	IS	90.2	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-4:2 FTS	IS	97.6	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-PFHxA	IS	95.5	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C4-PFHpA	IS	102	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C3-PFHxS	IS	104	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-6:2 FTS	IS	89.1	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C5-PFNA	IS	80.3	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C8-PFOA	IS	33.9	10 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-PFOA	IS	97.6	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C8-PFOS	IS	92.7	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-PFDA	IS	90.9	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-8:2 FTS	IS	94.5	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
d3-MeFOSAA	IS	77.3	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-PFUnA	IS	82.3	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
d5-EtFOSAA	IS	69.7	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-10:2 FTS	IS	77.9	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-PFDoA	IS	74.5	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
d3-MeFOSA	IS	10.8	10 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-PFTeDA	IS	64.5	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
d5-EtFOSA	IS	9.30	10 - 150	H	B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
13C2-PFHxDA	IS	39.2	25 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
d7-MeFOSE	IS	16.0	10 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1
d9-EtFOSE	IS	17.2	10 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:43	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: OPR

PFAS Isotope Dilution Method

Client Data					Laboratory Data							
Name:	LimnoTech, Inc.	Matrix:	Aqueous		Lab Sample:	B0G0132-BS1	Column:	BEH C18				
Project:	MSN FFTA SAMPLES											

Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	7.82	8.00	97.7	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFPeA	2706-90-3	7.69	8.00	96.1	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFBS	375-73-5	7.42	8.00	92.7	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
4:2 FTS	757124-72-4	7.81	8.00	97.6	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFHxA	307-24-4	7.64	8.00	95.4	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFPeS	2706-91-4	8.20	8.00	103	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
HFPO-DA	13252-13-6	7.51	8.00	93.8	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFHpA	375-85-9	7.48	8.00	93.6	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
ADONA	919005-14-4	7.54	8.00	94.2	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFHxS	355-46-4	6.14	8.00	76.7	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
6:2 FTS	27619-97-2	8.50	8.00	106	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFOA	335-67-1	7.13	8.00	89.1	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFHpS	375-92-8	7.83	8.00	97.9	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFNA	375-95-1	8.53	8.00	107	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFOSA	754-91-6	10.1	8.00	126	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFOS	1763-23-1	8.96	8.00	112	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
9Cl-PF3ONS	756426-58-1	7.13	8.00	89.1	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFDA	335-76-2	7.48	8.00	93.6	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
8:2 FTS	39108-34-4	6.64	8.00	83.0	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFNS	68259-12-1	7.56	8.00	94.5	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
MeFOSAA	2355-31-9	7.12	8.00	89.0	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
EtFOSAA	2991-50-6	6.42	8.00	80.3	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFUnA	2058-94-8	7.64	8.00	95.5	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFDS	335-77-3	7.21	8.00	90.1	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
11Cl-PF3OUdS	763051-92-9	7.38	8.00	92.3	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
10:2 FTS	120226-60-0	8.50	8.00	106	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFDoA	307-55-1	7.35	8.00	91.8	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
MeFOSA	31506-32-8	28.9	40.0	72.1	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFTTrDA	72629-94-8	7.23	8.00	90.3	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFDoS	79780-39-5	6.88	8.00	85.9	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFTeDA	376-06-7	7.21	8.00	90.2	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
EtFOSA	4151-50-2	35.5	40.0	88.8	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFHxDA	67905-19-5	7.62	8.00	95.3	50 - 150	B	B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
PFODA	16517-11-6	6.65	8.00	83.1	50 - 150	J	B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1

Sample ID: OPR						PFAS Isotope Dilution Method					
Client Data					Laboratory Data						
Name:	LimnoTech, Inc.	Matrix:	Aqueous			Lab Sample:	B0G0132-BS1	Column:	BEH C18		
Project:	MSN FFTA SAMPLES										
Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
MeFOSE	24448-09-7	45.9	40.0	115	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
EtFOSE	1691-99-2	26.1	40.0	65.3	50 - 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
Labeled Standards		Type		% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA		IS		145	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C3-PFPeA		IS		97.0	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C3-PFBS		IS		100	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C3-HFPO-DA		IS		86.9	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-4:2 FTS		IS		95.8	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-PFHxA		IS		87.0	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C4-PFHpA		IS		91.2	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C3-PFHxS		IS		101	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-6:2 FTS		IS		90.4	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C5-PFNA		IS		77.0	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C8-PFOSA		IS		26.2	10- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-PFOA		IS		90.1	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C8-PFOS		IS		80.2	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-PFDA		IS		89.6	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-8:2 FTS		IS		85.6	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
d3-MeFOSAA		IS		71.1	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-PFUnA		IS		75.5	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
d5-EtFOSAA		IS		70.3	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-10:2 FTS		IS		71.4	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-PFDoA		IS		81.9	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
d3-MeFOSA		IS		7.50	10- 150	H	B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-PFTeDA		IS		74.5	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
d5-EtFOSA		IS		5.90	10- 150	H	B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
13C2-PFHxDA		IS		61.5	25- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
d7-MeFOSE		IS		11.5	10- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1
d9-EtFOSE		IS		12.9	10- 150		B0G0132	17-Jul-20	0.125 L	22-Jul-20 13:53	1

Sample ID: Method Blank
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	B0G0133-BLK1	Column:	BEH C18
Project:	MSN FFTA SAMPLES						

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.729	0.729	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFPeA	2706-90-3	<1.28	1.28	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFBS	375-73-5	<1.79	1.79	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
4:2 FTS	757124-72-4	<1.39	1.39	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFHxA	307-24-4	<2.18	2.18	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFPeS	2706-91-4	<2.42	2.42	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
HFPO-DA	13252-13-6	<4.82	4.82	5.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFHpA	375-85-9	<0.591	0.591	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
ADONA	919005-14-4	<0.722	0.722	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFHxS	355-46-4	<0.947	0.947	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
6:2 FTS	27619-97-2	<2.00	2.00	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFOA	335-67-1	<0.651	0.651	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFHpS	375-92-8	<0.937	0.937	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFNA	375-95-1	<0.810	0.810	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFOSA	754-91-6	<1.77	1.77	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFOS	1763-23-1	<0.807	0.807	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
9Cl-PF3ONS	756426-58-1	<1.45	1.45	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFDA	335-76-2	<1.49	1.49	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
8:2 FTS	39108-34-4	<2.06	2.06	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFNS	68259-12-1	<3.87	3.87	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
MeFOSAA	2355-31-9	<1.65	1.65	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
EtFOSAA	2991-50-6	<1.37	1.37	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFUnA	2058-94-8	<1.05	1.05	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFDS	335-77-3	<1.23	1.23	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
11Cl-PF3OUdS	763051-92-9	<2.41	2.41	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
10:2 FTS	120226-60-0	<3.13	3.13	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFDoA	307-55-1	<0.792	0.792	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
MeFOSA	31506-32-8	<3.83	3.83	20.0		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFTrDA	72629-94-8	<0.494	0.494	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFDoS	79780-39-5	<4.17	4.17	5.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFTeDA	376-06-7	<0.755	0.755	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
EtFOSA	4151-50-2	<5.11	5.11	20.0		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFHxDA	67905-19-5	<0.294	0.294	4.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
PFODA	16517-11-6	<6.14	6.14	7.00		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
MeFOSE	24448-09-7	<6.07	6.07	20.0		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
EtFOSE	1691-99-2	<9.44	9.44	20.0		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	53.1	25 - 150			B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1

Sample ID: Method Blank **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	B0G0133-BLK1	Column:	BEH C18
Project:	MSN FFTA SAMPLES						

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	68.1	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C3-PFBS	IS	73.4	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C3-HFPO-DA	IS	69.6	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C2-4:2 FTS	IS	84.0	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C2-PFHxA	IS	72.2	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C4-PFHpA	IS	73.4	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C3-PFHxS	IS	75.2	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C2-6:2 FTS	IS	65.8	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C5-PFNA	IS	69.6	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C8-PFOA	IS	28.9	10 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C2-PFOA	IS	74.9	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C8-PFOS	IS	73.7	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C2-PFDA	IS	65.2	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C2-8:2 FTS	IS	89.6	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
d3-MeFOSAA	IS	56.7	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C2-PFUnA	IS	67.8	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
d5-EtFOSAA	IS	52.9	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C2-10:2 FTS	IS	74.6	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C2-PFDoA	IS	59.0	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
d3-MeFOSA	IS	9.50	10 - 150	H	B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C2-PFTeDA	IS	55.8	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
d5-EtFOSA	IS	8.50	10 - 150	H	B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
13C2-PFHxDA	IS	49.0	25 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
d7-MeFOSE	IS	20.8	10 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1
d9-EtFOSE	IS	24.1	10 - 150		B0G0133	25-Jul-20	0.125 L	28-Jul-20 16:08	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: OPR

PFAS Isotope Dilution Method

Client Data					Laboratory Data							
Name:	LimnoTech, Inc.	Matrix:	Aqueous		Lab Sample:	B0G0133-BS1	Column:	BEH C18				
Project:	MSN FFTA SAMPLES											

Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	7.56	8.00	94.5	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFPeA	2706-90-3	7.54	8.00	94.2	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFBS	375-73-5	7.92	8.00	99.0	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
4:2 FTS	757124-72-4	7.62	8.00	95.3	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFHxA	307-24-4	7.92	8.00	99.0	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFPeS	2706-91-4	9.00	8.00	112	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
HFPO-DA	13252-13-6	6.32	8.00	79.0	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFHpA	375-85-9	8.80	8.00	110	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
ADONA	919005-14-4	7.03	8.00	87.9	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFHxS	355-46-4	5.71	8.00	71.4	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
6:2 FTS	27619-97-2	8.41	8.00	105	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFOA	335-67-1	8.22	8.00	103	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFHpS	375-92-8	9.65	8.00	121	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFNA	375-95-1	7.74	8.00	96.7	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFOSA	754-91-6	8.71	8.00	109	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFOS	1763-23-1	7.04	8.00	88.0	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
9Cl-PF3ONS	756426-58-1	7.30	8.00	91.3	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFDA	335-76-2	9.39	8.00	117	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
8:2 FTS	39108-34-4	7.79	8.00	97.4	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFNS	68259-12-1	7.01	8.00	87.6	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
MeFOSAA	2355-31-9	8.75	8.00	109	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
EtFOSAA	2991-50-6	6.91	8.00	86.4	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFUnA	2058-94-8	8.11	8.00	101	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFDS	335-77-3	6.95	8.00	86.9	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
11Cl-PF3OUdS	763051-92-9	9.41	8.00	118	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
10:2 FTS	120226-60-0	10.1	8.00	126	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFDoA	307-55-1	8.12	8.00	101	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
MeFOSA	31506-32-8	51.6	40.0	129	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFTTrDA	72629-94-8	9.11	8.00	114	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFDoS	79780-39-5	8.12	8.00	102	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFTeDA	376-06-7	8.70	8.00	109	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
EtFOSA	4151-50-2	39.4	40.0	98.6	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFHxDA	67905-19-5	8.20	8.00	102	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
PFODA	16517-11-6	6.24	8.00	78.0	50 - 150	J	B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1

