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January 12, 2023

Watson Tanji  
AECOM Honolulu  
1001 Bishop Street, Suite 1600  
Honolulu, HI 96813

RE: Red Hill AFFF Assessment Sampling  
22L0023

Enclosed are the results of analyses for samples received by our laboratory on 12/3/2022. If you have any questions concerning this report, please feel free to contact me.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or designee, as verified by the following signature.

Sincerely,

Greg Salata For Gregory Salata  
Project Manager

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# Data Validatable Report

## Analysis Case Narrative

**EPA 1633:** Manual integrations were performed for this method in accordance with APPL's SOP. Chromatograms after manual integration are enclosed for specific samples and analytes. Abbreviated flags for technical justification are listed on the chromatogram. Some extracted internal standards recovered outside of control limits in some samples, these samples were diluted and recovered in control, unless stated otherwise.

The analyte PFOSA recovered above ½ the PQL in the BBL0133-BLK1. Corrective action: None, samples were non-detect.

The analytes PFOS and 6:2FTS recovered above ½ the PQL in the BBL0100-BLK1.

The extracted internal standard D5-NEtFOSA and D3-NMeFOSA recovered below the lower control limit in BBL0100-BLK1, BBL0100-BS1, BBL0100-BSD1, and BBL0100-MRL1.

The analytes NEtFOSA and NEtFOSAA recovered with high RPD in the BBL0100-BS1/BSD1.

The analytes PFHxS and PFOS recovered with high RPD between sample ADIT6-DU02-SOFT01MI-22DEC and BBL0100-DUP1.

The analytes PFHxS and PFOS recovered with high RPD between sample ADIT6-DU02-SOFT01MI-22DEC and BBL0100-DUP2. The extracted internal standard 13C2-6:2FTS recovered above the upper control limit in BBL0100-DUP2.

The analytes NMeFOSA and NEtFOSAA recovered above the upper control limit in BBL0100-MRL1.

The analyte PFHxA, PFHpS, and 6:2FTS recovered below the lower control limit in the MS and MSD performed on sample ADIT6-DU02-SOFT01MI-22DEC. The analyte NFDHA recovered with high RPD. The extracted internal standard D3-NMeFOSAA recovered above the upper control limit in the MSD.

The extracted internal standards 13C2-6:2FTS and D3-NMeFOSAA recovered above the upper control limit in sample ADIT6-IDW-SON01MI-22DEC, ADIT6-IDW-SOFD01MI-22DEC, and ADIT6-IDW-SOFT01MI-22DEC. The extracted internal standards D5-NEtFOSA and D3-NMeFOSA recovered below the lower control limit.

The extracted internal standard 13C2-6:2FTS recovered above the upper control limit in sample ADIT6-DU02-SON01MI-22DEC and ADIT6-DU02-SOFD01MI-22DEC.

The extracted internal standard D5-NEtFOSA and D3-NMeFOSA recovered below the lower control limit in sample ADIT6-DU04A-SON01MI-22DEC. The extracted internal standard D5-NEtFOSAA recovered above the upper control limit.

The extracted internal standard 13C4-PFBA recovered below the lower control limit in sample ADIT6-DU04B-SON01MI-22DEC.

The extracted internal standard 13C4-PFBA recovered below the lower control limit in the BBL0133-BLK1, BBL0133-BS1, BBL0133-BSD1, and BBL0133-MRL1. The analyte PFMPA recovered below the lower control limit in the BBL0133-BS1, BBL0133-BSD1 and BBL0133-MRL1. The analyte PFBA recovered above the upper control limit in the BBL0133-MRL1. Corrective action: None, samples were unaffected. Justification: Ammonium acetate was excluded from the sample pretreatment steps due to lacking chemical availability and delayed shipments. This impacts the ability to read the pH of very clean solutions, including deionized water. This may have lead to the poor recoveries of some PFAS observed in this extraction set.

The analytes PFTeDA and 9CL-PF3ONS recovered above the upper control limits in the SB03753-LCV1. The analytes

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NEtFOSAA and NFDHA recovered below the lower control limits.

The analyte NFDHA recovered below the lower control limit in the SB03753-CCV2.

#### EPA 1633 SPLP:

The extracted internal standard D5-NEtFOSA recovered below the lower control limit in the BBL0372-BS1.

### Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
22L0023-01	ADIT6-IDW-SON01MI-22DEC	Solid	12/02/2022 19:10	12/03/2022
22L0023-02	ADIT6-IDW-SOFD01MI-22DEC	Solid	12/02/2022 19:20	12/03/2022
22L0023-03	ADIT6-IDW-SOFT01MI-22DEC	Solid	12/02/2022 19:30	12/03/2022
22L0023-04	ADIT6-DU02-SON01MI-22DEC	Solid	12/02/2022 13:00	12/03/2022
22L0023-05	ADIT6-DU02-SOFD01MI-22DEC	Solid	12/02/2022 13:00	12/03/2022
22L0023-06	ADIT6-DU02-SOFT01MI-22DEC	Solid	12/02/2022 13:00	12/03/2022
22L0023-07	ADIT6-DU04A-SON01MI-22DEC	Solid	12/02/2022 10:55	12/03/2022
22L0023-08	ADIT6-DU01-SON01MI-22DEC	Solid	12/02/2022 13:00	12/03/2022
22L0023-09	ADIT6-DU04B-SON01MI-22DEC	Solid	12/02/2022 11:05	12/03/2022

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### Containers Received

Lab ID	Container Type	Count	Preservation Check
22L0023-01	Client Provided	6	
22L0023-02	Client Provided	6	
22L0023-03	Client Provided	6	
22L0023-04	Client Provided	6	
22L0023-05	Client Provided	6	
22L0023-06	Client Provided	6	
22L0023-07	Client Provided	6	
22L0023-08	Client Provided	7	
22L0023-09	Client Provided	6	
22L0023-10	500mL P	2	

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## Sample Results

**Sample: ADIT6-IDW-SON01MI-22DEC**  
**22L0023-01 (Solid)**

### Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	2.8	0.30	0.20	0.15	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
PFPEA	3.5	0.080	0.040	0.021	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
PFHXA	6.3	0.040	0.020	0.015	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
PFHPA	1.1	0.040	0.020	0.015	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
PFOA	0.60	0.040	0.030	0.021	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
PFNA	0.062	0.040	0.030	0.022	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
PFDA	0.078	0.040	0.030	0.022	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
PFUnA	0.11	0.040	0.020	0.020	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
PFDOA	0.029 J	0.040	0.030	0.023	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
PFTRDA	0.031 J	0.040	0.020	0.016	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
PFTEDA	0.026 J	0.040	0.030	0.025	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
PFBS	0.11	0.040	0.020	0.016	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
PFPEs	0.020 U	0.040	0.020	0.012	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
PFHXS	0.051	0.040	0.020	0.015	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
PFHPS	0.020 U	0.040	0.020	0.011	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
PFOS	1.2	0.040	0.020	0.0097	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
PFNS	0.015 J	0.040	0.020	0.014	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
PFDS	0.031 J	0.040	0.020	0.013	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
PFDOS	0.031 J IR1,	0.040	0.020	0.013	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
4:2FTS	2.1	0.16	0.080	0.045	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
6:2FTS	190	1.6	0.80	0.61	ug/kg Dry	12/08/22	10	EPA 1633	BBL0100
8:2FTS	0.080 U IR2,	0.16	0.080	0.051	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
PFOSA	0.020 U	0.040	0.020	0.012	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
NMeFOSA	0.080 U	0.16	0.080	0.066	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
NEtFOSA	0.080 U	0.16	0.080	0.027	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
NMeFOSAA	0.020 U	0.040	0.020	0.010	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
NEtFOSAA	0.020 U	0.040	0.020	0.018	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
NMeFOSE	0.080 U	0.16	0.080	0.053	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
NEtFOSE	0.080 U	0.16	0.080	0.047	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
HFPO-DA	0.040 U	0.080	0.040	0.022	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
ADONA	0.040 U	0.080	0.040	0.026	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
PFEESA	0.040 U	0.080	0.040	0.017	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
PFMPA	0.040 U	0.080	0.040	0.028	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
PFMBA	0.040 U	0.080	0.040	0.032	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
NFDHA	0.060 U	0.080	0.060	0.049	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
9CL-PF3ONS	0.040 U	0.080	0.040	0.024	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
11CL-PF3OUDS	0.040 U	0.080	0.040	0.026	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
3:3FTCA	0.080 U	0.16	0.080	0.063	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
5:3FTCA	1.2	0.16	0.080	0.065	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
7:3FTCA	0.080 U	0.16	0.080	0.049	ug/kg Dry	12/08/22	1	EPA 1633	BBL0100
<hr/>									
Surrogate: 13C4-PFBA	98.6%		20-150			12/08/22	1	EPA 1633	BBL0100
Surrogate: 13C5-PFPEA	89.6%		20-150			12/08/22	1	EPA 1633	BBL0100
Surrogate: 13C5-PFHXA	103%		20-150			12/08/22	1	EPA 1633	BBL0100
Surrogate: 13C4-PFHPA	106%		20-150			12/08/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOA	89.6%		20-150			12/08/22	1	EPA 1633	BBL0100



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### Sample Results (Continued)

#### Sample: ADIT6-IDW-SON01MI-22DEC (Continued) 22L0023-01 (Solid)

#### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	109%		20-150			12/08/22	1	EPA 1633	BBL0100
Surrogate: 13C6-PFDA	89.3%		20-150			12/08/22	1	EPA 1633	BBL0100
Surrogate: 13C7-PFUnA	45.4%		20-150			12/08/22	1	EPA 1633	BBL0100
Surrogate: 13C2-PFDOA	63.3%		20-150			12/08/22	1	EPA 1633	BBL0100
Surrogate: 13C2-PFTEDA	38.5%		20-150			12/08/22	1	EPA 1633	BBL0100
Surrogate: 13C3-PFBS	95.3%		20-150			12/08/22	1	EPA 1633	BBL0100
Surrogate: 13C3-PFHXS	95.5%		20-150			12/08/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOS	111%		20-150			12/08/22	1	EPA 1633	BBL0100
Surrogate: 13C2-4:2FTS	133%		20-150			12/08/22	1	EPA 1633	BBL0100
Surrogate: 13C2-6:2FTS	154% S2		20-150			12/08/22	1	EPA 1633	BBL0100
Surrogate: 13C2-6:2FTS	153% S2		20-150			12/08/22	10	EPA 1633	BBL0100
Surrogate: 13C2-8:2FTS	76.7%		20-150			12/08/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOA	45.1%		20-150			12/08/22	1	EPA 1633	BBL0100
Surrogate: D5-NETFOA	18.5% S1		20-150			12/08/22	1	EPA 1633	BBL0100
Surrogate: D3-NMEFOA	16.0% S1		20-150			12/08/22	1	EPA 1633	BBL0100
Surrogate: D3-NMEFOA	18.7% S1		20-150			12/08/22	10	EPA 1633	BBL0100
Surrogate: D3-NMEFOSAA	196% S2		20-150			12/08/22	1	EPA 1633	BBL0100
Surrogate: D3-NMEFOSAA	156% S2		20-150			12/08/22	10	EPA 1633	BBL0100
Surrogate: D5-NETFOSAA	79.0%		20-150			12/08/22	1	EPA 1633	BBL0100
Surrogate: D7-NMEFOSE	39.2%		20-150			12/08/22	1	EPA 1633	BBL0100
Surrogate: D9-NETFOSE	38.3%		20-150			12/08/22	1	EPA 1633	BBL0100
Surrogate: 13C3-HFPO-DA	103%		20-150			12/08/22	1	EPA 1633	BBL0100
PFBA	170	7.4	3.7	0.98	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFPEA	160	3.7	3.7	0.30	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHXA	420	1.9	1.9	0.26	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHPA	53	1.9	0.93	0.19	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOA	30	1.9	0.93	0.70	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFNA	3.1	1.9	0.93	0.38	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDA	5.2 IR2	1.9	0.93	0.47	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFUnA	3.0 IR2	1.9	0.93	0.74	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDOA	0.93 U IR2,	1.9	0.93	0.51	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFTRDA	1.4 U	1.9	1.4	0.93	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFTEDA	0.93 U	1.9	0.93	0.93	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFBS	3.9	1.9	0.93	0.17	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFPEs	0.93 U	1.9	0.93	0.29	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHXS	1.3 J	1.9	0.93	0.15	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHPS	0.93 U	1.9	0.93	0.24	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOS	33	1.9	0.93	0.30	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFNS	0.93 U	1.9	0.93	0.56	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDS	0.93 U	1.9	0.93	0.70	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDOS	0.93 U	1.9	0.93	0.56	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
4:2FTS	110	7.4	3.7	1.3	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
6:2FTS	9700	74	37	14	ng/L	12/21/22	10	EPA 1633 SPLP	BBL0372
8:2FTS	3.7 U	7.4	3.7	0.38	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOA	0.93 U	1.9	0.93	0.47	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOA	3.7 U	7.4	3.7	2.2	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.  
No duplication of this report is allowed, except in its entirety.

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Project: Red Hill AFFF Assessment Sampling  
Project Number: Red Hill AFFF Assessment Sampling  
Project Manager: Watson Tanji

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## Sample Results (Continued)

**Sample: ADIT6-IDW-SON01MI-22DEC (Continued)**  
**22L0023-01 (Solid)**

### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
NETFOSA	3.7 U	7.4	3.7	1.9	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOSAA	0.93 U	1.9	0.93	0.51	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NETFOSAA	0.93 U	1.9	0.93	0.51	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOSE	5.6 U	7.4	5.6	4.7	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NETFOSE	5.6 U	7.4	5.6	4.7	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
HFPO-DA	1.9 U	3.7	1.9	0.79	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
ADONA	1.9 U	3.7	1.9	0.56	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFEESA	1.9 U	3.7	1.9	0.51	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFMPA	1.9 U	3.7	1.9	0.25	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFMBA	1.9 U	3.7	1.9	0.42	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NFDHA	1.9 U	3.7	1.9	1.4	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
9CL-PF3ONS	1.9 U	3.7	1.9	0.98	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
11CL-PF3OUDS	1.9 U	3.7	1.9	0.98	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
3:3FTCA	4.2 J	7.4	3.7	2.7	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
5:3FTCA	150	7.4	3.7	2.0	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
7:3FTCA	3.7 U	7.4	3.7	2.6	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
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Surrogate: 13C4-PFBA	93.7%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C5-PFPEA	97.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C5-PFHXA	95.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C4-PFHFA	86.1%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOA	86.1%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C9-PFNA	92.3%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C6-PFDA	84.7%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C7-PFUnA	41.4%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-PFDOA	79.8%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-PFTEDA	62.3%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-PFBS	117%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-PFHXS	90.5%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOS	98.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-4:2FTS	141%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-6:2FTS	121%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-6:2FTS	138%		20-150			12/21/22	10	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-8:2FTS	25.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOA	81.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D5-NETFOA	50.5%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D3-NMEFOA	54.2%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D3-NMEFOSAA	129%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D5-NETFOSAA	94.8%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D7-NMEFOSE	96.1%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D9-NETFOSE	89.2%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-HFPO-DA	92.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372

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Project: Red Hill AFFF Assessment Sampling  
Project Number: Red Hill AFFF Assessment Sampling  
Project Manager: Watson Tanji

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## Sample Results (Continued)

**Sample: ADIT6-IDW-SOFD01MI-22DEC  
22L0023-02 (Solid)**

### Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	2.8	0.30	0.20	0.15	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFPEA	3.1	0.079	0.040	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHXA	6.5	0.040	0.020	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHPA	1.0	0.040	0.020	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOA	0.53	0.040	0.030	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFNA	0.060	0.040	0.030	0.022	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDA	0.11 IR1	0.040	0.030	0.022	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFUnA	0.070 IR2	0.040	0.020	0.020	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDOA	0.030 U IR2,	0.040	0.030	0.023	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFTRDA	0.033 J	0.040	0.020	0.016	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFTEDA	0.030 U	0.040	0.030	0.025	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFBS	0.10	0.040	0.020	0.016	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFPEs	0.020 U	0.040	0.020	0.012	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHXS	0.041	0.040	0.020	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHPS	0.020 U	0.040	0.020	0.011	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOS	1.1	0.040	0.020	0.0096	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFNS	0.020 U	0.040	0.020	0.014	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDS	0.021 J IR2,	0.040	0.020	0.013	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDOS	0.038 J IR1,	0.040	0.020	0.013	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
4:2FTS	2.2	0.16	0.079	0.045	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
6:2FTS	140	1.6	0.79	0.60	ug/kg Dry	12/09/22	10	EPA 1633	BBL0100
8:2FTS	0.079 U	0.16	0.079	0.050	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOSA	0.020 U	0.040	0.020	0.012	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSA	0.079 U	0.16	0.079	0.065	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSA	0.079 U	0.16	0.079	0.027	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSAA	0.020 U	0.040	0.020	0.0099	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSAA	0.020 U	0.040	0.020	0.018	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSE	0.079 U	0.16	0.079	0.053	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSE	0.079 U	0.16	0.079	0.047	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
HFPO-DA	0.040 U	0.079	0.040	0.022	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
ADONA	0.040 U	0.079	0.040	0.026	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFEESA	0.040 U	0.079	0.040	0.017	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFMPA	0.040 U	0.079	0.040	0.028	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFMBA	0.040 U	0.079	0.040	0.032	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NFDHA	0.059 U	0.079	0.059	0.049	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
9CL-PF3ONS	0.040 U	0.079	0.040	0.024	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
11CL-PF3OUDS	0.040 U	0.079	0.040	0.026	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
3:3FTCA	0.079 U	0.16	0.079	0.063	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
5:3FTCA	1.0	0.16	0.079	0.064	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
7:3FTCA	0.079 U	0.16	0.079	0.049	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
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Surrogate: 13C4-PFBA	105%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C5-PFPEA	93.4%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C5-PFHXA	101%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C4-PFHPA	101%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOA	101%		20-150			12/09/22	1	EPA 1633	BBL0100

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Project: Red Hill AFFF Assessment Sampling  
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Project Manager: Watson Tanji

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## Sample Results (Continued)

### Sample: ADIT6-IDW-SOFD01MI-22DEC (Continued) 22L0023-02 (Solid)

#### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	116%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C6-PFDA	89.4%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C7-PFUnA	46.5%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-PFDOA	83.1%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-PFTEDA	43.8%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-PFBS	108%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-PFHXS	97.4%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOS	99.7%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-4:2FTS	128%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-6:2FTS	159% S2		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-6:2FTS	212% S2		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: 13C2-8:2FTS	81.0%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOSA	46.6%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D5-NETFOA	15.6% S1		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D5-NETFOA	18.3% S1		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: D3-NMEFOA	14.6% S1		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D3-NMEFOA	14.9% S1		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: D3-NMEFOA	172% S2		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D3-NMEFOA	111%		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: D5-NETFOA	79.4%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D7-NMEFOE	35.7%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D9-NETFOE	36.3%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-HFPO-DA	100%		20-150			12/09/22	1	EPA 1633	BBL0100
PFBA	170	7.6	3.8	1.0	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFPEA	180	3.8	3.8	0.31	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHXA	410	1.9	1.9	0.26	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHPA	63	1.9	0.95	0.20	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOA	29	1.9	0.95	0.71	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFNA	3.7	1.9	0.95	0.39	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDA	9.0	1.9	0.95	0.48	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFUnA	4.6 IR2	1.9	0.95	0.76	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDOA	0.81 J	1.9	0.95	0.52	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFTRDA	1.4 U IR2,	1.9	1.4	0.95	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFTEDA	0.95 U	1.9	0.95	0.95	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFBS	4.5	1.9	0.95	0.18	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFPEA	0.95 U	1.9	0.95	0.30	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHXS	1.7 J	1.9	0.95	0.15	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHPS	0.95 U	1.9	0.95	0.24	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOS	55	1.9	0.95	0.30	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFNS	0.95 U	1.9	0.95	0.57	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDS	1.1 J	1.9	0.95	0.71	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDOS	0.95 U	1.9	0.95	0.57	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
4:2FTS	100	7.6	3.8	1.4	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
6:2FTS	9400	76	38	15	ng/L	12/21/22	10	EPA 1633 SPLP	BBL0372
8:2FTS	3.8 U	7.6	3.8	0.39	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOSA	0.95 U	1.9	0.95	0.48	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372

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Project Manager: Watson Tanji

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## Sample Results (Continued)

**Sample: ADIT6-IDW-SOFD01MI-22DEC (Continued)**  
**22L0023-02 (Solid)**

### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
NMeFOSA	3.8 U	7.6	3.8	2.2	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NEtFOSA	3.8 U	7.6	3.8	2.0	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOSAA	0.95 U	1.9	0.95	0.52	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NEtFOSAA	0.95 U	1.9	0.95	0.52	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOSE	5.7 U	7.6	5.7	4.8	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NEtFOSE	5.7 U	7.6	5.7	4.8	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
HFPO-DA	1.9 U	3.8	1.9	0.81	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
ADONA	1.9 U	3.8	1.9	0.57	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFEESA	1.9 U	3.8	1.9	0.52	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFMPA	1.9 U	3.8	1.9	0.26	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFMBA	1.9 U	3.8	1.9	0.43	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NFDHA	1.9 U	3.8	1.9	1.4	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
9CL-PF3ONS	1.9 U	3.8	1.9	1.0	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
11CL-PF3OUDS	1.9 U	3.8	1.9	1.0	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
3:3FTCA	6.3 J	7.6	3.8	2.7	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
5:3FTCA	160	7.6	3.8	2.1	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
7:3FTCA	3.8 U	7.6	3.8	2.6	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
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Surrogate: 13C4-PFBA	94.3%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C5-PFPEA	94.7%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C5-PFHXA	94.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C4-PFHFA	85.6%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOA	91.6%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C9-PFNA	97.7%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C6-PFDA	85.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C7-PFUnA	43.3%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-PFDOA	97.6%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-PFTEDA	50.7%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-PFBS	121%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-PFHXS	85.5%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOS	103%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-4:2FTS	169% S2		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-4:2FTS	96.6%		20-150			12/21/22	10	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-6:2FTS	120%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-6:2FTS	170% S2		20-150			12/21/22	10	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-8:2FTS	32.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOA	107%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D5-NETFOA	64.1%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D3-NMEFOA	67.4%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D3-NMEFOSAA	151% S2		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D3-NMEFOSAA	94.4%		20-150			12/21/22	10	EPA 1633 SPLP	BBL0372
Surrogate: D5-NETFOSAA	104%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D7-NMEFOSE	109%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D9-NETFOSE	108%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-HFPO-DA	97.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372

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Project: Red Hill AFFF Assessment Sampling  
Project Number: Red Hill AFFF Assessment Sampling  
Project Manager: Watson Tanji

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## Sample Results (Continued)

**Sample: ADIT6-IDW-SOFT01MI-22DEC  
22L0023-03 (Solid)**

### Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	2.7	0.29	0.19	0.15	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFPEA	3.3	0.078	0.039	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHXA	6.4	0.039	0.019	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHPA	1.2	0.039	0.019	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOA	0.58	0.039	0.029	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFNA	0.071	0.039	0.029	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDA	0.11	0.039	0.029	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFUnA	0.097	0.039	0.019	0.020	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDOA	0.030 J	0.039	0.029	0.022	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFTRDA	0.042	0.039	0.019	0.016	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFTEDA	0.029 U	0.039	0.029	0.024	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFBS	0.10	0.039	0.019	0.016	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFPEs	0.019 U	0.039	0.019	0.011	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHXS	0.053	0.039	0.019	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHPS	0.019 U	0.039	0.019	0.010	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOS	1.1	0.039	0.019	0.0095	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFNS	0.019 U	0.039	0.019	0.014	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDS	0.020 J	0.039	0.019	0.013	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDOS	0.023 J	0.039	0.019	0.013	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
4:2FTS	1.7	0.16	0.078	0.044	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
6:2FTS	170	1.6	0.78	0.59	ug/kg Dry	12/09/22	10	EPA 1633	BBL0100
8:2FTS	0.078 U	0.16	0.078	0.050	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOSA	0.019 U	0.039	0.019	0.012	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSA	0.078 U	0.16	0.078	0.064	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSA	0.078 U	0.16	0.078	0.026	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSAA	0.019 U	0.039	0.019	0.0098	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSAA	0.019 U	0.039	0.019	0.017	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSE	0.078 U	0.16	0.078	0.052	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSE	0.078 U	0.16	0.078	0.046	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
HFPO-DA	0.039 U	0.078	0.039	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
ADONA	0.039 U	0.078	0.039	0.026	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFEESA	0.039 U	0.078	0.039	0.017	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFMPA	0.039 U	0.078	0.039	0.027	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFMBA	0.039 U	0.078	0.039	0.031	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NFDHA	0.058 U	0.078	0.058	0.048	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
9CL-PF3ONS	0.039 U	0.078	0.039	0.023	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
11CL-PF3OUDS	0.039 U	0.078	0.039	0.026	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
3:3FTCA	0.078 U	0.16	0.078	0.062	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
5:3FTCA	0.84	0.16	0.078	0.063	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
7:3FTCA	0.078 U	0.16	0.078	0.048	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
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Surrogate: 13C4-PFBA	99.1%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C5-PFPEA	81.9%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C5-PFHXA	111%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C4-PFHPA	91.7%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOA	92.2%		20-150			12/09/22	1	EPA 1633	BBL0100

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Project: Red Hill AFFF Assessment Sampling  
Project Number: Red Hill AFFF Assessment Sampling  
Project Manager: Watson Tanji

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## Sample Results (Continued)