Sample ID: OPR						PFAS Isotope Dilution Method					
Client Data					Laboratory Data						
Name:	LimnoTech, Inc.	Matrix:	Aqueous			Lab Sample:	B0G0133-BS1	Column:	BEH C18		
Project:	MSN FFTA SAMPLES										
Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
MeFOSE	24448-09-7	54.3	40.0	136	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
EtFOSE	1691-99-2	26.7	40.0	66.8	50 - 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
Labeled Standards		Type		% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA		IS		87.8	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C3-PFPeA		IS		71.5	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C3-PFBS		IS		74.0	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C3-HFPO-DA		IS		70.6	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C2-4:2 FTS		IS		73.4	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C2-PFHxA		IS		68.4	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C4-PFHpA		IS		74.2	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C3-PFHxS		IS		78.0	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C2-6:2 FTS		IS		72.2	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C5-PFNA		IS		67.5	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C8-PFOSA		IS		29.7	10- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C2-PFOA		IS		74.4	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C8-PFOS		IS		69.2	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C2-PFDA		IS		61.4	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C2-8:2 FTS		IS		75.8	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
d3-MeFOSAA		IS		55.5	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C2-PFUnA		IS		63.9	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
d5-EtFOSAA		IS		56.7	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C2-10:2 FTS		IS		43.9	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C2-PFDoA		IS		52.4	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
d3-MeFOSA		IS		10.3	10- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C2-PFTeDA		IS		52.0	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
d5-EtFOSA		IS		10.8	10- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
13C2-PFHxDA		IS		42.2	25- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
d7-MeFOSE		IS		22.6	10- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1
d9-EtFOSE		IS		25.2	10- 150		B0G0133	25-Jul-20	0.125 L	27-Jul-20 12:58	1

Sample ID: SBP20-01-GW

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001478-01	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 09:40	Date Received:	14-Jul-20 09:11		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	256	0.830	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
PFPeA	2706-90-3	989	1.46	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
PFBS	375-73-5	166	2.04	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
4:2 FTS	757124-72-4	67.8	1.58	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
PFHxA	307-24-4	1320	2.48	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
PFPeS	2706-91-4	386	2.76	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
HFPO-DA	13252-13-6	<5.49	5.49	5.69		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
PFHpA	375-85-9	546	0.673	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
ADONA	919005-14-4	<0.822	0.822	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
PFHxS	355-46-4	6490	5.39	22.8	D	B0G0132	17-Jul-20	0.110 L	23-Jul-20 21:55	5
6:2 FTS	27619-97-2	6940	11.4	22.8	D	B0G0132	17-Jul-20	0.110 L	23-Jul-20 21:55	5
PFOA	335-67-1	1420	0.741	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
PFHpS	375-92-8	1520	1.07	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
PFNA	375-95-1	104	0.922	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
PFOSA	754-91-6	19.3	2.02	4.55	Q	B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
PFOS	1763-23-1	18300	4.59	22.8	D	B0G0132	17-Jul-20	0.110 L	23-Jul-20 21:55	5
9Cl-PF3ONS	756426-58-1	<1.65	1.65	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
PFDA	335-76-2	<1.70	1.70	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
8:2 FTS	39108-34-4	334	2.35	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
PFNS	68259-12-1	<4.41	4.41	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
MeFOSAA	2355-31-9	<1.88	1.88	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
EtFOSAA	2991-50-6	<1.56	1.56	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
PFUnA	2058-94-8	<1.20	1.20	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
PFDS	335-77-3	<1.40	1.40	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
11Cl-PF3OUdS	763051-92-9	<2.74	2.74	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
10:2 FTS	120226-60-0	<3.56	3.56	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
PFDoA	307-55-1	<0.902	0.902	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
MeFOSA	31506-32-8	<4.36	4.36	22.8		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
PFTTrDA	72629-94-8	<0.562	0.562	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
PFDoS	79780-39-5	<4.75	4.75	5.69		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
PFTeDA	376-06-7	<0.860	0.860	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
EtFOSA	4151-50-2	<5.82	5.82	22.8		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
PFHxDA	67905-19-5	<0.335	0.335	4.55		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
PFODA	16517-11-6	<6.99	6.99	7.97		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
MeFOSE	24448-09-7	<6.91	6.91	22.8		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
EtFOSE	1691-99-2	<10.7	10.7	22.8		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	113	25 - 150			B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1

Sample ID: SBP20-01-GW **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001478-01	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 09:40	Date Received:	14-Jul-20 09:11		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	99.3	25 - 150		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
13C3-PFBS	IS	108	25 - 150		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
13C3-HFPO-DA	IS	91.6	25 - 150		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
13C2-4:2 FTS	IS	108	25 - 150		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
13C2-PFHxA	IS	94.1	25 - 150		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
13C4-PFHpA	IS	100	25 - 150		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
13C3-PFHxS	IS	100	25 - 150	D	B0G0132	17-Jul-20	0.110 L	23-Jul-20 21:55	5
13C2-6:2 FTS	IS	107	25 - 150	D	B0G0132	17-Jul-20	0.110 L	23-Jul-20 21:55	5
13C5-PFNA	IS	76.7	25 - 150		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
13C8-PFOA	IS	60.2	10 - 150		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
13C2-PFOA	IS	97.5	25 - 150		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
13C8-PFOS	IS	105	25 - 150	D	B0G0132	17-Jul-20	0.110 L	23-Jul-20 21:55	5
13C2-PFDA	IS	98.1	25 - 150		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
13C2-8:2 FTS	IS	98.6	25 - 150		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
d3-MeFOSAA	IS	88.0	25 - 150		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
13C2-PFUnA	IS	82.3	25 - 150		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
d5-EtFOSAA	IS	84.3	25 - 150		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
13C2-10:2 FTS	IS	88.8	25 - 150		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
13C2-PFDoA	IS	99.8	25 - 150		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
d3-MeFOSA	IS	23.5	10 - 150		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
13C2-PFTeDA	IS	76.0	25 - 150		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
d5-EtFOSA	IS	19.8	10 - 150		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
13C2-PFHxDA	IS	78.6	25 - 150		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
d7-MeFOSE	IS	49.3	10 - 150		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1
d9-EtFOSE	IS	56.7	10 - 150		B0G0132	17-Jul-20	0.110 L	22-Jul-20 16:50	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBP20-06-GW
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001478-03	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 07:50	Date Received:	14-Jul-20 09:11		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	162	0.816	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
PFPeA	2706-90-3	496	1.43	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
PFBS	375-73-5	140	2.00	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
4:2 FTS	757124-72-4	<1.56	1.56	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
PFHxA	307-24-4	611	2.44	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
PFPeS	2706-91-4	185	2.71	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
HFPO-DA	13252-13-6	<5.40	5.40	5.60		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
PFHpA	375-85-9	299	0.662	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
ADONA	919005-14-4	<0.809	0.809	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
PFHxS	355-46-4	2640	1.06	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
6:2 FTS	27619-97-2	631	2.24	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
PFOA	335-67-1	465	0.729	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
PFHpS	375-92-8	405	1.05	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
PFNA	375-95-1	70.1	0.907	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
PFOSA	754-91-6	46.0	1.98	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
PFOS	1763-23-1	11800	4.52	22.4	D	B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:37	5
9Cl-PF3ONS	756426-58-1	<1.62	1.62	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
PFDA	335-76-2	<1.67	1.67	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
8:2 FTS	39108-34-4	213	2.31	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
PFNS	68259-12-1	<4.33	4.33	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
MeFOSAA	2355-31-9	<1.85	1.85	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
EtFOSAA	2991-50-6	<1.53	1.53	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
PFUnA	2058-94-8	<1.18	1.18	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
PFDS	335-77-3	<1.38	1.38	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
11Cl-PF3OUdS	763051-92-9	<2.70	2.70	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
10:2 FTS	120226-60-0	<3.51	3.51	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
PFDoA	307-55-1	<0.887	0.887	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
MeFOSA	31506-32-8	<4.29	4.29	22.4		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
PFTTrDA	72629-94-8	<0.553	0.553	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
PFDoS	79780-39-5	<4.67	4.67	5.60		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
PFTeDA	376-06-7	<0.846	0.846	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
EtFOSA	4151-50-2	<5.72	5.72	22.4		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
PFHxDA	67905-19-5	<0.329	0.329	4.48		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
PFODA	16517-11-6	<6.88	6.88	7.84		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
MeFOSE	24448-09-7	<6.80	6.80	22.4		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
EtFOSE	1691-99-2	<10.6	10.6	22.4		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C3-PFBA	IS	85.3	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1	

Sample ID: SBP20-06-GW **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001478-03	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 07:50	Date Received:	14-Jul-20 09:11		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	91.3	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
13C3-PFBS	IS	109	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
13C3-HFPO-DA	IS	83.8	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
13C2-4:2 FTS	IS	103	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
13C2-PFHxA	IS	92.6	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
13C4-PFHpA	IS	90.6	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
13C3-PFHxS	IS	85.0	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
13C2-6:2 FTS	IS	86.8	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
13C5-PFNA	IS	82.1	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
13C8-PFOA	IS	55.2	10 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
13C2-PFOA	IS	98.7	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
13C8-PFOS	IS	103	25 - 150	D	B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:37	5
13C2-PFDA	IS	96.7	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
13C2-8:2 FTS	IS	96.1	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
d3-MeFOSAA	IS	97.5	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
13C2-PFUnA	IS	89.1	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
d5-EtFOSAA	IS	96.0	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
13C2-10:2 FTS	IS	83.4	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
13C2-PFDoA	IS	81.4	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
d3-MeFOSA	IS	15.9	10 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
13C2-PFTeDA	IS	85.7	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
d5-EtFOSA	IS	14.1	10 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
13C2-PFHxDA	IS	76.6	25 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
d7-MeFOSE	IS	44.1	10 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1
d9-EtFOSE	IS	50.0	10 - 150		B0G0132	17-Jul-20	0.112 L	23-Jul-20 22:47	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBP20-05-GW