### Sample: ADIT6-IDW-SOFT01MI-22DEC (Continued) 22L0023-03 (Solid)

#### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	100%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C6-PFDA	83.8%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C7-PFUnA	35.4%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-PFDOA	69.5%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-PFTEDA	38.8%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-PFBS	95.7%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-PFHXS	90.9%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOS	104%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-4:2FTS	151% S2		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-4:2FTS	102%		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: 13C2-6:2FTS	161% S2		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-6:2FTS	190% S2		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: 13C2-8:2FTS	76.5%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOSA	42.7%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D5-NETFOA	14.8% S1		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D5-NETFOA	15.7% S1		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: D3-NMEFOA	14.4% S1		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D3-NMEFOA	11.9% S1		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: D3-NMEFOSAA	188% S2		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D3-NMEFOSAA	112%		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: D5-NETFOSAA	87.5%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D7-NMEFOSE	35.1%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D9-NETFOSE	37.9%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-HFPO-DA	92.6%		20-150			12/09/22	1	EPA 1633	BBL0100
PFBA	150	7.4	3.7	0.97	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFPEA	170	3.7	3.7	0.30	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHXA	380	1.8	1.8	0.25	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHPA	58	1.8	0.92	0.19	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOA	28	1.8	0.92	0.69	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFNA	3.4	1.8	0.92	0.38	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDA	7.0	1.8	0.92	0.46	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFUnA	4.0 IR2	1.8	0.92	0.74	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDOA	0.78 J IR1,	1.8	0.92	0.51	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFTRDA	1.4 U	1.8	1.4	0.92	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFTEDA	0.92 U	1.8	0.92	0.92	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFBS	4.2	1.8	0.92	0.17	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFPEA	0.92 U	1.8	0.92	0.29	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHXS	1.7 J	1.8	0.92	0.15	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHPS	0.92 U	1.8	0.92	0.24	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOS	44	1.8	0.92	0.30	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFNS	0.92 U	1.8	0.92	0.55	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDS	0.92 U IR1,	1.8	0.92	0.69	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDOS	0.92 U	1.8	0.92	0.55	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
4:2FTS	93	7.4	3.7	1.3	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
6:2FTS	8800	74	37	14	ng/L	12/21/22	10	EPA 1633 SPLP	BBL0372
8:2FTS	3.7 U	7.4	3.7	0.38	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372

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Project Number: Red Hill AFFF Assessment Sampling  
Project Manager: Watson Tanji

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### Sample Results (Continued)

**Sample: ADIT6-IDW-SOFT01MI-22DEC (Continued)**  
**22L0023-03 (Solid)**

#### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFOSA	0.92 U	1.8	0.92	0.46	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOSA	3.7 U	7.4	3.7	2.2	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NEtFOSA	3.7 U	7.4	3.7	1.9	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOSAA	0.92 U	1.8	0.92	0.51	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NEtFOSAA	0.92 U	1.8	0.92	0.51	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOSE	5.5 U	7.4	5.5	4.6	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NEtFOSE	5.5 U	7.4	5.5	4.6	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
HFPO-DA	1.8 U	3.7	1.8	0.78	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
ADONA	1.8 U	3.7	1.8	0.55	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFEESA	1.8 U	3.7	1.8	0.51	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFMPA	1.8 U	3.7	1.8	0.25	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFMBA	1.8 U	3.7	1.8	0.42	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NFDHA	1.8 U	3.7	1.8	1.4	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
9CL-PF3ONS	1.8 U	3.7	1.8	0.97	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
11CL-PF3OUDS	1.8 U	3.7	1.8	0.97	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
3:3FTCA	3.3 J	7.4	3.7	2.6	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
5:3FTCA	160	7.4	3.7	2.0	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
7:3FTCA	3.7 U	7.4	3.7	2.5	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
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Surrogate: 13C4-PFBA	98.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C5-PFPEA	96.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C5-PFHXA	93.5%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C4-PFHFA	86.5%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOA	92.7%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C9-PFNA	88.8%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C6-PFDA	83.2%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C7-PFUnA	40.5%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-PFDOA	70.5%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-PFTEDA	58.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-PFBS	116%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-PFHXS	91.7%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOS	102%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-4:2FTS	162% S2		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-4:2FTS	97.0%		20-150			12/21/22	10	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-6:2FTS	123%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-6:2FTS	165% S2		20-150			12/21/22	10	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-8:2FTS	35.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOSA	91.8%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D5-NETFOSA	52.2%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D3-NMEFOSA	50.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D3-NMEFOSAA	111%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D5-NETFOSAA	108%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D7-NMEFOSE	97.3%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D9-NETFOSE	90.3%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-HFPO-DA	91.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372



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Project: Red Hill AFFF Assessment Sampling  
Project Number: Red Hill AFFF Assessment Sampling  
Project Manager: Watson Tanji

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### Sample Results (Continued)

**Sample: ADIT6-DU02-SON01MI-22DEC  
22L0023-04 (Solid)**

#### Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	4.2	0.29	0.20	0.15	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFPEA	1.6	0.078	0.039	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHXA	12	0.039	0.020	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHPA	0.33	0.039	0.020	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOA	0.92	0.039	0.029	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFNA	0.029 U IR2,	0.039	0.029	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDA	0.099 IR2	0.039	0.029	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFUnA	0.020 U IR1,	0.039	0.020	0.020	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDOA	0.029 U IR2,	0.039	0.029	0.023	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFTRDA	0.020 U	0.039	0.020	0.016	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFTEDA	0.029 U IR2,	0.039	0.029	0.025	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFBS	0.020 U	0.039	0.020	0.016	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFPEs	0.020 U	0.039	0.020	0.012	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHXS	0.042	0.039	0.020	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHPS	0.020 U	0.039	0.020	0.011	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOS	0.53	0.039	0.020	0.0095	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFNS	0.020 U	0.039	0.020	0.014	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDS	0.029 J IR1,	0.039	0.020	0.013	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDOS	0.017 J IR1,	0.039	0.020	0.013	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
4:2FTS	0.71	0.16	0.078	0.044	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
6:2FTS	130	1.6	0.78	0.60	ug/kg Dry	12/09/22	10	EPA 1633	BBL0100
8:2FTS	0.078 U	0.16	0.078	0.050	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOSA	0.020 U	0.039	0.020	0.012	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSA	0.078 U	0.16	0.078	0.065	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSA	0.078 U	0.16	0.078	0.026	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSAA	0.020 U	0.039	0.020	0.0098	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSAA	0.020 U	0.039	0.020	0.017	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSE	0.45	0.16	0.078	0.053	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSE	0.078 U	0.16	0.078	0.046	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
HFPO-DA	0.039 U	0.078	0.039	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
ADONA	0.039 U	0.078	0.039	0.026	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFEESA	0.039 U	0.078	0.039	0.017	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFMPA	0.039 U	0.078	0.039	0.027	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFMBA	0.039 U	0.078	0.039	0.032	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NFDHA	0.059 U	0.078	0.059	0.048	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
9CL-PF3ONS	0.039 U	0.078	0.039	0.024	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
11CL-PF3OUDS	0.039 U	0.078	0.039	0.026	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
3:3FTCA	0.078 U	0.16	0.078	0.062	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
5:3FTCA	0.33	0.16	0.078	0.064	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
7:3FTCA	0.078 U	0.16	0.078	0.049	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
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Surrogate: 13C4-PFBA	105%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C5-PFPEA	96.8%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C5-PFHXA	108%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C4-PFHPA	118%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOA	85.3%		20-150			12/09/22	1	EPA 1633	BBL0100

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Project: Red Hill AFFF Assessment Sampling  
Project Number: Red Hill AFFF Assessment Sampling  
Project Manager: Watson Tanji

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### Sample Results (Continued)

#### Sample: ADIT6-DU02-SON01MI-22DEC (Continued) 22L0023-04 (Solid)

#### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	93.8%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C6-PFDA	85.6%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C7-PFUnA	45.0%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-PFDOA	141%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-PFTEDA	43.5%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-PFBS	111%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-PFHXS	100%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOS	114%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-4:2FTS	155% S2		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-4:2FTS	97.2%		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: 13C2-6:2FTS	170% S2		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-6:2FTS	163% S2		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: 13C2-8:2FTS	50.9%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOSA	50.2%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D5-NETFOA	23.1%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D3-NMEFOA	20.4%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D3-NMEFOA	186% S2		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D3-NMEFOA	131%		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: D5-NETFOA	67.4%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D7-NMEFOA	60.1%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D9-NETFOA	62.6%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-HFPO-DA	103%		20-150			12/09/22	1	EPA 1633	BBL0100
PFBA	240	7.3	3.7	0.96	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFPEA	92	3.7	3.7	0.30	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHXA	740	1.8	1.8	0.25	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHPA	22	1.8	0.92	0.19	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOA	53	1.8	0.92	0.69	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFNA	0.67 J	1.8	0.92	0.38	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDA	6.5	1.8	0.92	0.46	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFUnA	0.92 U	1.8	0.92	0.73	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDOA	0.92 U	1.8	0.92	0.50	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFTRDA	1.4 U	1.8	1.4	0.92	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFTEDA	0.92 U	1.8	0.92	0.92	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFBS	0.23 J	1.8	0.92	0.17	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFPEA	0.92 U	1.8	0.92	0.29	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHXS	1.1 J	1.8	0.92	0.15	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHPS	0.92 U	1.8	0.92	0.23	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOS	8.9	1.8	0.92	0.29	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFNS	0.92 U	1.8	0.92	0.55	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDS	0.92 U	1.8	0.92	0.69	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDOS	0.92 U	1.8	0.92	0.55	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
4:2FTS	37	7.3	3.7	1.3	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
6:2FTS	6500	73	37	14	ng/L	12/21/22	10	EPA 1633 SPLP	BBL0372
8:2FTS	3.7 U	7.3	3.7	0.38	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOA	0.92 U	1.8	0.92	0.46	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOA	3.7 U	7.3	3.7	2.2	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.  
No duplication of this report is allowed, except in its entirety.

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Honolulu, HI 96813

Project: Red Hill AFFF Assessment Sampling  
Project Number: Red Hill AFFF Assessment Sampling  
Project Manager: Watson Tanji

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### Sample Results (Continued)

**Sample: ADIT6-DU02-SON01MI-22DEC (Continued)**  
**22L0023-04 (Solid)**

#### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
NETFOSA	3.7 U	7.3	3.7	1.9	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOSAA	0.92 U	1.8	0.92	0.50	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NETFOSAA	0.92 U	1.8	0.92	0.50	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOSE	5.5 U	7.3	5.5	4.6	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NETFOSE	5.5 U	7.3	5.5	4.6	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
HFPO-DA	1.8 U	3.7	1.8	0.78	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
ADONA	1.8 U	3.7	1.8	0.55	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFEESA	1.8 U	3.7	1.8	0.50	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFMPA	1.8 U	3.7	1.8	0.25	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFMBA	1.8 U	3.7	1.8	0.42	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NFDHA	1.8 U	3.7	1.8	1.4	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
9CL-PF3ONS	1.8 U	3.7	1.8	0.96	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
11CL-PF3OUDS	1.8 U	3.7	1.8	0.96	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
3:3FTCA	3.7 U	7.3	3.7	2.6	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
5:3FTCA	47	7.3	3.7	2.0	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
7:3FTCA	3.7 U	7.3	3.7	2.5	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
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Surrogate: 13C4-PFBA	92.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C5-PFPEA	92.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C5-PFHXA	81.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C4-PFHFA	75.7%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOA	86.5%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C9-PFNA	92.6%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C6-PFDA	86.2%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C7-PFUnA	22.8%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-PFDOA	79.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-PFTEDA	54.7%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-PFBS	128%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-PFHXS	88.3%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOS	102%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-4:2FTS	174% S2		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-4:2FTS	103%		20-150			12/21/22	10	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-6:2FTS	103%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-6:2FTS	160% S2		20-150			12/21/22	10	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-8:2FTS	8.84% S1		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-8:2FTS	48.8%		20-150			12/21/22	10	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOSA	56.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D5-NETFOSA	71.4%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D3-NMEFOSA	64.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D3-NMEFOSAA	196% S2		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D3-NMEFOSAA	101%		20-150			12/21/22	10	EPA 1633 SPLP	BBL0372
Surrogate: D5-NETFOSAA	124%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D7-NMEFOSE	135%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D9-NETFOSE	118%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-HFPO-DA	85.2%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372

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Project: Red Hill AFFF Assessment Sampling  
Project Number: Red Hill AFFF Assessment Sampling  
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### Sample Results (Continued)

**Sample: ADIT6-DU02-SOFD01MI-22DEC  
22L0023-05 (Solid)**

#### Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	5.8	0.30	0.20	0.15	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFPEA	2.2	0.079	0.039	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHXA	17	0.039	0.020	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHPA	0.47	0.039	0.020	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOA	1.2	0.039	0.030	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFNA	0.030 U IR2,	0.039	0.030	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDA	0.15	0.039	0.030	0.022	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFUnA	0.032 J IR1,	0.039	0.020	0.020	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDOA	0.030 U IR2,	0.039	0.030	0.023	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFTRDA	0.020 U	0.039	0.020	0.016	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFTEDA	0.030 U	0.039	0.030	0.025	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFBS	0.020 U	0.039	0.020	0.016	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFPEs	0.020 U	0.039	0.020	0.012	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHXS	0.051	0.039	0.020	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHPS	0.020 U	0.039	0.020	0.011	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOS	0.30	0.039	0.020	0.0096	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFNS	0.020 U	0.039	0.020	0.014	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDS	0.022 J IR1,	0.039	0.020	0.013	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDOS	0.014 J IR1,	0.039	0.020	0.013	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
4:2FTS	1.0	0.16	0.079	0.045	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
6:2FTS	150	1.6	0.79	0.60	ug/kg Dry	12/09/22	10	EPA 1633	BBL0100
8:2FTS	0.079 U	0.16	0.079	0.050	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOSA	0.020 U	0.039	0.020	0.012	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSA	0.079 U	0.16	0.079	0.065	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSA	0.079 U	0.16	0.079	0.026	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSAA	0.020 U	0.039	0.020	0.0099	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSAA	0.020 U	0.039	0.020	0.018	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSE	0.73	0.16	0.079	0.053	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSE	0.079 U	0.16	0.079	0.046	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
HFPO-DA	0.039 U	0.079	0.039	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
ADONA	0.039 U	0.079	0.039	0.026	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFEESA	0.039 U	0.079	0.039	0.017	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFMPA	0.039 U	0.079	0.039	0.027	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFMBA	0.039 U	0.079	0.039	0.032	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NFDHA	0.059 U	0.079	0.059	0.049	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
9CL-PF3ONS	0.039 U	0.079	0.039	0.024	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
11CL-PF3OUDS	0.039 U	0.079	0.039	0.026	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
3:3FTCA	0.079 U	0.16	0.079	0.063	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
5:3FTCA	0.58	0.16	0.079	0.064	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
7:3FTCA	0.079 U	0.16	0.079	0.049	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
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Surrogate: 13C4-PFBA	95.6%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C5-PFPEA	97.4%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C5-PFHXA	100%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C4-PFHPA	120%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOA	112%		20-150			12/09/22	1	EPA 1633	BBL0100

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Project: Red Hill AFFF Assessment Sampling  
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Project Manager: Watson Tanji

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### Sample Results (Continued)

**Sample: ADIT6-DU02-SOFD01MI-22DEC (Continued)**  
**22L0023-05 (Solid)**

#### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	104%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C6-PFDA	84.2%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C7-PFUnA	41.0%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-PFDOA	132%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-PFTEDA	40.8%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-PFBS	128%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-PFHXS	102%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOS	123%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-4:2FTS	169% S2		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-4:2FTS	85.7%		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: 13C2-6:2FTS	189% S2		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-6:2FTS	227% S2		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: 13C2-8:2FTS	37.5%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOA	57.0%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D5-NETFOA	36.0%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D3-NMEFOA	32.7%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D3-NMEFOA	228% S2		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D3-NMEFOA	105%		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: D5-NETFOA	64.4%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D7-NMEFOE	87.9%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D9-NETFOE	87.8%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-HFPO-DA	105%		20-150			12/09/22	1	EPA 1633	BBL0100
PFBA	320	7.4	3.7	0.98	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFPEA	120	3.7	3.7	0.30	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHXA	930	19	19	2.6	ng/L	12/21/22	10	EPA 1633 SPLP	BBL0372
PFHPA	30	1.9	0.93	0.19	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOA	67	1.9	0.93	0.70	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFNA	0.93 U	1.9	0.93	0.38	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDA	8.5	1.9	0.93	0.46	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFUnA	0.93 U	1.9	0.93	0.74	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDOA	0.93 U	1.9	0.93	0.51	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFTRDA	1.4 U	1.9	1.4	0.93	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFTEDA	0.93 U	1.9	0.93	0.93	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFBS	0.27 J	1.9	0.93	0.17	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFPE	0.93 U	1.9	0.93	0.29	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHXS	1.4 J	1.9	0.93	0.15	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHPS	0.93 U	1.9	0.93	0.24	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOS	7.7	1.9	0.93	0.30	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFNS	0.93 U	1.9	0.93	0.56	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDS	0.93 U	1.9	0.93	0.70	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDOS	0.93 U	1.9	0.93	0.56	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
4:2FTS	56	7.4	3.7	1.3	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
6:2FTS	9500	74	37	14	ng/L	12/21/22	10	EPA 1633 SPLP	BBL0372
8:2FTS	3.7 U	7.4	3.7	0.38	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOA	0.93 U	1.9	0.93	0.46	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOA	3.7 U	7.4	3.7	2.2	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.  
No duplication of this report is allowed, except in its entirety.

AECOM Honolulu  
1001 Bishop Street, Suite 1600  
Honolulu, HI 96813

Project: Red Hill AFFF Assessment Sampling  
Project Number: Red Hill AFFF Assessment Sampling  
Project Manager: Watson Tanji

Reported: 01/12/2023 11:06

### Sample Results (Continued)

**Sample: ADIT6-DU02-SOFD01MI-22DEC (Continued)**  
**22L0023-05 (Solid)**

#### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
NETFOSA	3.7 U	7.4	3.7	1.9	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOSAA	0.93 U	1.9	0.93	0.51	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NETFOSAA	0.93 U	1.9	0.93	0.51	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOSE	5.6 U	7.4	5.6	4.6	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NETFOSE	5.6 U	7.4	5.6	4.6	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
HFPO-DA	1.9 U	3.7	1.9	0.79	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
ADONA	1.9 U	3.7	1.9	0.56	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFEESA	1.9 U	3.7	1.9	0.51	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFMPA	1.9 U	3.7	1.9	0.25	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFMBA	1.9 U	3.7	1.9	0.42	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NFDHA	1.9 U	3.7	1.9	1.4	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
9CL-PF3ONS	1.9 U	3.7	1.9	0.98	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
11CL-PF3OUDS	1.9 U	3.7	1.9	0.98	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
3:3FTCA	3.7 U	7.4	3.7	2.6	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
5:3FTCA	96	7.4	3.7	2.0	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
7:3FTCA	3.7 U	7.4	3.7	2.6	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
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Surrogate: 13C4-PFBA	95.7%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C5-PFPEA	108%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C5-PFHXA	89.5%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C5-PFHXA	92.2%		20-150			12/21/22	10	EPA 1633 SPLP	BBL0372
Surrogate: 13C4-PFHFA	82.1%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOA	90.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C9-PFNA	82.1%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C6-PFDA	73.8%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C7-PFUnA	26.8%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-PFDOA	72.8%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-PFTEDA	44.8%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-PFBS	128%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-PFHXS	89.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOS	95.7%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-4:2FTS	180% S2		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-4:2FTS	121%		20-150			12/21/22	10	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-6:2FTS	87.3%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-6:2FTS	194% S2		20-150			12/21/22	10	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-8:2FTS	10.9% S1		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-8:2FTS	38.6%		20-150			12/21/22	10	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOSA	50.1%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D5-NETFOSA	61.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D3-NMEFOSA	63.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D3-NMEFOSAA	193% S2		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D3-NMEFOSAA	83.6%		20-150			12/21/22	10	EPA 1633 SPLP	BBL0372
Surrogate: D5-NETFOSAA	116%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D7-NMEFOSE	122%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D9-NETFOSE	118%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-HFPO-DA	93.6%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372

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Project: Red Hill AFFF Assessment Sampling  
Project Number: Red Hill AFFF Assessment Sampling  
Project Manager: Watson Tanji

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### Sample Results (Continued)

**Sample: ADIT6-DU02-SOFT01MI-22DEC  
22L0023-06 (Solid)**

#### Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	2.3	0.30	0.20	0.15	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFPEA	1.8	0.079	0.040	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHXA	8.6	0.040	0.020	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHPA	0.29	0.040	0.020	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOA	0.44	0.040	0.030	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFNA	0.030 U	0.040	0.030	0.022	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDA	0.068	0.040	0.030	0.022	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFUnA	0.020 U IR1,	0.040	0.020	0.020	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDOA	0.030 U IR2,	0.040	0.030	0.023	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFTRDA	0.020 U	0.040	0.020	0.016	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFTEDA	0.030 U	0.040	0.030	0.025	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFBS	0.020 U	0.040	0.020	0.016	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFPEs	0.020 U	0.040	0.020	0.012	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHXS	0.035 J	0.040	0.020	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHPS	0.020 U	0.040	0.020	0.011	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOS	0.34	0.040	0.020	0.0096	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFNS	0.020 U	0.040	0.020	0.014	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDS	0.021 J IR1,	0.040	0.020	0.013	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDOS	0.016 J IR1,	0.040	0.020	0.013	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
4:2FTS	0.37	0.16	0.079	0.045	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
6:2FTS	130	1.6	0.79	0.60	ug/kg Dry	12/09/22	10	EPA 1633	BBL0100
8:2FTS	0.079 U	0.16	0.079	0.051	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOSA	0.020 U	0.040	0.020	0.012	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSA	0.079 U	0.16	0.079	0.065	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSA	0.079 U	0.16	0.079	0.027	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSAA	0.020 U	0.040	0.020	0.010	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSAA	0.020 U	0.040	0.020	0.018	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSE	0.079 U	0.16	0.079	0.053	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSE	0.079 U	0.16	0.079	0.047	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
HFPO-DA	0.040 U	0.079	0.040	0.022	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
ADONA	0.040 U	0.079	0.040	0.026	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFEESA	0.040 U	0.079	0.040	0.017	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFMPA	0.040 U	0.079	0.040	0.028	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFMBA	0.040 U	0.079	0.040	0.032	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NFDHA	0.059 U	0.079	0.059	0.049	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
9CL-PF3ONS	0.040 U	0.079	0.040	0.024	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
11CL-PF3OUDS	0.040 U	0.079	0.040	0.026	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
3:3FTCA	0.079 U	0.16	0.079	0.063	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
5:3FTCA	0.27	0.16	0.079	0.064	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
7:3FTCA	0.079 U	0.16	0.079	0.049	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
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Surrogate: 13C4-PFBA	105%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C5-PFPEA	97.5%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C5-PFHXA	99.1%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C4-PFHPA	101%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOA	107%		20-150			12/09/22	1	EPA 1633	BBL0100

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Project: Red Hill AFFF Assessment Sampling  
Project Number: Red Hill AFFF Assessment Sampling  
Project Manager: Watson Tanji

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### Sample Results (Continued)

#### Sample: ADIT6-DU02-SOFT01MI-22DEC (Continued) 22L0023-06 (Solid)

#### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	91.8%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C6-PFDA	89.1%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C7-PFUnA	55.5%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-PFDOA	110%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-PFTEDA	41.8%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-PFBS	113%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-PFHXS	105%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOS	92.0%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-4:2FTS	127%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-6:2FTS	165% S2		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-6:2FTS	137%		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: 13C2-8:2FTS	82.5%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOSA	53.8%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D5-NETFOSA	25.0%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D3-NMEFOSA	21.8%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D3-NMEFOSAA	148%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D5-NETFOSAA	80.6%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D7-NMEFOSE	60.3%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D9-NETFOSE	58.5%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-HFPO-DA	106%		20-150			12/09/22	1	EPA 1633	BBL0100
PFBA	130	7.3	3.6	0.96	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFPEA	100	3.6	3.6	0.30	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHXA	510	1.8	1.8	0.25	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHPA	17	1.8	0.91	0.19	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOA	23	1.8	0.91	0.68	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFNA	0.91 U	1.8	0.91	0.37	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDA	3.9	1.8	0.91	0.46	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFUnA	0.91 U	1.8	0.91	0.73	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDOA	0.91 U	1.8	0.91	0.50	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFTRDA	1.4 U	1.8	1.4	0.91	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFTEDA	0.91 U	1.8	0.91	0.91	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFBS	0.22 J	1.8	0.91	0.17	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFPEs	0.91 U	1.8	0.91	0.29	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHXS	0.94 J	1.8	0.91	0.15	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHPS	0.91 U	1.8	0.91	0.23	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOS	7.5	1.8	0.91	0.29	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFNS	0.91 U	1.8	0.91	0.55	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDS	0.91 U	1.8	0.91	0.68	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDOS	0.91 U	1.8	0.91	0.55	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
4:2FTS	20	7.3	3.6	1.3	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
6:2FTS	6000	73	36	14	ng/L	12/21/22	10	EPA 1633 SPLP	BBL0372
8:2FTS	3.6 U	7.3	3.6	0.37	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOSA	0.91 U	1.8	0.91	0.46	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOSA	3.6 U	7.3	3.6	2.1	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NEtFOSA	3.6 U	7.3	3.6	1.9	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOSAA	0.91 U	1.8	0.91	0.50	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.  
No duplication of this report is allowed, except in its entirety.



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Project: Red Hill AFFF Assessment Sampling  
Project Number: Red Hill AFFF Assessment Sampling  
Project Manager: Watson Tanji

Reported: 01/12/2023 11:06

## Sample Results (Continued)

**Sample: ADIT6-DU02-SOFT01MI-22DEC (Continued)**  
**22L0023-06 (Solid)**

### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
NETFOSAA	0.91 U	1.8	0.91	0.50	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOSE	5.5 U	7.3	5.5	4.6	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NETFOSE	5.5 U	7.3	5.5	4.6	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
HFPO-DA	1.8 U	3.6	1.8	0.77	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
ADONA	1.8 U	3.6	1.8	0.55	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFEESA	1.8 U	3.6	1.8	0.50	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFMPA	1.8 U	3.6	1.8	0.25	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFMBA	1.8 U	3.6	1.8	0.41	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NFDHA	1.8 U	3.6	1.8	1.4	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
9CL-PF3ONS	1.8 U	3.6	1.8	0.96	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
11CL-PF3OUDS	1.8 U	3.6	1.8	0.96	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
3:3FTCA	3.3 J	7.3	3.6	2.6	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
5:3FTCA	29	7.3	3.6	2.0	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
7:3FTCA	3.6 U	7.3	3.6	2.5	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
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Surrogate: 13C4-PFBA	91.5%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C5-PFPEA	90.8%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C5-PFHXA	82.3%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C4-PFHXA	82.1%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOA	81.2%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C9-PFNA	80.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C6-PFDA	67.7%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C7-PFUnA	38.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-PFDOA	75.3%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-PFTEDA	43.4%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-PFBS	106%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-PFHXS	82.3%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOS	93.6%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-4:2FTS	137%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-6:2FTS	122%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-6:2FTS	135%		20-150			12/21/22	10	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-8:2FTS	17.7% S1		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-8:2FTS	57.2%		20-150			12/21/22	10	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOA	67.3%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D5-NETFOA	37.7%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D3-NMEFOA	41.3%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D3-NMEFOA	128%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D5-NETFOA	110%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D7-NMEFOSE	87.7%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D9-NETFOSE	86.8%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-HFPO-DA	85.5%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372