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001478-06	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 08:55	Date Received:	14-Jul-20 09:11		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	488	0.796	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
PFPeA	2706-90-3	1960	1.40	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
PFBS	375-73-5	35.7	1.96	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
4:2 FTS	757124-72-4	23.1	1.52	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
PFHxA	307-24-4	1210	2.38	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
PFPeS	2706-91-4	102	2.64	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
HFPO-DA	13252-13-6	<5.27	5.27	5.46		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
PFHpA	375-85-9	1190	0.646	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
ADONA	919005-14-4	<0.789	0.789	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
PFHxS	355-46-4	2370	1.03	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
6:2 FTS	27619-97-2	3030	2.19	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
PFOA	335-67-1	1120	0.711	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
PFHpS	375-92-8	367	1.02	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
PFNA	375-95-1	231	0.885	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
PFOSA	754-91-6	18.2	1.93	4.37	Q	B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
PFOS	1763-23-1	11800	4.41	21.9	D	B0G0132	17-Jul-20	0.114 L	23-Jul-20 22:57	5
9Cl-PF3ONS	756426-58-1	<1.58	1.58	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
PFDA	335-76-2	3.86	1.63	4.37	J	B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
8:2 FTS	39108-34-4	332	2.25	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
PFNS	68259-12-1	<4.23	4.23	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
MeFOSAA	2355-31-9	<1.80	1.80	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
EtFOSAA	2991-50-6	<1.50	1.50	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
PFUnA	2058-94-8	<1.15	1.15	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
PFDS	335-77-3	<1.34	1.34	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
11Cl-PF3OUdS	763051-92-9	<2.63	2.63	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
10:2 FTS	120226-60-0	<3.42	3.42	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
PFDoA	307-55-1	<0.865	0.865	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
MeFOSA	31506-32-8	<4.18	4.18	21.9		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
PFTrDA	72629-94-8	<0.540	0.540	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
PFDoS	79780-39-5	<4.56	4.56	5.46		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
PFTeDA	376-06-7	<0.825	0.825	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
EtFOSA	4151-50-2	<5.58	5.58	21.9		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
PFHxDA	67905-19-5	<0.321	0.321	4.37		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
PFODA	16517-11-6	<6.71	6.71	7.65		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
MeFOSE	24448-09-7	<6.63	6.63	21.9		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
EtFOSE	1691-99-2	<10.3	10.3	21.9		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	104	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1

Sample ID: SBP20-05-GW **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001478-06	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 08:55	Date Received:	14-Jul-20 09:11		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	91.9	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
13C3-PFBS	IS	98.7	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
13C3-HFPO-DA	IS	84.2	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
13C2-4:2 FTS	IS	80.7	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
13C2-PFHxA	IS	89.7	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
13C4-PFHpA	IS	86.0	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
13C3-PFHxS	IS	89.8	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
13C2-6:2 FTS	IS	78.4	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
13C5-PFNA	IS	84.1	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
13C8-PFOA	IS	53.3	10 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
13C2-PFOA	IS	89.3	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
13C8-PFOS	IS	87.5	25 - 150	D	B0G0132	17-Jul-20	0.114 L	23-Jul-20 22:57	5
13C2-PFDA	IS	101	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
13C2-8:2 FTS	IS	87.1	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
d3-MeFOSAA	IS	86.0	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
13C2-PFUnA	IS	89.1	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
d5-EtFOSAA	IS	82.6	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
13C2-10:2 FTS	IS	69.7	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
13C2-PFDoA	IS	95.5	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
d3-MeFOSA	IS	14.7	10 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
13C2-PFTeDA	IS	80.7	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
d5-EtFOSA	IS	12.7	10 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
13C2-PFHxDA	IS	76.7	25 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
d7-MeFOSE	IS	44.7	10 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1
d9-EtFOSE	IS	46.5	10 - 150		B0G0132	17-Jul-20	0.114 L	22-Jul-20 17:10	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: Field Blank A
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001478-09	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 09:55	Date Received:	14-Jul-20 09:11		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.769	0.769	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
PFPeA	2706-90-3	<1.35	1.35	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
PFBS	375-73-5	<1.89	1.89	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
4:2 FTS	757124-72-4	<1.47	1.47	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
PFHxA	307-24-4	<2.30	2.30	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
PFPeS	2706-91-4	<2.55	2.55	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
HFPO-DA	13252-13-6	<5.08	5.08	5.27		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
PFHpA	375-85-9	<0.623	0.623	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
ADONA	919005-14-4	<0.761	0.761	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
PFHxS	355-46-4	<0.999	0.999	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
6:2 FTS	27619-97-2	<2.11	2.11	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
PFOA	335-67-1	<0.686	0.686	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
PFHpS	375-92-8	<0.988	0.988	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
PFNA	375-95-1	<0.854	0.854	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
PFOSA	754-91-6	<1.87	1.87	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
PFOS	1763-23-1	<0.851	0.851	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
9Cl-PF3ONS	756426-58-1	<1.53	1.53	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
PFDA	335-76-2	<1.57	1.57	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
8:2 FTS	39108-34-4	<2.17	2.17	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
PFNS	68259-12-1	<4.08	4.08	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
MeFOSAA	2355-31-9	<1.74	1.74	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
EtFOSAA	2991-50-6	<1.44	1.44	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
PFUnA	2058-94-8	<1.11	1.11	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
PFDS	335-77-3	<1.30	1.30	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
11Cl-PF3OUdS	763051-92-9	<2.54	2.54	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
10:2 FTS	120226-60-0	<3.30	3.30	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
PFDoA	307-55-1	<0.835	0.835	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
MeFOSA	31506-32-8	<4.26	4.26	22.2		B0G0133	25-Jul-20	0.112 L	27-Jul-20 13:30	1
PFTrDA	72629-94-8	<0.521	0.521	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
PFDoS	79780-39-5	<4.40	4.40	5.27		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
PFTeDA	376-06-7	<0.796	0.796	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
EtFOSA	4151-50-2	<5.68	5.68	22.2		B0G0133	25-Jul-20	0.112 L	27-Jul-20 13:30	1
PFHxDA	67905-19-5	<0.310	0.310	4.22		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
PFODA	16517-11-6	<6.47	6.47	7.38		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
MeFOSE	24448-09-7	<6.40	6.40	21.1		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
EtFOSE	1691-99-2	<9.95	9.95	21.1		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	139	25 - 150			B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1

Sample ID: Field Blank A **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001478-09	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 09:55	Date Received:	14-Jul-20 09:11		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	106	25 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
13C3-PFBS	IS	98.8	25 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
13C3-HFPO-DA	IS	78.7	25 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
13C2-4:2 FTS	IS	100	25 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
13C2-PFHxA	IS	98.6	25 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
13C4-PFHpA	IS	102	25 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
13C3-PFHxS	IS	104	25 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
13C2-6:2 FTS	IS	87.8	25 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
13C5-PFNA	IS	89.8	25 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
13C8-PFOA	IS	43.0	10 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
13C2-PFOA	IS	94.9	25 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
13C8-PFOS	IS	92.2	25 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
13C2-PFDA	IS	106	25 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
13C2-8:2 FTS	IS	104	25 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
d3-MeFOSAA	IS	83.9	25 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
13C2-PFUnA	IS	93.3	25 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
d5-EtFOSAA	IS	81.1	25 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
13C2-10:2 FTS	IS	82.6	25 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
13C2-PFDoA	IS	92.7	25 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
d3-MeFOSA	IS	12.0	10 - 150		B0G0133	25-Jul-20	0.112 L	27-Jul-20 13:30	1
13C2-PFTeDA	IS	79.0	25 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
d5-EtFOSA	IS	11.9	10 - 150		B0G0133	25-Jul-20	0.112 L	27-Jul-20 13:30	1
13C2-PFHxDA	IS	72.7	25 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
d7-MeFOSE	IS	23.7	10 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1
d9-EtFOSE	IS	26.8	10 - 150		B0G0132	17-Jul-20	0.119 L	22-Jul-20 17:21	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBP20-04-GW

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001478-10	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 10:05	Date Received:	14-Jul-20 09:11		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	586	0.794	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
PFPeA	2706-90-3	2190	1.39	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
PFBS	375-73-5	206	1.95	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
4:2 FTS	757124-72-4	94.5	1.51	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
PFHxA	307-24-4	2250	2.37	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
PFPeS	2706-91-4	623	2.63	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
HFPO-DA	13252-13-6	<5.25	5.25	5.44		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
PFHpA	375-85-9	1320	0.643	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
ADONA	919005-14-4	<0.786	0.786	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
PFHxS	355-46-4	9640	5.15	21.8	D	B0G0132	17-Jul-20	0.115 L	23-Jul-20 23:18	5
6:2 FTS	27619-97-2	11000	10.9	21.8	D	B0G0132	17-Jul-20	0.115 L	23-Jul-20 23:18	5
PFOA	335-67-1	2300	0.709	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
PFHpS	375-92-8	1550	1.02	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
PFNA	375-95-1	120	0.882	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
PFOSA	754-91-6	20.5	1.93	4.35	Q	B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
PFOS	1763-23-1	18900	4.39	21.8	D	B0G0132	17-Jul-20	0.115 L	23-Jul-20 23:18	5
9Cl-PF3ONS	756426-58-1	<1.58	1.58	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
PFDA	335-76-2	3.99	1.62	4.35	J	B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
8:2 FTS	39108-34-4	480	2.24	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
PFNS	68259-12-1	<4.21	4.21	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
MeFOSAA	2355-31-9	<1.80	1.80	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
EtFOSAA	2991-50-6	<1.49	1.49	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
PFUnA	2058-94-8	<1.14	1.14	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
PFDS	335-77-3	<1.34	1.34	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
11Cl-PF3OUdS	763051-92-9	<2.62	2.62	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
10:2 FTS	120226-60-0	<3.41	3.41	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
PFDoA	307-55-1	<0.862	0.862	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
MeFOSA	31506-32-8	<4.17	4.17	21.8		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
PFTrDA	72629-94-8	<0.538	0.538	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
PFDoS	79780-39-5	<4.54	4.54	5.44		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
PFTeDA	376-06-7	<0.822	0.822	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
EtFOSA	4151-50-2	<5.56	5.56	21.8		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
PFHxDA	67905-19-5	<0.320	0.320	4.35		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
PFODA	16517-11-6	<6.68	6.68	7.62		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
MeFOSE	24448-09-7	<6.61	6.61	21.8		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
EtFOSE	1691-99-2	<10.3	10.3	21.8		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C3-PFBA	IS	105	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1	