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Project: Red Hill AFFF Assessment Sampling  
Project Number: Red Hill AFFF Assessment Sampling  
Project Manager: Watson Tanji

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## Sample Results (Continued)

**Sample: ADIT6-DU04A-SON01MI-22DEC  
22L0023-07 (Solid)**

### Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	1.5	0.29	0.20	0.15	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFPEA	5.6	0.078	0.039	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHXA	2.4	0.039	0.020	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHPA	1.5	0.039	0.020	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOA	0.060	0.039	0.029	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFNA	0.054	0.039	0.029	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDA	0.11	0.039	0.029	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFUnA	0.15	0.039	0.020	0.020	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDOA	0.096	0.039	0.029	0.023	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFTRDA	0.075	0.039	0.020	0.016	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFTEDA	0.028 J	0.039	0.029	0.025	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFBS	0.020 U	0.039	0.020	0.016	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFPEs	0.020 U	0.039	0.020	0.012	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHXS	0.11	0.039	0.020	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHPS	0.017 J	0.039	0.020	0.011	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOS	5.4	0.039	0.020	0.0095	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFNS	0.094	0.039	0.020	0.014	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDS	0.16	0.039	0.020	0.013	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDOS	0.14 IR1	0.039	0.020	0.013	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
4:2FTS	0.078 U	0.16	0.078	0.044	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
6:2FTS	3.7	0.16	0.078	0.060	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
8:2FTS	0.078 U	0.16	0.078	0.050	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOSA	0.028 J	0.039	0.020	0.012	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSA	0.078 U	0.16	0.078	0.065	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSA	0.035 J	0.16	0.078	0.026	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSAA	0.020 U	0.039	0.020	0.0098	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSAA	0.020 U	0.039	0.020	0.017	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSE	0.078 U	0.16	0.078	0.053	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSE	0.078 U	0.16	0.078	0.046	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
HFPO-DA	0.039 U	0.078	0.039	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
ADONA	0.039 U	0.078	0.039	0.026	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFEESA	0.039 U	0.078	0.039	0.017	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFMPA	0.039 U	0.078	0.039	0.027	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFMBA	0.039 U	0.078	0.039	0.032	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NFDHA	0.059 U	0.078	0.059	0.048	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
9CL-PF3ONS	0.039 U	0.078	0.039	0.024	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
11CL-PF3OUDS	0.039 U	0.078	0.039	0.026	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
3:3FTCA	0.087 J	0.16	0.078	0.062	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
5:3FTCA	1.6	0.16	0.078	0.064	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
7:3FTCA	0.078 U	0.16	0.078	0.049	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
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Surrogate: 13C4-PFBA	95.9%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C5-PFPEA	89.6%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C5-PFHXA	102%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C4-PFHPA	100%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOA	101%		20-150			12/09/22	1	EPA 1633	BBL0100

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### Sample Results (Continued)

#### Sample: ADIT6-DU04A-SON01MI-22DEC (Continued) 22L0023-07 (Solid)

#### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	104%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C6-PFDA	84.2%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C7-PFUnA	78.1%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-PFDOA	54.3%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-PFTEDA	49.7%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-PFBS	86.9%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-PFHXS	93.9%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOS	104%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-4:2FTS	122%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-6:2FTS	134%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-8:2FTS	147%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOA	52.5%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D5-NETFOSA	12.2% S1		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D5-NETFOSA	14.0% S1		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: D3-NMEFOSA	13.7% S1		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D3-NMEFOSA	11.2% S1		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: D3-NMEFOSAA	171% S2		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D3-NMEFOSAA	113%		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: D5-NETFOSAA	161% S2		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D5-NETFOSAA	152% S2		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: D7-NMEFOSE	32.7%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D9-NETFOSF	36.1%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-HFPO-DA	99.9%		20-150			12/09/22	1	EPA 1633	BBL0100
PFBA	73	7.3	3.7	0.96	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFPEA	220	3.7	3.7	0.30	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHXA	110	1.8	1.8	0.25	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHPA	59	1.8	0.92	0.19	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOA	2.3	1.8	0.92	0.69	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFNA	1.2 J	1.8	0.92	0.38	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDA	0.76 J IR2,	1.8	0.92	0.46	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFUnA	0.92 U IR2,	1.8	0.92	0.73	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDOA	0.92 U	1.8	0.92	0.50	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFTRDA	1.4 U	1.8	1.4	0.92	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFTEDA	0.92 U	1.8	0.92	0.92	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFBS	0.29 J	1.8	0.92	0.17	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFPEF	0.92 U	1.8	0.92	0.29	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHXS	2.4	1.8	0.92	0.15	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHPS	0.92 U	1.8	0.92	0.23	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOS	42	1.8	0.92	0.29	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFNS	0.92 U	1.8	0.92	0.55	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDS	0.92 U IR1,	1.8	0.92	0.69	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDOS	0.92 U	1.8	0.92	0.55	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
4:2FTS	3.7 U	7.3	3.7	1.3	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
6:2FTS	180	7.3	3.7	1.4	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
8:2FTS	3.7 U	7.3	3.7	0.38	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOSA	2.5	1.8	0.92	0.46	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372

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Project Manager: Watson Tanji

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### Sample Results (Continued)

**Sample: ADIT6-DU04A-SON01MI-22DEC (Continued)**  
**22L0023-07 (Solid)**

#### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
NMeFOSA	3.7 U	7.3	3.7	2.2	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NEtFOSA	3.7 U	7.3	3.7	1.9	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOSAA	0.92 U	1.8	0.92	0.50	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NEtFOSAA	0.92 U	1.8	0.92	0.50	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOSE	5.5 U	7.3	5.5	4.6	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NEtFOSE	5.5 U	7.3	5.5	4.6	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
HFPO-DA	1.8 U	3.7	1.8	0.78	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
ADONA	1.8 U	3.7	1.8	0.55	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFEESA	1.8 U	3.7	1.8	0.50	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFMPA	1.8 U	3.7	1.8	0.25	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFMBA	1.8 U	3.7	1.8	0.42	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NFDHA	1.8 U	3.7	1.8	1.4	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
9CL-PF3ONS	1.8 U	3.7	1.8	0.96	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
11CL-PF3OUDS	1.8 U	3.7	1.8	0.96	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
3:3FTCA	3.6 J	7.3	3.7	2.6	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
5:3FTCA	2.6 J	7.3	3.7	2.0	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
7:3FTCA	3.7 U	7.3	3.7	2.5	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
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Surrogate: 13C4-PFBA	89.6%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C5-PFPEA	89.4%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C5-PFHXA	81.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C4-PFHFA	86.1%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOA	89.4%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C9-PFNA	86.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C6-PFDA	74.5%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C7-PFUnA	66.1%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-PFDOA	59.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-PFTEDA	39.3%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-PFBS	90.5%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-PFHXS	83.1%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOS	81.4%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-4:2FTS	119%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-6:2FTS	97.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-8:2FTS	92.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOSA	74.1%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D5-NETFOSA	39.1%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D3-NMEFOSA	40.1%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D3-NMEFOSAA	89.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D5-NETFOSAA	88.4%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D7-NMEFOSE	39.8%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D9-NETFOSE	42.7%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-HFPO-DA	89.4%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372

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Project: Red Hill AFFF Assessment Sampling  
Project Number: Red Hill AFFF Assessment Sampling  
Project Manager: Watson Tanji

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### Sample Results (Continued)

**Sample: ADIT6-DU01-SON01MI-22DEC  
22L0023-08 (Solid)**

#### Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	0.97	0.30	0.20	0.15	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFPEA	2.7	0.080	0.040	0.022	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHXA	2.7	0.040	0.020	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHPA	0.68	0.040	0.020	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOA	0.16	0.040	0.030	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFNA	0.038 J IR2,	0.040	0.030	0.022	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDA	0.031 J	0.040	0.030	0.022	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFUnA	0.026 J IR2,	0.040	0.020	0.020	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDOA	0.030 U	0.040	0.030	0.023	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFTRDA	0.020 U IR2,	0.040	0.020	0.016	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFTEDA	0.030 U IR1,	0.040	0.030	0.025	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFBS	0.020 U	0.040	0.020	0.016	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFPEs	0.020 U	0.040	0.020	0.012	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHXS	0.081	0.040	0.020	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHPS	0.020 U IR2,	0.040	0.020	0.011	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOS	1.5	0.040	0.020	0.0097	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFNS	0.015 J	0.040	0.020	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDS	0.023 J	0.040	0.020	0.014	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDOS	0.017 J IR1,	0.040	0.020	0.013	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
4:2FTS	0.28	0.16	0.080	0.045	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
6:2FTS	47	0.16	0.080	0.061	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
8:2FTS	0.080 U	0.16	0.080	0.051	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOSA	0.020 U	0.040	0.020	0.012	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSA	0.080 U	0.16	0.080	0.066	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSA	0.080 U	0.16	0.080	0.027	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSAA	0.020 U	0.040	0.020	0.010	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSAA	0.020 U IR2,	0.040	0.020	0.018	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSE	0.080 U	0.16	0.080	0.054	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSE	0.080 U	0.16	0.080	0.047	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
HFPO-DA	0.040 U	0.080	0.040	0.022	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
ADONA	0.040 U	0.080	0.040	0.026	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFEESA	0.040 U	0.080	0.040	0.017	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFMPA	0.040 U	0.080	0.040	0.028	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFMBA	0.040 U	0.080	0.040	0.032	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NFDHA	0.060 U	0.080	0.060	0.049	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
9CL-PF3ONS	0.040 U	0.080	0.040	0.024	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
11CL-PF3OUDS	0.040 U	0.080	0.040	0.027	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
3:3FTCA	0.080 U IR2,	0.16	0.080	0.064	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
5:3FTCA	0.61	0.16	0.080	0.065	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
7:3FTCA	0.080 U	0.16	0.080	0.050	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
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Surrogate: 13C4-PFBA	55.7%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C5-PFPEA	96.2%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C5-PFHXA	108%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C4-PFHPA	108%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOA	101%		20-150			12/09/22	1	EPA 1633	BBL0100

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Honolulu, HI 96813

Project: Red Hill AFFF Assessment Sampling  
Project Number: Red Hill AFFF Assessment Sampling  
Project Manager: Watson Tanji

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### Sample Results (Continued)

#### Sample: ADIT6-DU01-SON01MI-22DEC (Continued) 22L0023-08 (Solid)

#### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	94.1%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C6-PFDA	85.7%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C7-PFUnA	78.1%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-PFDOA	72.8%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-PFTEDA	52.3%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-PFBS	92.9%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-PFHXS	99.1%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOS	90.9%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-4:2FTS	117%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-6:2FTS	151% S2		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-6:2FTS	95.8%		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: 13C2-8:2FTS	122%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOA	50.7%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D5-NETFOA	16.3% S1		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D5-NETFOA	33.8%		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: D3-NMEFOA	16.3% S1		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D3-NMEFOA	41.6%		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: D3-NMEFOA	129%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D5-NETFOA	111%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D7-NMEFOE	36.7%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D9-NETFOE	37.8%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-HFPO-DA	112%		20-150			12/09/22	1	EPA 1633	BBL0100
PFBA	53	7.4	3.7	0.97	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFPEA	140	3.7	3.7	0.30	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHXA	140	1.8	1.8	0.25	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHPA	34	1.8	0.92	0.19	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOA	6.1	1.8	0.92	0.69	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFNA	1.7 J	1.8	0.92	0.38	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDA	1.1 J IR2,	1.8	0.92	0.46	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFUnA	0.92 U IR2,	1.8	0.92	0.74	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDOA	0.92 U	1.8	0.92	0.51	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFTRDA	1.4 U	1.8	1.4	0.92	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFTEDA	0.92 U	1.8	0.92	0.92	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFBS	0.42 J	1.8	0.92	0.17	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFPEs	0.92 U	1.8	0.92	0.29	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHXS	2.6	1.8	0.92	0.15	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHPS	0.92 U	1.8	0.92	0.24	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOS	51	1.8	0.92	0.30	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFNS	0.92 U IR1,	1.8	0.92	0.55	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDS	0.92 U	1.8	0.92	0.69	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDOS	0.92 U	1.8	0.92	0.55	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
4:2FTS	17	7.4	3.7	1.3	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
6:2FTS	2700	7.4	3.7	1.4	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
8:2FTS	3.7 U	7.4	3.7	0.38	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOA	0.48 J	1.8	0.92	0.46	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOA	3.7 U	7.4	3.7	2.2	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.  
No duplication of this report is allowed, except in its entirety.