Sample ID: SBP20-04-GW **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Aqueous	Lab Sample:	2001478-10	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 10:05	Date Received:	14-Jul-20 09:11		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	89.6	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
13C3-PFBS	IS	95.4	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
13C3-HFPO-DA	IS	84.3	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
13C2-4:2 FTS	IS	92.7	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
13C2-PFHxA	IS	87.4	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
13C4-PFHpA	IS	86.1	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
13C3-PFHxS	IS	75.0	25 - 150	D	B0G0132	17-Jul-20	0.115 L	23-Jul-20 23:18	5
13C2-6:2 FTS	IS	88.7	25 - 150	D	B0G0132	17-Jul-20	0.115 L	23-Jul-20 23:18	5
13C5-PFNA	IS	77.7	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
13C8-PFOA	IS	56.1	10 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
13C2-PFOA	IS	86.5	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
13C8-PFOS	IS	92.5	25 - 150	D	B0G0132	17-Jul-20	0.115 L	23-Jul-20 23:18	5
13C2-PFDA	IS	105	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
13C2-8:2 FTS	IS	98.1	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
d3-MeFOSAA	IS	83.9	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
13C2-PFUnA	IS	99.5	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
d5-EtFOSAA	IS	85.3	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
13C2-10:2 FTS	IS	69.2	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
13C2-PFDoA	IS	97.1	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
d3-MeFOSA	IS	19.7	10 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
13C2-PFTeDA	IS	77.0	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
d5-EtFOSA	IS	16.8	10 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
13C2-PFHxDA	IS	76.0	25 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
d7-MeFOSE	IS	46.4	10 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1
d9-EtFOSE	IS	53.5	10 - 150		B0G0132	17-Jul-20	0.115 L	22-Jul-20 17:31	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: Method Blank
PFAS Isotope Dilution Method

Client Data				Laboratory Data						
Name:	LimnoTech, Inc.	Matrix:	Solid	Lab Sample:	B0G0151-BLK1	Column:	BEH C18			
Project:	MSN FFTA SAMPLES									

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.346	0.346	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFPeA	2706-90-3	<0.398	0.398	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFBS	375-73-5	<0.304	0.304	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
4:2 FTS	757124-72-4	<0.360	0.360	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFHxA	307-24-4	<0.216	0.216	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFPeS	2706-91-4	<0.658	0.658	1.00		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
HFPO-DA	13252-13-6	<1.18	1.18	1.50		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFHpA	375-85-9	<0.478	0.478	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
ADONA	919005-14-4	<0.340	0.340	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFHxS	355-46-4	<0.390	0.390	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
6:2 FTS	27619-97-2	<0.654	0.654	1.00		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFOA	335-67-1	<0.470	0.470	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFHpS	375-92-8	<0.738	0.738	1.00		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFNA	375-95-1	<0.312	0.312	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFOSA	754-91-6	<1.01	1.01	1.50		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFOS	1763-23-1	<0.430	0.430	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
9Cl-PF3ONS	756426-58-1	<0.370	0.370	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFDA	335-76-2	<0.452	0.452	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
8:2 FTS	39108-34-4	<0.722	0.722	1.00		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFNS	68259-12-1	<1.15	1.15	1.50		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
MeFOSAA	2355-31-9	<0.736	0.736	1.00		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
EtFOSAA	2991-50-6	<0.688	0.688	1.00		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFUnA	2058-94-8	<0.258	0.258	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFDS	335-77-3	<0.690	0.690	1.00		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
11Cl-PF3OUdS	763051-92-9	<0.722	0.722	1.00		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
10:2 FTS	120226-60-0	<1.02	1.02	1.50		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFDoA	307-55-1	<0.404	0.404	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
MeFOSA	31506-32-8	<5.78	5.78	10.0		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFTrDA	72629-94-8	<0.402	0.402	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFDoS	79780-39-5	<0.600	0.600	1.00		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFTeDA	376-06-7	<0.264	0.264	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
EtFOSA	4151-50-2	<3.84	3.84	10.0		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFHxDA	67905-19-5	<0.170	0.170	0.500		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
PFODA	16517-11-6	<0.500	0.500	1.00		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
MeFOSE	24448-09-7	<4.96	4.96	10.0		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
EtFOSE	1691-99-2	<5.38	5.38	10.0		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	109	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1

Sample ID: Method Blank **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Solid	Lab Sample:	B0G0151-BLK1	Column:	BEH C18
Project:	MSN FFTA SAMPLES						

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	65.3	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C3-PFBS	IS	78.0	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C3-HFPO-DA	IS	57.7	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C2-4:2 FTS	IS	66.1	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C2-PFHxA	IS	66.8	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C4-PFHpA	IS	65.6	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C3-PFHxS	IS	73.6	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C2-6:2 FTS	IS	65.2	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C5-PFNA	IS	59.5	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C8-PFOA	IS	27.4	10 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C2-PFOA	IS	56.7	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C8-PFOS	IS	66.4	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C2-PFDA	IS	50.7	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C2-8:2 FTS	IS	72.5	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
d3-MeFOSAA	IS	48.5	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C2-PFUnA	IS	41.0	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
d5-EtFOSAA	IS	41.1	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C2-10:2 FTS	IS	54.1	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C2-PFDoA	IS	38.9	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
d3-MeFOSA	IS	4.40	10 - 150	H	B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C2-PFTeDA	IS	45.1	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
d5-EtFOSA	IS	4.40	10 - 150	H	B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
13C2-PFHxDA	IS	32.0	25 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
d7-MeFOSE	IS	20.5	10 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1
d9-EtFOSE	IS	20.1	10 - 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:36	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: OPR

PFAS Isotope Dilution Method

Client Data					Laboratory Data							
Name:	LimnoTech, Inc.	Matrix:	Solid		Lab Sample:	B0G0151-BS1	Column:	BEH C18				
Project:	MSN FFTA SAMPLES											

Analyte	CAS Number	Amt Found (ng/g)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	10.7	10.0	107	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFPeA	2706-90-3	10.3	10.0	103	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFBS	375-73-5	10.7	10.0	107	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
4:2 FTS	757124-72-4	10.2	10.0	102	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFHxA	307-24-4	10.7	10.0	107	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFPeS	2706-91-4	11.4	10.0	114	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
HFPO-DA	13252-13-6	11.1	10.0	111	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFHpA	375-85-9	10.8	10.0	108	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
ADONA	919005-14-4	11.1	10.0	111	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFHxS	355-46-4	9.72	10.0	97.2	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
6:2 FTS	27619-97-2	9.33	10.0	93.3	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFOA	335-67-1	10.9	10.0	109	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFHpS	375-92-8	11.6	10.0	116	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFNA	375-95-1	12.0	10.0	120	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFOSA	754-91-6	10.6	10.0	106	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFOS	1763-23-1	11.0	10.0	110	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
9Cl-PF3ONS	756426-58-1	10.6	10.0	106	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFDA	335-76-2	10.1	10.0	101	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
8:2 FTS	39108-34-4	8.49	10.0	84.9	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFNS	68259-12-1	10.8	10.0	108	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
MeFOSAA	2355-31-9	10.2	10.0	102	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
EtFOSAA	2991-50-6	11.2	10.0	112	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFUnA	2058-94-8	9.57	10.0	95.7	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFDS	335-77-3	9.61	10.0	96.1	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
11Cl-PF3OUdS	763051-92-9	18.0	10.0	180	60 - 135	H	B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
10:2 FTS	120226-60-0	11.0	10.0	110	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFDoA	307-55-1	10.1	10.0	101	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
MeFOSA	31506-32-8	53.4	50.0	107	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFTTrDA	72629-94-8	11.1	10.0	111	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFDoS	79780-39-5	14.9	10.0	149	60 - 135	H	B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFTTeDA	376-06-7	10.7	10.0	107	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
EtFOSA	4151-50-2	48.0	50.0	96.0	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFHxDA	67905-19-5	10.3	10.0	103	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
PFODA	16517-11-6	9.37	10.0	93.7	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1

Sample ID: OPR						PFAS Isotope Dilution Method					
Client Data					Laboratory Data						
Name:	LimnoTech, Inc.	Matrix:	Solid			Lab Sample:	B0G0151-BS1	Column:	BEH C18		
Project:	MSN FFTA SAMPLES										
Analyte	CAS Number	Amt Found (ng/g)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
MeFOSE	24448-09-7	57.8	50.0	116	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
EtFOSE	1691-99-2	51.3	50.0	103	60 - 135		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
Labeled Standards		Type		% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA		IS		108	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C3-PFPeA		IS		62.1	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C3-PFBS		IS		84.9	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C3-HFPO-DA		IS		58.5	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C2-4:2 FTS		IS		91.1	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C2-PFHxA		IS		63.6	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C4-PFHpA		IS		62.8	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C3-PFHxS		IS		84.3	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C2-6:2 FTS		IS		77.5	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C5-PFNA		IS		53.6	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C8-PFOSA		IS		28.5	10- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C2-PFOA		IS		59.5	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C8-PFOS		IS		81.4	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C2-PFDA		IS		54.3	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C2-8:2 FTS		IS		88.2	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
d3-MeFOSAA		IS		51.9	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C2-PFUnA		IS		42.8	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
d5-EtFOSAA		IS		48.6	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C2-10:2 FTS		IS		61.7	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C2-PFDoA		IS		37.9	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
d3-MeFOSA		IS		5.10	10- 150	H	B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C2-PFTeDA		IS		43.0	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
d5-EtFOSA		IS		4.80	10- 150	H	B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
13C2-PFHxDA		IS		36.3	25- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
d7-MeFOSE		IS		21.3	10- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1
d9-EtFOSE		IS		21.9	10- 150		B0G0151	22-Jul-20	1.00 g	27-Jul-20 16:47	1

Sample ID: SBP20-04 (0.5-1)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001478-02	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 07:35	Date Received:	14-Jul-20 09:11		
				% Solids:	90.8		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.337	0.337	0.487		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
PFPeA	2706-90-3	<0.388	0.388	0.487		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
PFBS	375-73-5	<0.296	0.296	0.487		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
4:2 FTS	757124-72-4	<0.351	0.351	0.487		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
PFHxA	307-24-4	0.232	0.210	0.487	J, Q	B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
PFPeS	2706-91-4	<0.641	0.641	0.974		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
HFPO-DA	13252-13-6	<1.15	1.15	1.46		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
PFHpA	375-85-9	<0.466	0.466	0.487		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
ADONA	919005-14-4	<0.331	0.331	0.487		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
PFHxS	355-46-4	<0.380	0.380	0.487		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
6:2 FTS	27619-97-2	4.83	0.637	0.974		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
PFOA	335-67-1	0.684	0.458	0.487		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
PFHpS	375-92-8	<0.719	0.719	0.974		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
PFNA	375-95-1	1.39	0.304	0.487		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
PFOSA	754-91-6	7.98	0.982	1.46		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
PFOS	1763-23-1	83.9	0.419	0.487		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
9Cl-PF3ONS	756426-58-1	<0.361	0.361	0.487		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
PFDA	335-76-2	0.941	0.440	0.487	Q	B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
8:2 FTS	39108-34-4	51.1	0.703	0.974		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
PFNS	68259-12-1	<1.12	1.12	1.46		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
MeFOSAA	2355-31-9	<0.717	0.717	0.974		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
EtFOSAA	2991-50-6	<0.670	0.670	0.974		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
PFUnA	2058-94-8	<0.251	0.251	0.487		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
PFDS	335-77-3	<0.672	0.672	0.974		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
11Cl-PF3OUdS	763051-92-9	<0.703	0.703	0.974		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
10:2 FTS	120226-60-0	<0.990	0.990	1.46		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
PFDoA	307-55-1	<0.394	0.394	0.487		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
MeFOSA	31506-32-8	<5.63	5.63	9.74		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
PFTrDA	72629-94-8	<0.392	0.392	0.487		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
PFDoS	79780-39-5	<0.585	0.585	0.974		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
PFTeDA	376-06-7	<0.257	0.257	0.487		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
EtFOSA	4151-50-2	<3.74	3.74	9.74		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
PFHxDA	67905-19-5	<0.166	0.166	0.487		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
PFODA	16517-11-6	<0.487	0.487	0.974		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
MeFOSE	24448-09-7	<4.83	4.83	9.74		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
EtFOSE	1691-99-2	<5.24	5.24	9.74		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	116	25 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1

Sample ID: SBP20-04 (0.5-1)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001478-02	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 07:35	Date Received:	14-Jul-20 09:11		
				% Solids:	90.8		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	72.8	25 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
13C3-PFBS	IS	80.8	25 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
13C3-HFPO-DA	IS	65.4	25 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
13C2-4:2 FTS	IS	91.1	25 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
13C2-PFHxA	IS	76.9	25 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
13C4-PFHpA	IS	73.5	25 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
13C3-PFHxS	IS	87.2	25 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
13C2-6:2 FTS	IS	84.0	25 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
13C5-PFNA	IS	65.6	25 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
13C8-PFOA	IS	29.1	10 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
13C2-PFOA	IS	66.8	25 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
13C8-PFOS	IS	71.0	25 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
13C2-PFDA	IS	49.7	25 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
13C2-8:2 FTS	IS	82.6	25 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
d3-MeFOSAA	IS	53.7	25 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
13C2-PFUnA	IS	48.0	25 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
d5-EtFOSAA	IS	53.6	25 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
13C2-10:2 FTS	IS	69.1	25 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
13C2-PFDoA	IS	52.7	25 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
d3-MeFOSA	IS	5.60	10 - 150	H	B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
13C2-PFTeDA	IS	62.4	25 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
d5-EtFOSA	IS	5.50	10 - 150	H	B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
13C2-PFHxDA	IS	53.8	25 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
d7-MeFOSE	IS	20.8	10 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1
d9-EtFOSE	IS	23.0	10 - 150		B0G0151	22-Jul-20	1.13 g	27-Jul-20 18:41	1

MDL - Method Detection Limit

RL - Reporting limit

 The results are reported in dry weight.
 The sample size is reported in wet weight.
 Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBP20-05 (0.5-1)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001478-04	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 08:10	Date Received:	14-Jul-20 09:11		
				% Solids:	93.6		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.342	0.342	0.495		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
PFPeA	2706-90-3	<0.394	0.394	0.495		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
PFBS	375-73-5	<0.301	0.301	0.495		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
4:2 FTS	757124-72-4	0.378	0.356	0.495	J, Q	B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
PFHxA	307-24-4	0.321	0.214	0.495	J, Q	B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
PFPeS	2706-91-4	<0.651	0.651	0.990		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
HFPO-DA	13252-13-6	<1.17	1.17	1.48		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
PFHpA	375-85-9	0.627	0.473	0.495		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
ADONA	919005-14-4	<0.336	0.336	0.495		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
PFHxS	355-46-4	<0.386	0.386	0.495		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
6:2 FTS	27619-97-2	11.3	0.647	0.990		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
PFOA	335-67-1	1.42	0.465	0.495		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
PFHpS	375-92-8	<0.730	0.730	0.990		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
PFNA	375-95-1	3.31	0.309	0.495		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
PFOSA	754-91-6	<0.998	0.998	1.48		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
PFOS	1763-23-1	20.2	0.426	0.495		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
9Cl-PF3ONS	756426-58-1	<0.366	0.366	0.495		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
PFDA	335-76-2	8.56	0.447	0.495		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
8:2 FTS	39108-34-4	29.9	0.715	0.990		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
PFNS	68259-12-1	<1.14	1.14	1.48		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
MeFOSAA	2355-31-9	<0.728	0.728	0.990		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
EtFOSAA	2991-50-6	<0.681	0.681	0.990		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
PFUnA	2058-94-8	0.584	0.255	0.495		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
PFDS	335-77-3	<0.683	0.683	0.990		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
11Cl-PF3OUdS	763051-92-9	<0.715	0.715	0.990		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
10:2 FTS	120226-60-0	1.68	1.01	1.48		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
PFDoA	307-55-1	<0.400	0.400	0.495		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
MeFOSA	31506-32-8	<5.72	5.72	9.90		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
PFTrDA	72629-94-8	<0.398	0.398	0.495		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
PFDoS	79780-39-5	<0.594	0.594	0.990		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
PFTeDA	376-06-7	<0.261	0.261	0.495		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
EtFOSA	4151-50-2	<3.80	3.80	9.90		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
PFHxDA	67905-19-5	<0.168	0.168	0.495		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
PFODA	16517-11-6	<0.495	0.495	0.990		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
MeFOSE	24448-09-7	<4.91	4.91	9.90		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
EtFOSE	1691-99-2	<5.32	5.32	9.90		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	122	25 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1

Sample ID: SBP20-05 (0.5-1)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001478-04	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 08:10	Date Received:	14-Jul-20 09:11		
				% Solids:	93.6		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	76.9	25 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
13C3-PFBS	IS	76.8	25 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
13C3-HFPO-DA	IS	68.4	25 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
13C2-4:2 FTS	IS	85.4	25 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
13C2-PFHxA	IS	80.5	25 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
13C4-PFHpA	IS	74.9	25 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
13C3-PFHxS	IS	82.1	25 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
13C2-6:2 FTS	IS	79.2	25 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
13C5-PFNA	IS	67.6	25 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
13C8-PFOA	IS	40.9	10 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
13C2-PFOA	IS	73.6	25 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
13C8-PFOS	IS	79.5	25 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
13C2-PFDA	IS	60.1	25 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
13C2-8:2 FTS	IS	80.9	25 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
d3-MeFOSAA	IS	58.2	25 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
13C2-PFUnA	IS	62.4	25 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
d5-EtFOSAA	IS	66.9	25 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
13C2-10:2 FTS	IS	75.6	25 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
13C2-PFDoA	IS	56.7	25 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
d3-MeFOSA	IS	11.3	10 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
13C2-PFTeDA	IS	62.9	25 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
d5-EtFOSA	IS	13.1	10 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
13C2-PFHxDA	IS	70.9	25 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
d7-MeFOSE	IS	36.8	10 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1
d9-EtFOSE	IS	36.4	10 - 150		B0G0151	22-Jul-20	1.08 g	27-Jul-20 18:51	1

MDL - Method Detection Limit

RL - Reporting limit

 The results are reported in dry weight.
 The sample size is reported in wet weight.
 Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBP20-05 (6-6.5)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001478-05	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 08:20	Date Received:	14-Jul-20 09:11		
				% Solids:	67.0		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	0.364	0.344	0.497	J	B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
PFPeA	2706-90-3	2.54	0.396	0.497		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
PFBS	375-73-5	<0.302	0.302	0.497		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
4:2 FTS	757124-72-4	<0.358	0.358	0.497		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
PFHxA	307-24-4	2.62	0.215	0.497		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
PFPeS	2706-91-4	<0.654	0.654	0.994		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
HFPO-DA	13252-13-6	<1.17	1.17	1.49		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
PFHpA	375-85-9	3.76	0.475	0.497		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
ADONA	919005-14-4	<0.338	0.338	0.497		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
PFHxS	355-46-4	12.8	0.388	0.497		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
6:2 FTS	27619-97-2	19.5	0.650	0.994		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
PFOA	335-67-1	6.37	0.467	0.497		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
PFHpS	375-92-8	5.85	0.734	0.994		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
PFNA	375-95-1	3.21	0.310	0.497		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
PFOSA	754-91-6	<1.00	1.00	1.49		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
PFOS	1763-23-1	619	2.14	2.49	D	B0G0151	22-Jul-20	1.50 g	28-Jul-20 18:02	5
9Cl-PF3ONS	756426-58-1	<0.368	0.368	0.497		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
PFDA	335-76-2	0.673	0.449	0.497		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
8:2 FTS	39108-34-4	2.15	0.718	0.994		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
PFNS	68259-12-1	<1.14	1.14	1.49		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
MeFOSAA	2355-31-9	<0.732	0.732	0.994		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
EtFOSAA	2991-50-6	<0.684	0.684	0.994		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
PFUnA	2058-94-8	<0.257	0.257	0.497		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
PFDS	335-77-3	<0.686	0.686	0.994		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
11Cl-PF3OUdS	763051-92-9	<0.718	0.718	0.994		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
10:2 FTS	120226-60-0	<1.01	1.01	1.49		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
PFDoA	307-55-1	<0.402	0.402	0.497		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
MeFOSA	31506-32-8	<5.75	5.75	9.94		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
PFTrDA	72629-94-8	<0.400	0.400	0.497		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
PFDoS	79780-39-5	<0.597	0.597	0.994		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
PFTeDA	376-06-7	<0.263	0.263	0.497		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
EtFOSA	4151-50-2	<3.82	3.82	9.94		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
PFHxDA	67905-19-5	<0.169	0.169	0.497		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
PFODA	16517-11-6	<0.497	0.497	0.994		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
MeFOSE	24448-09-7	<4.93	4.93	9.94		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
EtFOSE	1691-99-2	<5.35	5.35	9.94		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	117	25 - 150			B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1

Sample ID: SBP20-05 (6-6.5)