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Honolulu, HI 96813

Project: Red Hill AFFF Assessment Sampling  
Project Number: Red Hill AFFF Assessment Sampling  
Project Manager: Watson Tanji

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### Sample Results (Continued)

**Sample: ADIT6-DU01-SON01MI-22DEC (Continued)**  
**22L0023-08 (Solid)**

#### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
NETFOSA	3.7 U	7.4	3.7	1.9	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOSAA	0.92 U	1.8	0.92	0.51	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NETFOSAA	0.92 U	1.8	0.92	0.51	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOSE	5.5 U	7.4	5.5	4.6	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NETFOSE	5.5 U	7.4	5.5	4.6	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
HFPO-DA	1.8 U	3.7	1.8	0.78	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
ADONA	1.8 U	3.7	1.8	0.55	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFEESA	1.8 U	3.7	1.8	0.51	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFMPA	1.8 U	3.7	1.8	0.25	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFMBA	1.8 U	3.7	1.8	0.42	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NFDHA	1.8 U	3.7	1.8	1.4	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
9CL-PF3ONS	1.8 U	3.7	1.8	0.97	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
11CL-PF3OUDS	1.8 U	3.7	1.8	0.97	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
3:3FTCA	6.4 J	7.4	3.7	2.6	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
5:3FTCA	55	7.4	3.7	2.0	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
7:3FTCA	3.7 U	7.4	3.7	2.5	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
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Surrogate: 13C4-PFBA	91.8%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C5-PFPEA	94.2%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C5-PFHXA	97.2%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C4-PFHFA	91.2%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOA	92.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C9-PFNA	87.3%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C6-PFDA	93.4%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C7-PFUnA	73.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-PFDOA	89.4%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-PFTEDA	72.3%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-PFBS	104%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-PFHXS	94.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOS	72.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-4:2FTS	108%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-6:2FTS	98.4%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-8:2FTS	69.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOA	91.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D5-NETFOA	51.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D3-NMEFOA	52.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D3-NMEFOSAA	85.8%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D5-NETFOSAA	87.6%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D7-NMEFOSE	64.6%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D9-NETFOSE	65.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-HFPO-DA	95.5%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372

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Project: Red Hill AFFF Assessment Sampling  
Project Number: Red Hill AFFF Assessment Sampling  
Project Manager: Watson Tanji

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### Sample Results (Continued)

**Sample: ADIT6-DU04B-SON01MI-22DEC  
22L0023-09 (Solid)**

#### Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	1.4	0.30	0.20	0.15	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFPEA	5.4	0.080	0.040	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHXA	2.0	0.040	0.020	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHPA	1.2	0.040	0.020	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOA	0.051	0.040	0.030	0.021	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFNA	0.046	0.040	0.030	0.022	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDA	0.070 IR1	0.040	0.030	0.022	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFUnA	0.18	0.040	0.020	0.020	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDOA	0.069	0.040	0.030	0.023	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFTRDA	0.069	0.040	0.020	0.016	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFTEDA	0.037 J	0.040	0.030	0.025	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFBS	0.020 U IR2,	0.040	0.020	0.016	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFPEs	0.020 U IR1,	0.040	0.020	0.012	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHXS	0.085	0.040	0.020	0.015	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFHPS	0.020 U IR2,	0.040	0.020	0.011	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOS	3.4	0.040	0.020	0.0097	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFNS	0.051	0.040	0.020	0.014	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDS	0.065	0.040	0.020	0.013	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFDOS	0.11 IR1	0.040	0.020	0.013	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
4:2FTS	0.080 U	0.16	0.080	0.045	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
6:2FTS	3.6	0.16	0.080	0.061	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
8:2FTS	0.080 U	0.16	0.080	0.051	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFOSA	0.014 J	0.040	0.020	0.012	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSA	0.080 U	0.16	0.080	0.066	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSA	0.080 U	0.16	0.080	0.027	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSAA	0.020 U	0.040	0.020	0.010	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSAA	0.020 U	0.040	0.020	0.018	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NMeFOSE	0.080 U	0.16	0.080	0.053	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NEtFOSE	0.080 U	0.16	0.080	0.047	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
HFPO-DA	0.040 U	0.080	0.040	0.022	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
ADONA	0.040 U	0.080	0.040	0.026	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFEESA	0.040 U	0.080	0.040	0.017	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFMPA	0.040 U	0.080	0.040	0.028	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
PFMBA	0.040 U	0.080	0.040	0.032	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
NFDHA	0.060 U	0.080	0.060	0.049	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
9CL-PF3ONS	0.040 U	0.080	0.040	0.024	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
11CL-PF3OUDS	0.040 U	0.080	0.040	0.026	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
3:3FTCA	0.080 U	0.16	0.080	0.063	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
5:3FTCA	1.0	0.16	0.080	0.065	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
7:3FTCA	0.080 U	0.16	0.080	0.049	ug/kg Dry	12/09/22	1	EPA 1633	BBL0100
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Surrogate: 13C4-PFBA	12.7%	S1	20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C4-PFBA	11.7%	S1	20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: 13C5-PFPEA	84.4%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C5-PFHXA	97.6%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C4-PFHPA	108%		20-150			12/09/22	1	EPA 1633	BBL0100



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Project: Red Hill AFFF Assessment Sampling  
Project Number: Red Hill AFFF Assessment Sampling  
Project Manager: Watson Tanji

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## Sample Results (Continued)

### Sample: ADIT6-DU04B-SON01MI-22DEC (Continued) 22L0023-09 (Solid)

#### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C8-PFOA	99.4%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C9-PFNA	93.6%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C6-PFDA	88.2%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C7-PFUnA	68.4%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-PFDOA	56.4%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-PFTEDA	39.8%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-PFBS	85.4%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-PFHXS	83.9%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C8-PFOS	100%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-4:2FTS	140%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-6:2FTS	136%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-8:2FTS	195% S2		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C2-8:2FTS	89.3%		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: 13C8-PFOA	47.4%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D5-NETFOA	17.1% S1		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D5-NETFOA	23.1%		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: D3-NMEFOA	20.3%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D3-NMEFOA	159% S2		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D3-NMEFOA	128%		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: D5-NETFOA	151% S2		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D5-NETFOA	144%		20-150			12/09/22	10	EPA 1633	BBL0100
Surrogate: D7-NMEFOE	41.7%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: D9-NETFOE	41.2%		20-150			12/09/22	1	EPA 1633	BBL0100
Surrogate: 13C3-HFPO-DA	93.4%		20-150			12/09/22	1	EPA 1633	BBL0100
PFBA	66	7.5	3.7	0.98	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFPEA	210	3.7	3.7	0.30	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHXA	93	1.9	1.9	0.26	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHPA	52	1.9	0.94	0.19	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOA	1.9	1.9	0.94	0.70	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFNA	0.87 J	1.9	0.94	0.38	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDA	0.54 J	1.9	0.94	0.47	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFUnA	0.94 U	1.9	0.94	0.75	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDOA	0.94 U	1.9	0.94	0.51	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFTRDA	1.4 U	1.9	1.4	0.94	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFTEDA	0.94 U	1.9	0.94	0.94	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFBS	0.43 J	1.9	0.94	0.17	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFPEA	0.94 U	1.9	0.94	0.29	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHXS	2.0	1.9	0.94	0.15	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFHPS	0.94 U	1.9	0.94	0.24	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFOS	25	1.9	0.94	0.30	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFNS	0.94 U	1.9	0.94	0.56	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDS	0.94 U	1.9	0.94	0.70	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFDOS	0.94 U	1.9	0.94	0.56	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
4:2FTS	3.7 U	7.5	3.7	1.4	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
6:2FTS	130	7.5	3.7	1.5	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
8:2FTS	3.7 U	7.5	3.7	0.38	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372

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Project: Red Hill AFFF Assessment Sampling  
Project Number: Red Hill AFFF Assessment Sampling  
Project Manager: Watson Tanji

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## Sample Results (Continued)

**Sample: ADIT6-DU04B-SON01MI-22DEC (Continued)**  
**22L0023-09 (Solid)**

### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFOSA	1.6 J	1.9	0.94	0.47	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOSA	3.7 U	7.5	3.7	2.2	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NEtFOSA	3.7 U	7.5	3.7	1.9	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOSAA	0.94 U	1.9	0.94	0.51	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NEtFOSAA	0.94 U	1.9	0.94	0.51	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NMeFOSE	5.6 U	7.5	5.6	4.7	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NEtFOSE	5.6 U	7.5	5.6	4.7	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
HFPO-DA	1.9 U	3.7	1.9	0.80	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
ADONA	1.9 U	3.7	1.9	0.56	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFEESA	1.9 U	3.7	1.9	0.51	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFMPA	1.9 U	3.7	1.9	0.25	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
PFMBA	1.9 U	3.7	1.9	0.43	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
NFDHA	1.9 U	3.7	1.9	1.4	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
9CL-PF3ONS	1.9 U	3.7	1.9	0.98	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
11CL-PF3OUDS	1.9 U	3.7	1.9	0.98	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
3:3FTCA	3.7 U	7.5	3.7	2.7	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
5:3FTCA	2.5 J	7.5	3.7	2.1	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
7:3FTCA	3.7 U	7.5	3.7	2.6	ng/L	12/21/22	1	EPA 1633 SPLP	BBL0372
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Surrogate: 13C4-PFBA	88.5%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C5-PFPEA	86.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C5-PFHXA	86.0%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C4-PFHFA	88.7%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOA	82.6%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C9-PFNA	76.8%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C6-PFDA	83.4%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C7-PFUnA	66.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-PFDOA	62.6%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-PFTEDA	40.1%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-PFBS	80.8%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-PFHXS	85.3%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOS	81.1%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-4:2FTS	109%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-6:2FTS	113%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C2-8:2FTS	92.1%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C8-PFOSA	60.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D5-NETFOSA	31.6%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D3-NMEFOSA	32.8%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D3-NMEFOSAA	78.2%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D5-NETFOSAA	90.8%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D7-NMEFOSE	34.8%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: D9-NETFOSE	31.9%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372
Surrogate: 13C3-HFPO-DA	85.8%		20-150			12/21/22	1	EPA 1633 SPLP	BBL0372

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 Project Number: Red Hill AFFF Assessment Sampling  
 Project Manager: Watson Tanji

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### Quality Control

#### Per- and Polyfluoroalkyl Substances

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch: BBL0100 - EPA 1633**

**Blank (BBL0100-BLK1)**

Prepared: 12/07/22 10:00 Analyzed: 12/08/22 21:35

ug/kg Dry

PFBA	0.20 U	0.30	0.20	0.15						
PFPEA	0.040 U	0.080	0.040	0.022						
PFHXA	0.020 U	0.040	0.020	0.015						
PFHPA	0.020 U	0.040	0.020	0.015						
PFOA	0.030 U	0.040	0.030	0.021						
PFNA	0.030 U	0.040	0.030	0.022						
PFDA	0.030 U	0.040	0.030	0.022						
PFUnA	0.020 U	0.040	0.020	0.020						
PFDOA	0.030 U	0.040	0.030	0.023						
PFTRDA	0.020 U	0.040	0.020	0.016						
PFTEDA	0.030 U	0.040	0.030	0.025						
PFBS	0.020 U	0.040	0.020	0.016						
PFPEs	0.020 U	0.040	0.020	0.012						
PFHXS	0.020 U	0.040	0.020	0.015						
PFHPS	0.020 U	0.040	0.020	0.011						
PFOS	0.528 B	0.040	0.020	0.0097						
PFNS	0.020 U	0.040	0.020	0.015						
PFDS	0.020 U	0.040	0.020	0.014						
PFDOS	0.020 U	0.040	0.020	0.013						
4:2FTS	0.080 U	0.16	0.080	0.045						
6:2FTS	0.144 J B,	0.16	0.080	0.061						
8:2FTS	0.080 U IR2,	0.16	0.080	0.051						
PFOSA	0.020 U	0.040	0.020	0.012						
NMeFOSA	0.080 U	0.16	0.080	0.066						
NEtFOSA	0.080 U	0.16	0.080	0.027						
NMeFOSAA	0.020 U	0.040	0.020	0.010						
NEtFOSAA	0.020 U	0.040	0.020	0.018						
NMeFOSE	0.080 U	0.16	0.080	0.054						
NEtFOSE	0.080 U	0.16	0.080	0.047						
HFPO-DA	0.040 U	0.080	0.040	0.022						
ADONA	0.040 U	0.080	0.040	0.026						
PFEESA	0.040 U	0.080	0.040	0.017						
PFMPA	0.040 U	0.080	0.040	0.028						
PFMBA	0.040 U	0.080	0.040	0.032						
NFDHA	0.060 U	0.080	0.060	0.049						
9CL-PF3ONS	0.040 U	0.080	0.040	0.024						
11CL-PF3OUDS	0.040 U	0.080	0.040	0.027						
3:3FTCA	0.080 U	0.16	0.080	0.064						
5:3FTCA	0.080 U	0.16	0.080	0.065						
7:3FTCA	0.080 U	0.16	0.080	0.050						

**Surrogates**

13C4-PFBA	3.21			3.20		100	20-150
13C5-PFPEA	1.60			1.60		99.9	20-150
13C5-PFHXA	0.834			0.800		104	20-150
13C4-PFHPA	0.805			0.800		101	20-150
13C8-PFOA	0.760			0.800		95.0	20-150

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document. No duplication of this report is allowed, except in its entirety.