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001478-05	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 08:20	Date Received:	14-Jul-20 09:11		
				% Solids:	67.0		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	71.1	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
13C3-PFBS	IS	83.1	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
13C3-HFPO-DA	IS	72.2	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
13C2-4:2 FTS	IS	90.4	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
13C2-PFHxA	IS	74.4	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
13C4-PFHpA	IS	67.4	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
13C3-PFHxS	IS	85.2	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
13C2-6:2 FTS	IS	84.7	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
13C5-PFNA	IS	65.4	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
13C8-PFOA	IS	54.6	10 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
13C2-PFOA	IS	68.8	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
13C8-PFOS	IS	73.5	25 - 150	D	B0G0151	22-Jul-20	1.50 g	28-Jul-20 18:02	5
13C2-PFDA	IS	61.7	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
13C2-8:2 FTS	IS	98.6	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
d3-MeFOSAA	IS	69.4	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
13C2-PFUnA	IS	69.5	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
d5-EtFOSAA	IS	73.7	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
13C2-10:2 FTS	IS	79.4	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
13C2-PFDoA	IS	62.1	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
d3-MeFOSA	IS	36.6	10 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
13C2-PFTeDA	IS	55.2	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
d5-EtFOSA	IS	42.2	10 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
13C2-PFHxDA	IS	35.0	25 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
d7-MeFOSE	IS	56.8	10 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1
d9-EtFOSE	IS	49.7	10 - 150		B0G0151	22-Jul-20	1.50 g	27-Jul-20 19:01	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBP20-01 (0.5-1)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001478-07	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 09:00	Date Received:	14-Jul-20 09:11		
				% Solids:	93.6		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.342	0.342	0.495		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
PFPeA	2706-90-3	<0.394	0.394	0.495		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
PFBS	375-73-5	<0.301	0.301	0.495		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
4:2 FTS	757124-72-4	1.09	0.356	0.495		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
PFHxA	307-24-4	0.364	0.214	0.495	J, Q	B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
PFPeS	2706-91-4	<0.651	0.651	0.989		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
HFPO-DA	13252-13-6	<1.17	1.17	1.48		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
PFHpA	375-85-9	<0.473	0.473	0.495		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
ADONA	919005-14-4	<0.336	0.336	0.495		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
PFHxS	355-46-4	0.624	0.386	0.495		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
6:2 FTS	27619-97-2	24.6	0.647	0.989		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
PFOA	335-67-1	0.503	0.465	0.495		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
PFHpS	375-92-8	<0.730	0.730	0.989		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
PFNA	375-95-1	0.787	0.309	0.495		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
PFOSA	754-91-6	3.68	0.997	1.48		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
PFOS	1763-23-1	126	0.425	0.495		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
9Cl-PF3ONS	756426-58-1	<0.366	0.366	0.495		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
PFDA	335-76-2	1.18	0.447	0.495		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
8:2 FTS	39108-34-4	84.2	0.714	0.989		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
PFNS	68259-12-1	<1.14	1.14	1.48		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
MeFOSAA	2355-31-9	<0.728	0.728	0.989		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
EtFOSAA	2991-50-6	<0.681	0.681	0.989		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
PFUnA	2058-94-8	<0.255	0.255	0.495		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
PFDS	335-77-3	<0.683	0.683	0.989		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
11Cl-PF3OUdS	763051-92-9	<0.714	0.714	0.989		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
10:2 FTS	120226-60-0	<1.01	1.01	1.48		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
PFDoA	307-55-1	<0.400	0.400	0.495		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
MeFOSA	31506-32-8	<5.72	5.72	9.89		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
PFTrDA	72629-94-8	<0.398	0.398	0.495		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
PFDoS	79780-39-5	<0.594	0.594	0.989		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
PFTeDA	376-06-7	<0.261	0.261	0.495		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
EtFOSA	4151-50-2	<3.80	3.80	9.89		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
PFHxDA	67905-19-5	<0.168	0.168	0.495		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
PFODA	16517-11-6	<0.495	0.495	0.989		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
MeFOSE	24448-09-7	<4.91	4.91	9.89		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
EtFOSE	1691-99-2	<5.32	5.32	9.89		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	65.1	25 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1

Sample ID: SBP20-01 (0.5-1)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001478-07	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 09:00	Date Received:	14-Jul-20 09:11		
				% Solids:	93.6		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	66.3	25 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
13C3-PFBS	IS	84.3	25 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
13C3-HFPO-DA	IS	70.3	25 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
13C2-4:2 FTS	IS	97.6	25 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
13C2-PFHxA	IS	73.3	25 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
13C4-PFHpA	IS	69.8	25 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
13C3-PFHxS	IS	82.5	25 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
13C2-6:2 FTS	IS	77.0	25 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
13C5-PFNA	IS	62.7	25 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
13C8-PFOA	IS	38.7	10 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
13C2-PFOA	IS	73.7	25 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
13C8-PFOS	IS	79.1	25 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
13C2-PFDA	IS	51.4	25 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
13C2-8:2 FTS	IS	85.7	25 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
d3-MeFOSAA	IS	52.3	25 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
13C2-PFUnA	IS	53.3	25 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
d5-EtFOSAA	IS	51.2	25 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
13C2-10:2 FTS	IS	60.5	25 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
13C2-PFDoA	IS	54.9	25 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
d3-MeFOSA	IS	8.10	10 - 150	H	B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
13C2-PFTeDA	IS	38.8	25 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
d5-EtFOSA	IS	7.10	10 - 150	H	B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
13C2-PFHxDA	IS	29.3	25 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
d7-MeFOSE	IS	31.0	10 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1
d9-EtFOSE	IS	29.9	10 - 150		B0G0151	22-Jul-20	1.08 g	28-Jul-20 18:12	1

MDL - Method Detection Limit

RL - Reporting limit

 The results are reported in dry weight.
 The sample size is reported in wet weight.
 Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SBP20-01 (5-5.5)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001478-08	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 09:05	Date Received:	14-Jul-20 09:11		
				% Solids:	89.9		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.344	0.344	0.497		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
PFPeA	2706-90-3	<0.395	0.395	0.497		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
PFBS	375-73-5	<0.302	0.302	0.497		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
4:2 FTS	757124-72-4	<0.358	0.358	0.497		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
PFHxA	307-24-4	0.403	0.215	0.497	J	B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
PFPeS	2706-91-4	<0.654	0.654	0.994		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
HFPO-DA	13252-13-6	<1.17	1.17	1.49		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
PFHpA	375-85-9	<0.475	0.475	0.497		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
ADONA	919005-14-4	<0.338	0.338	0.497		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
PFHxS	355-46-4	0.447	0.388	0.497	J	B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
6:2 FTS	27619-97-2	5.25	0.650	0.994		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
PFOA	335-67-1	<0.467	0.467	0.497		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
PFHpS	375-92-8	<0.733	0.733	0.994		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
PFNA	375-95-1	<0.310	0.310	0.497		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
PFOSA	754-91-6	<1.00	1.00	1.49		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
PFOS	1763-23-1	136	0.427	0.497		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
9Cl-PF3ONS	756426-58-1	<0.368	0.368	0.497		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
PFDA	335-76-2	<0.449	0.449	0.497		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
8:2 FTS	39108-34-4	7.18	0.717	0.994		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
PFNS	68259-12-1	<1.14	1.14	1.49		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
MeFOSAA	2355-31-9	<0.731	0.731	0.994		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
EtFOSAA	2991-50-6	<0.684	0.684	0.994		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
PFUnA	2058-94-8	<0.256	0.256	0.497		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
PFDS	335-77-3	<0.686	0.686	0.994		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
11Cl-PF3OUdS	763051-92-9	<0.717	0.717	0.994		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
10:2 FTS	120226-60-0	<1.01	1.01	1.49		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
PFDoA	307-55-1	<0.401	0.401	0.497		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
MeFOSA	31506-32-8	<5.74	5.74	9.94		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
PFTrDA	72629-94-8	<0.399	0.399	0.497		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
PFDoS	79780-39-5	<0.596	0.596	0.994		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
PFTeDA	376-06-7	<0.262	0.262	0.497		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
EtFOSA	4151-50-2	<3.82	3.82	9.94		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
PFHxDA	67905-19-5	<0.169	0.169	0.497		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
PFODA	16517-11-6	<0.497	0.497	0.994		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
MeFOSE	24448-09-7	<4.93	4.93	9.94		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
EtFOSE	1691-99-2	<5.35	5.35	9.94		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	107	25 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1

Sample ID: SBP20-01 (5-5.5)
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	LimnoTech, Inc.	Matrix:	Soil	Lab Sample:	2001478-08	Column:	BEH C18
Project:	MSN FFTA SAMPLES	Date Collected:	08-Jul-20 09:05	Date Received:	14-Jul-20 09:11		
				% Solids:	89.9		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	66.2	25 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
13C3-PFBS	IS	76.9	25 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
13C3-HFPO-DA	IS	68.4	25 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
13C2-4:2 FTS	IS	67.0	25 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
13C2-PFHxA	IS	64.7	25 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
13C4-PFHpA	IS	59.5	25 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
13C3-PFHxS	IS	68.4	25 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
13C2-6:2 FTS	IS	74.2	25 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
13C5-PFNA	IS	50.3	25 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
13C8-PFOA	IS	33.1	10 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
13C2-PFOA	IS	60.6	25 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
13C8-PFOS	IS	66.7	25 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
13C2-PFDA	IS	45.2	25 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
13C2-8:2 FTS	IS	75.8	25 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
d3-MeFOSAA	IS	49.9	25 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
13C2-PFUnA	IS	47.9	25 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
d5-EtFOSAA	IS	52.5	25 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
13C2-10:2 FTS	IS	51.5	25 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
13C2-PFDoA	IS	47.6	25 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
d3-MeFOSA	IS	6.50	10 - 150	H	B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
13C2-PFTeDA	IS	63.1	25 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
d5-EtFOSA	IS	7.60	10 - 150	H	B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
13C2-PFHxDA	IS	59.8	25 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
d7-MeFOSE	IS	24.5	10 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1
d9-EtFOSE	IS	28.2	10 - 150		B0G0151	22-Jul-20	1.12 g	27-Jul-20 19:22	1

MDL - Method Detection Limit

RL - Reporting limit

 The results are reported in dry weight.
 The sample size is reported in wet weight.
 Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
CRS	Cleanup Recovery Standard
D	Dilution
DL	Detection Limit
E	The associated compound concentration exceeded the calibration range of the instrument
H	Recovery and/or RPD was outside laboratory acceptance limits
I	Chemical Interference
IS	Internal Standard
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limit of Detection
LOQ	Limit of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
MDL	Method Detection Limit
NA	Not applicable
ND	Not Detected
OPR	Ongoing Precision and Recovery sample
P	The reported concentration may include contribution from chlorinated diphenyl ether(s).
Q	The ion transition ratio is outside of the acceptance criteria.
RL	Reporting Limit
TEQ	Toxic Equivalency
U	Not Detected (specific projects only)
*	See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Vista Analytical Laboratory Certifications