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### Quality Control (Continued)

#### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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#### Batch: BBL0100 - EPA 1633 (Continued)

##### Blank (BBL0100-BLK1)

Prepared: 12/07/22 10:00 Analyzed: 12/08/22 21:35

ug/kg Dry

##### Surrogates

13C9-PFNA	0.422				0.400		106	20-150		
13C6-PFDA	0.440				0.400		110	20-150		
13C7-PFUnA	0.522				0.400		130	20-150		
13C2-PFDOA	0.403				0.400		101	20-150		
13C2-PFTEDA	0.333				0.400		83.3	20-150		
13C3-PFBS	0.796				0.800		99.5	20-150		
13C3-PFHXS	0.752				0.800		93.9	20-150		
13C8-PFOS	0.815				0.800		102	20-150		
13C2-4:2FTS	1.69				1.60		106	20-150		
13C2-6:2FTS	1.30				1.60		81.5	20-150		
13C2-8:2FTS	1.30				1.60		81.1	20-150		
13C8-PFOA	0.709				0.800		88.6	20-150		
D5-NETFOA	0.0945	S1			0.800		11.8	20-150		
D3-NMEFOA	0.119	S1			0.800		14.9	20-150		
D3-NMEFOA	1.47				1.60		91.6	20-150		
D5-NETFOA	1.58				1.60		98.8	20-150		
D7-NMEFOA	3.55				8.00		44.4	20-150		
D9-NETFOA	3.32				8.00		41.5	20-150		
13C3-HFOA-DA	3.17				3.20		99.1	20-150		

##### LCS (BBL0100-BS1)

Prepared: 12/07/22 10:00 Analyzed: 12/08/22 21:48

ug/kg Dry

PFBA	1.55				1.60		96.8	40-150		
PFPEA	0.787				0.800		98.3	40-150		
PFHXA	0.382				0.400		95.5	40-150		
PFHPA	0.376				0.400		93.9	40-150		
PFOA	0.401				0.400		100	40-150		
PFNA	0.392				0.400		98.1	40-150		
PFDA	0.403				0.400		101	40-150		
PFUnA	0.429				0.400		107	40-150		
PFDOA	0.400				0.400		100	40-150		
PFTRDA	0.330				0.400		82.5	40-150		
PFTEDA	0.401				0.400		100	40-150		
PFBS	0.324				0.354		91.5	40-150		
PFPEA	0.380				0.376		101	40-150		
PFHXS	0.361				0.366		98.7	40-150		
PFHPS	0.346				0.382		90.5	40-150		
PFOS	0.363				0.372		97.5	40-150		
PFNS	0.387				0.384		101	40-150		
PFDS	0.341				0.386		88.3	40-150		
PFDOS	0.300				0.388		77.3	40-150		
4:2FTS	1.39				1.50		92.5	40-150		
6:2FTS	1.52				1.52		100	40-150		
8:2FTS	1.48				1.54		96.3	40-150		
PFOA	0.348				0.400		86.9	40-150		

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### Quality Control (Continued)

#### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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#### Batch: BBL0100 - EPA 1633 (Continued)

##### LCS (BBL0100-BS1)

Prepared: 12/07/22 10:00 Analyzed: 12/08/22 21:48

ug/kg Dry

NMeFOSA	1.74				1.60		109	40-150		
NETFOSA	1.30				1.60		81.4	40-150		
NMeFOSAA	0.380				0.400		95.0	40-150		
NETFOSAA	0.352				0.400		87.9	40-150		
NMeFOSE	1.53				1.60		95.6	40-150		
NETFOSE	1.47				1.60		91.9	40-150		
HFPO-DA	0.841				0.800		105	40-150		
ADONA	0.752				0.756		99.4	40-150		
PFEESA	0.650				0.712		91.3	40-150		
PFMPA	0.738				0.800		92.2	40-150		
PFMBA	0.850				0.800		106	40-150		
NFDHA	0.614				0.800		76.8	40-150		
9CL-PF3ONS	0.831				0.748		111	40-150		
11CL-PF3OUDS	0.711				0.756		94.0	40-150		
3:3FTCA	1.45				1.60		90.4	40-150		
5:3FTCA	1.43				1.60		89.3	40-150		
7:3FTCA	1.37				1.60		85.5	40-150		

##### Surrogates

13C4-PFBA	3.28				3.20		102	20-150		
13C5-PFPEA	1.38				1.60		86.2	20-150		
13C5-PFHXA	0.797				0.800		99.6	20-150		
13C4-PFHXA	0.766				0.800		95.8	20-150		
13C8-PFOA	0.744				0.800		92.9	20-150		
13C9-PFNA	0.458				0.400		114	20-150		
13C6-PFDA	0.325				0.400		81.3	20-150		
13C7-PFUnA	0.386				0.400		96.6	20-150		
13C2-PFDOA	0.323				0.400		80.9	20-150		
13C2-PFTEDA	0.270				0.400		67.5	20-150		
13C3-PFBS	0.878				0.800		110	20-150		
13C3-PFHXS	0.840				0.800		105	20-150		
13C8-PFOS	0.836				0.800		105	20-150		
13C2-4:2FTS	1.97				1.60		123	20-150		
13C2-6:2FTS	1.60				1.60		100	20-150		
13C2-8:2FTS	1.78				1.60		111	20-150		
13C8-PFOA	0.815				0.800		102	20-150		
D5-NETFOA	0.0236	S1			0.800		2.96	20-150		
D3-NMEFOA	0.0493	S1			0.800		6.16	20-150		
D3-NMEFOSAA	1.56				1.60		97.6	20-150		
D5-NETFOSAA	1.90				1.60		119	20-150		
D7-NMEFOSE	2.93				8.00		36.7	20-150		
D9-NETFOSE	2.72				8.00		34.0	20-150		
13C3-HFPO-DA	3.10				3.20		96.8	20-150		

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### Quality Control (Continued)

#### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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#### Batch: BBL0100 - EPA 1633 (Continued)

##### LCS Dup (BBL0100-BSD1)

Prepared: 12/07/22 10:00 Analyzed: 12/08/22 22:01

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
	ug/kg Dry									
PFBA	1.47				1.60		91.8	40-150	5.26	30
PFPEA	0.786				0.800		98.2	40-150	0.0993	30
PFHXA	0.383				0.400		95.7	40-150	0.230	30
PFHPA	0.393				0.400		98.3	40-150	4.55	30
PFOA	0.381				0.400		95.3	40-150	4.98	30
PFNA	0.368				0.400		92.0	40-150	6.33	30
PFDA	0.383 IR2				0.400		95.8	40-150	4.88	30
PFUnA	0.361				0.400		90.4	40-150	17.1	30
PFDOA	0.359				0.400		89.7	40-150	10.8	30
PFTRDA	0.351				0.400		87.8	40-150	6.19	30
PFTEDA	0.345				0.400		86.3	40-150	14.9	30
PFBS	0.355				0.354		100	40-150	9.22	30
PFPEs	0.357				0.376		95.0	40-150	6.16	30
PFHXS	0.349				0.366		95.2	40-150	3.54	30
PFHPS	0.345				0.382		90.4	40-150	0.0995	30
PFOS	0.419				0.372		113	40-150	14.5	30
PFNS	0.415				0.384		108	40-150	6.94	30
PFDS	0.375				0.386		97.1	40-150	9.44	30
PFDOS	0.305				0.388		78.7	40-150	1.75	30
4:2FTS	1.39				1.50		92.5	40-150	0.00670	30
6:2FTS	1.66				1.52		109	40-150	8.92	30
8:2FTS	1.52				1.54		99.2	40-150	2.89	30
PFOSA	0.391				0.400		97.6	40-150	11.6	30
NMeFOSA	1.86				1.60		116	40-150	6.72	30
NEtFOSA	2.03 BS3				1.60		127	40-150	43.5	30
NMeFOSAA	0.395				0.400		98.6	40-150	3.76	30
NEtFOSAA	0.479 BS3				0.400		120	40-150	30.7	30
NMeFOSE	1.29				1.60		80.7	40-150	16.8	30
NEtFOSE	1.58				1.60		98.5	40-150	6.93	30
HFPO-DA	0.804				0.800		101	40-150	4.51	30
ADONA	0.828				0.756		110	40-150	9.68	30
PFEESA	0.698				0.712		98.0	40-150	7.06	30
PFMPA	0.798				0.800		99.7	40-150	7.83	30
PFMBA	0.812				0.800		102	40-150	4.59	30
NFDHA	0.662				0.800		82.7	40-150	7.42	30
9CL-PF3ONS	0.914				0.748		122	40-150	9.51	30
11CL-PF3OUDS	0.780				0.756		103	40-150	9.28	30
3:3FTCA	1.41				1.60		88.0	40-150	2.71	30
5:3FTCA	1.31				1.60		82.0	40-150	8.46	30
7:3FTCA	1.38				1.60		86.1	40-150	0.587	30

#### Surrogates

13C4-PFBA	3.31				3.20		104	20-150		
13C5-PFPEA	1.53				1.60		95.6	20-150		
13C5-PFHXA	0.836				0.800		104	20-150		
13C4-PFHPA	0.809				0.800		101	20-150		
13C8-PFOA	0.804				0.800		101	20-150		

AECOM Honolulu  
 1001 Bishop Street, Suite 1600  
 Honolulu, HI 96813

Project: Red Hill AFFF Assessment Sampling  
 Project Number: Red Hill AFFF Assessment Sampling  
 Project Manager: Watson Tanji

Reported: 01/12/2023 11:06

**Quality Control**  
 (Continued)

**Per- and Polyfluoroalkyl Substances (Continued)**

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch: BBL0100 - EPA 1633 (Continued)**

**LCS Dup (BBL0100-BSD1)**

Prepared: 12/07/22 10:00 Analyzed: 12/08/22 22:01

ug/kg Dry

**Surrogates**

13C9-PFNA	0.383				0.400		95.7	20-150		
13C6-PFDA	0.346				0.400		86.5	20-150		
13C7-PFUnA	0.421				0.400		105	20-150		
13C2-PFDOA	0.359				0.400		89.8	20-150		
13C2-PFTEDA	0.300				0.400		75.0	20-150		
13C3-PFBS	0.742				0.800		92.8	20-150		
13C3-PFHXS	0.786				0.800		98.3	20-150		
13C8-PFOS	0.880				0.800		110	20-150		
13C2-4:2FTS	1.66				1.60		103	20-150		
13C2-6:2FTS	1.51				1.60		94.5	20-150		
13C2-8:2FTS	1.46				1.60		91.0	20-150		
13C8-PFOA	0.789				0.800		98.6	20-150		
D5-NETFOA	0.00722 S1				0.800		0.903	20-150		
D3-NMEFOA	0.0251 S1				0.800		3.13	20-150		
D3-NMEFOSAA	1.74				1.60		109	20-150		
D5-NETFOSAA	1.71				1.60		107	20-150		
D7-NMEFOSE	2.37				8.00		29.7	20-150		
D9-NETFOSE	2.21				8.00		27.6	20-150		
13C3-HFPO-DA	2.98				3.20		93.1	20-150		

**Duplicate (BBL0100-DUP1)**

**Source: 22L0023-06**

Prepared: 12/07/22 10:00 Analyzed: 12/08/22 22:52

ug/kg Dry

PFBA	2.24					2.28		1.75	30
PFPEA	1.76					1.77		0.818	30
PFHXA	8.03					8.56		6.34	30
PFHPA	0.261					0.287		9.59	30
PFOA	0.396					0.442		11.2	30
PFNA	0.029 U					0.0297 U			30
PFDA	0.0507					0.0681		29.4	30
PFUnA	0.019 U IR1,					0.0198 U			30
PFDOA	0.029 U IR1,					0.0297 U			30
PFTRDA	0.019 U					0.0198 U			30
PFTEDA	0.029 U					0.0297 U			30
PFBS	0.019 U					0.0198 U			30
PFPEA	0.019 U					0.0198 U			30
PFHXS	0.0250 J D3,					0.0351		33.5	30
PFHPS	0.019 U					0.0198 U			30
PFOS	0.230 D3					0.340		38.6	30
PFNS	0.019 U					0.0198 U			30
PFDS	0.0184 J					0.0214		14.8	30
PFDOS	0.019 U IR1,					0.0159			30
4:2FTS	0.386					0.369		4.48	30
6:2FTS	105 E					109		3.76	30
8:2FTS	0.078 U IR1,					0.0792 U			30
PFOA	0.019 U					0.0198 U			30

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 Honolulu, HI 96813

Project: Red Hill AFFF Assessment Sampling  
 Project Number: Red Hill AFFF Assessment Sampling  
 Project Manager: Watson Tanji

Reported: 01/12/2023 11:06

**Quality Control**  
 (Continued)

**Per- and Polyfluoroalkyl Substances (Continued)**

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch: BBL0100 - EPA 1633 (Continued)**

Duplicate (BBL0100-DUP1)

Source: 22L0023-06

Prepared: 12/07/22 10:00 Analyzed: 12/08/22 22:52

ug/kg Dry

NMeFOSA	0.078 U					0.0792 U				30
NETFOSA	0.078 U					0.0792 U				30
NMeFOSAA	0.019 U IR1,					0.0198 U				30
NETFOSAA	0.019 U					0.0198 U				30
NMeFOSE	0.078 U					0.0792 U				30
NETFOSE	0.078 U					0.0792 U				30
HFPO-DA	0.039 U					0.0396 U				30
ADONA	0.039 U					0.0396 U				30
PFEESA	0.039 U					0.0396 U				30
PFMPA	0.039 U					0.0396 U				30
PFMBA	0.039 U					0.0396 U				30
NFDHA	0.058 U					0.0594 U				30
9CL-PF3ONS	0.039 U					0.0396 U				30
11CL-PF3OUDS	0.039 U					0.0396 U				30
3:3FTCA	0.078 U					0.0792 U				30
5:3FTCA	0.281					0.268			4.69	30
7:3FTCA	0.078 U					0.0792 U				30

**Surrogates**

13C4-PFBA	3.24				3.11		104	20-150		
13C5-PFPEA	1.32				1.56		85.0	20-150		
13C5-PFHXA	0.776				0.778		99.7	20-150		
13C4-PFHFA	0.757				0.778		97.2	20-150		
13C8-PFOA	0.794				0.778		102	20-150		
13C9-PFNA	0.371				0.389		95.4	20-150		
13C6-PFDA	0.330				0.389		84.8	20-150		
13C7-PFUnA	0.210				0.389		53.9	20-150		
13C2-PFDOA	0.390				0.389		100	20-150		
13C2-PFTEDA	0.118				0.389		30.4	20-150		
13C3-PFBS	0.774				0.778		99.5	20-150		
13C3-PFHXS	0.713				0.778		91.6	20-150		
13C8-PFOS	0.806				0.778		104	20-150		
13C2-4:2FTS	1.60				1.56		103	20-150		
13C2-6:2FTS	2.33				1.56		150	20-150		
13C2-8:2FTS	1.02				1.56		65.6	20-150		
13C8-PFOA	0.380				0.778		48.9	20-150		
D5-NETFOA	0.220				0.778		28.2	20-150		
D3-NMEFOA	0.186				0.778		23.9	20-150		
D3-NMEFOSAA	2.12				1.56		136	20-150		
D5-NETFOSAA	1.09				1.56		70.3	20-150		
D7-NMEFOSE	4.22				7.78		54.2	20-150		
D9-NETFOSE	4.47				7.78		57.5	20-150		
13C3-HFPO-DA	2.90				3.11		93.3	20-150		



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Reported: 01/12/2023 11:06

**Quality Control**  
 (Continued)

**Per- and Polyfluoroalkyl Substances (Continued)**

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch: BBL0100 - EPA 1633 (Continued)**

Duplicate (BBL0100-DUP2)

Source: 22L0023-06

Prepared: 12/07/22 10:00 Analyzed: 12/08/22 23:04

ug/kg Dry

PFBA	2.44					2.28		6.67	30
PFPEA	1.82					1.77		2.86	30
PFHXA	8.41					8.56		1.68	30
PFHPA	0.274					0.287		4.71	30
PFOA	0.446					0.442		0.854	30
PFNA	0.029 U					0.0297 U			30
PFDA	0.0685 IR2					0.0681		0.560	30
PFUnA	0.020 U					0.0198 U			30
PFDOA	0.029 U					0.0297 U			30
PFTRDA	0.020 U					0.0198 U			30
PFTEDA	0.029 U IR2,					0.0297 U			30
PFBS	0.020 U					0.0198 U			30
PFPEs	0.020 U					0.0198 U			30
PFHXS	0.0245 J D3, MI5,					0.0351		35.3	30
PFHPS	0.020 U					0.0198 U			30
PFOS	0.247 D3					0.340		31.7	30
PFNS	0.020 U					0.0198 U			30
PFDS	0.0171 J					0.0214		22.4	30
PFDOS	0.020 U					0.0159			30
4:2FTS	0.366					0.369		0.717	30
6:2FTS	104 E					109		4.66	30
8:2FTS	0.079 U					0.0792 U			30
PFOSA	0.020 U					0.0198 U			30
NMeFOSA	0.079 U					0.0792 U			30
NEtFOSA	0.079 U					0.0792 U			30
NMeFOSAA	0.020 U					0.0198 U			30
NEtFOSAA	0.020 U					0.0198 U			30
NMeFOSE	0.0689 J					0.0792 U			30
NEtFOSE	0.079 U					0.0792 U			30
HFPO-DA	0.039 U					0.0396 U			30
ADONA	0.039 U					0.0396 U			30
PFEESA	0.039 U					0.0396 U			30
PFMPA	0.039 U					0.0396 U			30
PFMBA	0.039 U					0.0396 U			30
NFDHA	0.059 U					0.0594 U			30
9CL-PF3ONS	0.039 U					0.0396 U			30
11CL-PF3OUDS	0.039 U					0.0396 U			30
3:3FTCA	0.079 U					0.0792 U			30
5:3FTCA	0.307					0.268		13.5	30
7:3FTCA	0.079 U					0.0792 U			30

**Surrogates**

13C4-PFBA	3.20				3.14		102	20-150
13C5-PFPEA	1.43				1.57		91.3	20-150
13C5-PFHXA	0.824				0.786		105	20-150
13C4-PFHPA	0.803				0.786		102	20-150
13C8-PFOA	0.780				0.786		99.3	20-150

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Project: Red Hill AFFF Assessment Sampling  
 Project Number: Red Hill AFFF Assessment Sampling  
 Project Manager: Watson Tanji

Reported: 01/12/2023 11:06

**Quality Control**  
 (Continued)

**Per- and Polyfluoroalkyl Substances (Continued)**

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch: BBL0100 - EPA 1633 (Continued)**

Duplicate (BBL0100-DUP2)

Source: 22L0023-06

Prepared: 12/07/22 10:00 Analyzed: 12/08/22 23:04

ug/kg Dry

**Surrogates**

13C9-PFNA	0.368				0.393		93.6	20-150		
13C6-PFDA	0.294				0.393		74.7	20-150		
13C7-PFUnA	0.227				0.393		57.8	20-150		
13C2-PFDOA	0.342				0.393		87.1	20-150		
13C2-PFTEDA	0.132				0.393		33.6	20-150		
13C3-PFBS	0.803				0.786		102	20-150		
13C3-PFHXS	0.835				0.786		106	20-150		
13C8-PFOS	0.738				0.786		93.9	20-150		
13C2-4:2FTS	1.83				1.57		116	20-150		
13C2-6:2FTS	2.69 S2				1.57		171	20-150		
13C2-8:2FTS	0.896				1.57		57.0	20-150		
13C8-PFOA	0.361				0.786		45.9	20-150		
D5-NETFOA	0.209				0.786		26.6	20-150		
D3-NMEFOA	0.191				0.786		24.3	20-150		
D3-NMEFOA	2.03				1.57		129	20-150		
D5-NETFOA	1.11				1.57		70.6	20-150		
D7-NMEFOA	4.67				7.86		59.5	20-150		
D9-NETFOA	4.63				7.86		58.9	20-150		
13C3-HFPO-DA	3.29				3.14		105	20-150		

**MRL Check (BBL0100-MRL1)**

Prepared: 12/07/22 10:00 Analyzed: 12/08/22 22:13

ug/kg Dry

PFBA	0.170 J				0.160		107	40-150		
PFPEA	0.0931				0.0800		116	40-150		
PFHXA	0.0430				0.0400		108	40-150		
PFHPA	0.0453				0.0400		113	40-150		
PFOA	0.0458				0.0400		115	40-150		
PFNA	0.0483				0.0400		121	40-150		
PFDA	0.0360 J				0.0400		89.9	40-150		
PFUnA	0.0349 J				0.0400		87.2	40-150		
PFDOA	0.0424				0.0400		106	40-150		
PFTRDA	0.0374 J				0.0400		93.5	40-150		
PFTEDA	0.0392 J IR1,				0.0400		98.1	40-150		
PFBS	0.0348 J				0.0354		98.2	40-150		
PFPEA	0.0401				0.0376		107	40-150		
PFHXS	0.0437				0.0366		119	40-150		
PFHPS	0.0378 J				0.0382		99.0	40-150		
PFOS	0.0433 MIS				0.0372		116	40-150		
PFNS	0.0388 J				0.0384		101	40-150		
PFDS	0.0395 J				0.0386		102	40-150		
PFDOS	0.0376 J				0.0388		96.8	40-150		
4:2FTS	0.166				0.150		110	40-150		
6:2FTS	0.154 J				0.152		101	40-150		
8:2FTS	0.198				0.154		129	40-150		
PFOA	0.0432				0.0400		108	40-150		

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Project: Red Hill AFFF Assessment Sampling  
 Project Number: Red Hill AFFF Assessment Sampling  
 Project Manager: Watson Tanji

Reported: 01/12/2023 11:06

**Quality Control**  
 (Continued)

**Per- and Polyfluoroalkyl Substances (Continued)**

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch: BBL0100 - EPA 1633 (Continued)**

**MRL Check (BBL0100-MRL1)**

Prepared: 12/07/22 10:00 Analyzed: 12/08/22 22:13

	ug/kg Dry								
NMeFOSA	0.271 BS2				0.160		169	40-150	
NETFOSA	0.152 J IR2,				0.160		94.8	40-150	
NMeFOSAA	0.0380 J IR2,				0.0400		95.0	40-150	
NETFOSAA	0.0639 BS2				0.0400		160	40-150	
NMeFOSE	0.203				0.160		127	40-150	
NETFOSE	0.167				0.160		105	40-150	
HFPO-DA	0.0939				0.0800		117	40-150	
ADONA	0.0816				0.0756		108	40-150	
PFEESA	0.0669 J				0.0712		94.0	40-150	
PFMPA	0.0914				0.0800		114	40-150	
PFMBA	0.0833				0.0800		104	40-150	
NFDHA	0.0360 J				0.0800		45.0	40-150	
9CL-PF3ONS	0.0776 J				0.0748		104	40-150	
11CL-PF3OUDS	0.0730 J				0.0756		96.6	40-150	
3:3FTCA	0.151 J				0.160		94.3	40-150	
5:3FTCA	0.123 J				0.160		76.9	40-150	
7:3FTCA	0.153 J				0.160		95.8	40-150	

**Surrogates**

13C4-PFBA	3.51				3.20		110	20-150	
13C5-PFPEA	1.56				1.60		97.6	20-150	
13C5-PFHXA	0.962				0.800		120	20-150	
13C4-PFHFA	0.846				0.800		106	20-150	
13C8-PFOA	0.803				0.800		100	20-150	
13C9-PFNA	0.464				0.400		116	20-150	
13C6-PFDA	0.453				0.400		113	20-150	
13C7-PFUnA	0.444				0.400		111	20-150	
13C2-PFDOA	0.380				0.400		94.9	20-150	
13C2-PFTEDA	0.348				0.400		86.9	20-150	
13C3-PFBS	0.921				0.800		115	20-150	
13C3-PFHXS	0.833				0.800		104	20-150	
13C8-PFOS	0.852				0.800		106	20-150	
13C2-4:2FTS	1.85				1.60		115	20-150	
13C2-6:2FTS	1.65				1.60		103	20-150	
13C2-8:2FTS	1.55				1.60		96.8	20-150	
13C8-PFOA	0.686				0.800		85.7	20-150	
D5-NETFOSA	0.00683 S1				0.800		0.853	20-150	
D3-NMEFOSA	0.0185 S1				0.800		2.31	20-150	
D3-NMEFOSAA	1.43				1.60		89.3	20-150	
D5-NETFOSAA	1.48				1.60		92.7	20-150	
D7-NMEFOSE	2.36				8.00		29.4	20-150	
D9-NETFOSE	2.11				8.00		26.3	20-150	
13C3-HFPO-DA	3.60				3.20		112	20-150	

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AECOM Honolulu  
1001 Bishop Street, Suite 1600  
Honolulu, HI 96813

Project: Red Hill AFFF Assessment Sampling  
Project Number: Red Hill AFFF Assessment Sampling  
Project Manager: Watson Tanji

Reported: 01/12/2023 11:06

### Quality Control (Continued)

#### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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#### Batch: BBL0100 - EPA 1633 (Continued)

Matrix Spike (BBL0100-MS1)

Source: 22L0023-06

Prepared: 12/07/22 10:00 Analyzed: 12/08/22 22:26

ug/kg Dry

PFBA	3.92				1.59	2.28	103	40-150		
PFPEA	2.40				0.794	1.77	78.6	40-150		
PFHXA	8.24 MS1				0.397	8.56	-79.1	40-150		
PFHPA	0.637				0.397	0.287	88.2	40-150		
PFOA	0.839				0.397	0.442	99.9	40-150		
PFNA	0.411				0.397	0.0297 U	104	40-150		
PFDA	0.545				0.397	0.0681	120	40-150		
PFUnA	0.401				0.397	0.0198 U	101	40-150		
PFDOA	0.336 IR2				0.397	0.0297 U	84.7	40-150		
PFTRDA	0.346				0.397	0.0198 U	87.2	40-150		
PFTEDA	0.322				0.397	0.0297 U	81.2	40-150		
PFBS	0.340				0.351	0.0198 U	96.9	40-150		
PFPEs	0.408				0.373	0.0198 U	109	40-150		
PFHXS	0.375				0.363	0.0351	93.5	40-150		
PFHPS	0.0978 MS1				0.379	0.0198 U	25.8	40-150		
PFOS	0.589				0.369	0.340	67.5	40-150		
PFNS	0.216				0.381	0.0198 U	56.8	40-150		
PFDS	0.321				0.383	0.0214	78.3	40-150		
PFDOS	0.254				0.385	0.0159	61.8	40-150		
4:2FTS	1.82				1.49	0.369	97.5	40-150		
6:2FTS	106 MS1, E				1.51	109	-161	40-150		
8:2FTS	1.31				1.52	0.0792 U	86.1	40-150		
PFOSA	0.360				0.397	0.0198 U	90.7	40-150		
NMeFOSA	1.47				1.59	0.0792 U	92.7	40-150		
NEtFOSA	1.43				1.59	0.0792 U	90.4	40-150		
NMeFOSAA	0.364				0.397	0.0198 U	91.6	40-150		
NEtFOSAA	0.455				0.397	0.0198 U	115	40-150		
NMeFOSE	1.68				1.59	0.0792 U	106	40-150		
NEtFOSE	1.43				1.59	0.0792 U	90.3	40-150		
HFPO-DA	0.745				0.794	0.0396 U	93.9	40-150		
ADONA	0.863				0.750	0.0396 U	115	40-150		
PFEESA	0.684				0.706