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	19-013-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-23
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2018017
Massachusetts Department of Environmental Protection	N/A
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	1521520
New Hampshire Environmental Accreditation Program	207718-B
New Jersey Department of Environmental Protection	190001
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-010
Pennsylvania Department of Environmental Protection	016
Texas Commission on Environmental Quality	T104704189-19-10
Vermont Department of Health	VT-4042
Virginia Department of General Services	10272
Washington Department of Ecology	C584-19
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	Method
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA 23
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA TO-9A

MATRIX: Biological Tissue	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	Method
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613/1613B
1,4-Dioxane (1,4-Diethyleneoxide) analysis by GC/HRMS	EPA 522
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	ISO 25101 2009

MATRIX: Non-Potable Water	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	Method
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A



CHAIN OF CUSTODY

For Laboratory Use Only
 Work Order #: 2001478 Temp: 3.4 °C
 Storage ID: P-13, WR-2 Storage Secured: Yes No

Project ID: MSN FFTA SAMPLES PO#: MSNPF1 Sampler: C. Behnte
 (name)

TAT Standard: 21 days
 (check one): Rush (surcharge may apply)
 14 days 7 days Specify: _____

[Signature] 7/13/20 1300 William R. Wright William R. Wright 07/14/20 09:11
 Relinquished by (printed name and signature) Date Time Received by (printed name and signature) Date Time

Relinquished by (printed name and signature) Date Time Received by (printed name and signature) Date Time

SHIP TO: Vista Analytical Laboratory
 1104 Windfield Way
 El Dorado Hills, CA 95762
 (916) 673-1520 * Fax (916) 673-0106
 ATTN: _____
 Method of Shipment: _____
 Tracking No.: _____
 Add Analysis(es) Requested: _____
 Container(s): _____
 PFAS by Isotope Dilution: _____
 EPA Method 537 (DW only): _____

Sample ID	Date	Time	Location/ Sample Description	Quantity	Type	Matrix	Add Analysis(es) Requested				OTHER: Please attach analyte list	Comments
							PFOA/PFOS	UCMR3 PFAS List:6	537.1 List: 14 or 18 (Circle One)	EPA Draft List of 24		
SBP20-01-GW	7/8/20	0940		2	P	AQ					*	
SBP20-04(0.5-1)	7/8/20	0735		1	PJ	SO					*	* WISCONSIN PFAS LIST
SBP20-06-GW	7/8/20	0750		2	P	AQ					*	
SBP20-05(0.5-1)	7/8/20	0810		1	PJ	SO					*	
SBP20-05(6-6.5)	7/8/20	0820		1	PJ	SO					*	
SBP20-05-GW	7/8/20	0855		2	P	AQ					*	
SBP20-01(0.5-1)	7/8/20	0900		1	PJ	SO					*	
SBP20-01(5-5.5)	7/8/20	0905		1	PJ	SO					*	
Field Blank A	7/8/20	0955		2	P	AQ					*	
SBP20-04-GW	7/8/20	1005		2	P	AQ					*	

Special Instructions/Comments: _____
 Name: CHRIS CIECIEK
 Company: LIMNOTERH
 Address: 501 AUIS DRIVE
 City: ANN ARBOR MI 48108
 Phone: 734 332 1200
 Email: CCIECIEK@LIMNOTERH.COM
 SEND DOCUMENTATION AND RESULTS TO:

Container Types: P= HDPE, PJ= HDPE Jar
 PY= Polypropylene, O = Other: _____
 Bottle Preservation Type: _____
 TZ = Trizma: _____
 Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment,
 SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other: _____

Sample Log-In Checklist

 Page # 1 of 1

 Vista Work Order #: 2001478 TAT std

Samples Arrival:	Date/Time: 07/14/20 09:11	Initials: WRW	Location: WR-2
			Shelf/Rack: NA
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> On Trac
		<input type="checkbox"/> GLS	<input type="checkbox"/> DHL
		<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> Other
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C: 3.4 (uncorrected)	Probe used: Y / <input checked="" type="checkbox"/> N		Thermometer ID: IR-3
Temp °C: 3.4 (corrected)			

	YES	NO	NA
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>		
Shipping Custody Seals Intact?	<input checked="" type="checkbox"/>		
Airbill <u>464</u> Trk # <u>3947 7925 1825</u>	<input checked="" type="checkbox"/>		
Shipping Documentation Present?	<input checked="" type="checkbox"/>		
Shipping Container	<input checked="" type="checkbox"/> Vista	<input type="checkbox"/> Client	<input checked="" type="checkbox"/> Retain
		<input type="checkbox"/> Return	<input type="checkbox"/> Dispose
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>		
Chain of Custody / Sample Documentation Complete?	<input checked="" type="checkbox"/>		
Holding Time Acceptable?	<input checked="" type="checkbox"/>		
Logged In:	Date/Time: 07/15/20 08:17	Initials: WWS	Location: R-13, WR-2
			Shelf/Rack: 2-3, F-4
COC Anomaly/Sample Acceptance Form completed?		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Comments:

CoC/Label Reconciliation Report WO# 2001478

LabNumber	CoC Sample ID	SampleAlias	Sample Date/Time	Container	BaseMatrix	Sample Comments
2001478-01	A SBP20-01-GW	<input checked="" type="checkbox"/>	08-Jul-20 09:40	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001478-01	B SBP20-01-GW	<input checked="" type="checkbox"/>	08-Jul-20 09:40	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001478-02	A SBP20-04 (0.5-1)	<input checked="" type="checkbox"/>	08-Jul-20 07:35	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid
2001478-03	A SBP20-06-GW	<input checked="" type="checkbox"/>	08-Jul-20 07:50	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001478-03	B SBP20-06-GW	<input checked="" type="checkbox"/>	08-Jul-20 07:50	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001478-04	A SBP20-05 (0.5-1)	<input checked="" type="checkbox"/>	08-Jul-20 08:10	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid
2001478-05	A SBP20-05 (6-6.5)	<input checked="" type="checkbox"/>	08-Jul-20 08:20	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid
2001478-06	A SBP20-05-GW	<input checked="" type="checkbox"/>	08-Jul-20 08:55	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001478-06	B SBP20-05-GW	<input checked="" type="checkbox"/>	08-Jul-20 08:55	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001478-07	A SBP20-01 (0.5-1)	<input type="checkbox"/> A	08-Jul-20 09:00	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid
2001478-08	A SBP20-01 (5-5.5)	<input checked="" type="checkbox"/>	08-Jul-20 09:05	<input checked="" type="checkbox"/>	HDPE Jar, 6 oz	Solid
2001478-09	A Field Blank A	<input checked="" type="checkbox"/>	08-Jul-20 09:55	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001478-09	B Field Blank A	<input checked="" type="checkbox"/>	08-Jul-20 09:55	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001478-10	A SBP20-04-GW	<input checked="" type="checkbox"/>	08-Jul-20 10:05	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous
2001478-10	B SBP20-04-GW	<input checked="" type="checkbox"/>	08-Jul-20 10:05	<input checked="" type="checkbox"/>	HDPE Bottle, 125 mL	Aqueous

Checkmarks indicate that information on the COC reconciled with the sample label.
Any discrepancies are noted in the following columns.

	Yes	No	NA
Sample Container Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample Custody Seals Intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Adequate Sample Volume?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Container Type Appropriate for Analysis(es)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Preservation Documented: Na2S2O3 Trizma <u>None</u> Other	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
If Chlorinated or Drinking Water Samples, Acceptable Preservation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments: A) CoC label: SBP20-01 (0.5-1) Sample label: SBP20-01
All samplers except Field Blank contain particulate

Verified by/Date: KS 07/15/20

Attachment 3

QA/QC Review

Memorandum

From: Carrie Turner

Date: August 24, 2020

Project: MSNPFTA (BRRTS #02-13-583366)

To: Chris Cieciek

CC:

SUBJECT: Review of PFAS Analytical Data from Vista Job Numbers 2001473, 2001475 and 2001478 (Sampling Dates 7/7-9/2020)

Summary

An independent data review was conducted for twenty-four (24) soil samples, twelve (12) water samples, one (1) field duplicate soil sample, two (2) field duplicate water sample, and four (4) field, equipment, and geoprobe decon water blanks. Samples were collected in the field and received at the Vista El Dorado (CA) laboratory as shown in Table 1.

Table 1. Summary of Sample Collection and Delivery to the Laboratory.

Sample Collection Date	No. of Soil Samples	No. of Water Samples	No. of Field QC Samples ¹	Laboratory Receipt Date	Laboratory Job Number
7/7/2020	12	6	2	7/14/2020	2001473
7/7/2020	6	2	0	7/14/2020	2001475
7/8/2020	1	0	1	7/14/2020	2001475
7/8/2020	5	4	1	7/14/2020	2001478
7/9/2020	0	0	3	7/14/2020	2001475
Total	24	12	7		

¹ Field QC samples include field blanks, equipment blanks and field duplicate samples.

Sample analysis was conducted using Vista's PFAS Isotope Dilution analytical method. Key modifications from method 537 1.1 include its application to soil and non-drinking water aqueous sample media, quantification using isotope dilution, and a standard analyte list of thirty-six (36) PFAS compounds.

Samples were analyzed in three laboratory batches corresponding to the sampling dates noted in Table 1. The analytical data packages were provided to LimnoTech on August 3, 2020 for job numbers 2001475 and 2001478; and on August 4, 2020 for job number 2001473.

I have no quality concerns with the results for these samples except as noted below. The analyses were completed with few QA/QC problems. Several samples had low recoveries for several isotope internal standards. Most of the corresponding analytes quantitated with these isotopes were non-

detect or at low levels (less than 5x RL) in the affected samples. Several samples also had one or more PFAS analytes with ion transition ratios outside the specified quality criteria. Most of these analytes were detected at low levels (less than 5x RL).

Analytical Quality Measures

All of the samples were extracted and analyzed within method specified hold times. Each laboratory preparation batch was prepared with a method blank and an ongoing precision and recovery (OPR) standard. The preparation batches are shown in Table 2 by job number. No matrix spikes or replicates were prepared for this set of samples.

Table 2. Summary of QA/QC Measures in Preparation Batches

Laboratory Job Number	Soil Preparation Batch	Media Type	No. of Samples	Date of Preparation	MB	OPR	MS	Rep
2001473	BOG0144	Soil	13	7/20/2020	Y	Y		
2001473	BOG0132	Aqueous	6	7/17/2020	Y	Y		
2001473	BOD0133	Aqueous	2*	7/25/2020	Y	Y		
2001475	BOD0151	Soil	7	7/22/2020	Y	Y		
2001475	BOG0132	Aqueous	6	7/17/2020	Y	Y		
2001478	BOD0151	Soil	5	7/22/2020	Y	Y		
2001478	BOG0132	Aqueous	5	7/17/2020	Y	Y		
2001478	BOG0133	Aqueous	1*	7/25/2020	Y	Y		

*Associated samples are re-extracted volume to confirm low isotope surrogate recovery.

QA/QC results can be summarized as follows:

- Laboratory QC:
 - All calibration and continuing calibration standards met applicable QA/QC requirements in all analytical batches.
 - Method and instrument blanks for each preparation batch did not have any target analytes with concentrations above the reporting limit, with the following exception:
 - One aqueous method blank for prep batch BOG0132 had one compound, PFHxDA, with a concentration of 1.37 ng/L, which was higher than the method detection limit (0.294 ng/L) but less than the reporting limit (4.0 ng/L). All associated samples were non-detect for this analyte.
 - All blank spikes met the recovery targets for each analyte.
- Field QC:
 - The Geoprobe Decon blank had PFOSA measured at 32.3 ng/L (RL = 4.43 ng/L). Soil samples tended to have levels of this compound at similar levels.



In addition, several PFAS compounds were measured above the method detection limit but below the reporting limit in the Geoprobe Decon blank: PFOA = 2.56 ng/L (RL = 4.43 ng/L); PFOS = 1.093 (RL = 4.43 ng/L). Soil samples tended to have concentrations of these compounds at greater levels than those measured in this blank.

Field notes indicate that well water was used to rinse and prepare this blank, rather than certified PFAS-free water. Based on this information, the contamination appears to have originated within the source of the water used to prepare the blank rather than any sample carryover or field practices causing contamination.

- Other field and equipment blanks did not have any target analytes with concentrations above the method detection limit.
- Three field duplicates – one soil and two groundwater – were collected. The field duplicates matched well with the original samples (client IDs SBT20-05 (0.5-1) [soil], SBT20-06-GW, and SBP20-04-GW), with the same analytes detected in each pair of samples and field duplicates and at similar levels.

The RPDs tended to be less than 20% for most PFAS analytes. However, the RPD for PFOS in the sample and field duplicate for SBP20-04-GW was -80%. PFOS was detected at a very high level (~20,000 ng/L) and required a 1:5 dilution to quantitate. The dilution may have added uncertainty that affected the RPD calculation.

RPDs were not calculated for analytes with detected concentrations within five times the corresponding reporting limit, as per standard EPA data validation methods. The soil sample and field duplicate had one PFAS analyte concentration in this range and both groundwater samples and field duplicates had two PFAS analyte concentrations in this range.

Sample QA/QC

A summary of the quality of each sample is provided in Table 3. Recoveries of the surrogates (e.g. extracted internal standards) for individual samples were within the specified QA/QC windows, except as indicated. Table 3 also provides a list of the PFAS analytes that exhibited matrix interference based on isotope surrogate recovery.



Table 3. QA/QC Sample Results

Client Sample ID	Sample Date	Media	Lab Sample ID	Prep Batch	Dilutions	PFAS Analytes Requiring Dilution	PFAS Analytes with Ion Transition Ratios Outside Criteria	Isotope Surrogates with % Recoveries Outside Limits
SBT20-01 (10.5-11)	7/7/20	Soil	2001473-01	BOG0144	1:1			d5-EtFOSA
SBT20-01-GW	7/7/20	GW	2001473-02	BOG0132	1:1; 1:5; 1:50	PFHxS (1:5) PFOS (1:50)	PFOSA; PFOS	
SBT20-05 (0.5-1)	7/7/20	Soil	2001473-03	BOG0144	1:1		PFHxS; PFOS	
SBT20-05 (10.5-11)	7/7/20	Soil	2001473-04	BOG0144	1:1		PFHxA	d5-EtFOSA
SBT20-04 (0.5-1)	7/7/20	Soil	2001473-05	BOG0144	1:1		PFOS	
SBT20-05-GW	7/7/20	GW	2001473-06	BOG0132	1:1; 1:5	PFHxS (1:5)		
SBT20-04 (6-6.5)	7/7/20	Soil	2001473-07	BOG0144	1:1		PFOA	d5-EtFOSA
SBT20-02-GW	7/7/20	GW	2001473-08	BOG0132	1:1; 1:5	PFOA (1:5)		
SBT20-04-GW	7/7/20	GW	2001473-09	BOG0132	1:1		PFHpS	13C2-PFHxDA
SOIL DUPLICATE A	7/7/20	Soil	2001473-10	BOG0144	1:1		PFOS	
SBT20-02 (0-1)	7/7/20	Soil	2001473-11	BOG0144	1:1		PFHpA	
EQUIPMENT BLANK A	7/7/20	Field QC	2001473-12	BOG0132	1:1			
SBT20-02 (10-10.5)	7/7/20	Soil	2001473-13	BOG0144	1:1			d3-MeFOSA; d5-EtFOSA
SBT20-03 (0-1)	7/7/20	Soil	2001473-14	BOG0144	1:1			
SBT20-03 (10-10.5)	7/7/20	Soil	2001473-15	BOG0144	1:1			d5-EtFOSA
SBT20-03-GW	7/7/20	GW	2001473-16	BOG0132	1:1; 1:10	PFHxS (1:10) PFOA (1:10)	PFOSA; PFOS	

Client Sample ID	Sample Date	Media	Lab Sample ID	Prep Batch	Dilutions	PFAS Analytes Requiring Dilution	PFAS Analytes with Ion Transition Ratios Outside Criteria	Isotope Surrogates with % Recoveries Outside Limits
SBT20-06 (0-1)	7/7/20	Soil	2001473-17	BOG0144	1:1		PFUnA	13C2-PFHxDA
SBT20-06 (13-13.5)	7/7/20	Soil	2001473-18	BOG0144	1:1			
SBT20-06-GW	7/7/20	GW	2001473-19	BOG0132	1:1; 1:15; 1:35	PFBA (1:15) PFPeA (1:15) PFBS (1:15) PFHxA (1:35) PFPeS (1:15) PFHpA (1:35) PFHxS (1:35) 6:2FTS (1:15) PFOA (1:35)		
SBT20-01 (0.5-1)	7/7/20	Soil	2001473-20	BOG0144	1:1		PFHxA; PFNA	13C2-PFHxDA
SBP20-02 (1-1.5)	7/7/20	Soil	2001475-01	BOG0151	1:1			d3-MeFOSA
SBP20-02 (5.5-6)	7/7/20	Soil	2001475-02	BOG0151	1:1			13C2-PFHxDA
SBP20-03 (1-1.5)	7/7/20	Soil	2001475-03	BOG0151	1:1			
SBP20-03 (5-5.5)	7/7/20	Soil	2001475-04	BOG0151	1:1		PFHpA	
SBP20-06 (0.5-1)	7/7/20	Soil	2001475-05	BOG0151	1:1		PFHxA	
SBP20-06 (7.4-7.9)	7/7/20	Soil	2001475-06	BOG0151	1:1			13C2-PFTeDA; 13C2-PFHxDA
SBP20-02-GW	7/7/20	GW	2001475-07	BOG0132	1:1		PFDS	

Client Sample ID	Sample Date	Media	Lab Sample ID	Prep Batch	Dilutions	PFAS Analytes Requiring Dilution	PFAS Analytes with Ion Transition Ratios Outside Criteria	Isotope Surrogates with % Recoveries Outside Limits
SBP20-03-GW	7/7/20	GW	2001475-08	BOG0132	1:1; 1:5	PFHxS (1:5) 6:2 FTS (1:5) PFOS (1:5)	PFDA	
SBP20-04 (7-7.5)	7/8/20	Soil	2001475-09	BOG0151	1:1		PFHpA	13C2-PFHxDA
Geoprobe Decon Blank	7/8/20	Field QC	2001475-10	BOG0132	1:1		PFOS	
Equipment Blank-070920	7/9/20	Field QC	2001475-11	BOG0132	1:1			
GW Duplicate A	7/9/20	GW	2001475-12	BOG0132	1:1; 1:15; 1:35	PFBA (1:15) PFPeA (1:15) PFBS (1:15) PFHxA (1:15) PFPeS (1:15) PFHpA (1:15) PFHxS (1:30) 6:2FTS (1:15) PFOA (1:15)		
GW Duplicate B	7/9/20	GW	2001475-13	BOG0132	1:1; 1:5; 1:10	PFHxS (1:5) 6:2 FTS (1:5) PFOS (1:10)	PFDA; PFOSA	
SBP20-01-GW	7/8/20	GW	2001478-01	BOG0132	1:1; 1:5	PFHxS (1:5) 6:2 FTS (1:5) PFOS (1:5)	PFOSA	
SBP20-04 (0.5-1)	7/8/20	Soil	2001478-02	BOG0151	1:1		PFDA; PFHxA	d3-MeFOSA; d5-EtFOSA

Client Sample ID	Sample Date	Media	Lab Sample ID	Prep Batch	Dilutions	PFAS Analytes Requiring Dilution	PFAS Analytes with Ion Transition Ratios Outside Crtieria	Isotope Surrogates with % Recoveries Outside Limits
SBP20-06-GW	7/8/20	GW	2001478-03	BOG0132	1:1; 1:5	PFOS (1:5)		
SBP20-05 (0.5-1)	7/8/20	Soil	2001478-04	BOG0151	1:1		4:2 FTS; PFHxA	
SBP20-05 (6-6.5)	7/8/20	Soil	2001478-05	BOG0151	1:1; 1:5	PFOS (1:5)		
SBP20-05-GW	7/8/20	GW	2001478-06	BOG0132	1:1; 1:5	PFOS (1:5)	PFOSA	
SBP20-01 (0.5-1)	7/8/20	Soil	2001478-07	BOG0151	1:1		PFHxA	d3-MeFOSA; d5-EtFOSA
SBP20-01 (5-5.5)	7/8/20	Soil	2001478-08	BOG0151	1:1			d3-MeFOSA; d5-EtFOSA
Field Blank A	7/8/20	Field QC	2001478-09	BOG0132 BOG0133	1:1			
SBP20-04-GW	7/8/20	GW	2001478-10	BOG0132	1:1; 1:5	PFHxS (1:5) 6:2 FTS (1:5) PFOS (1:5)	PFOSA	

Notes: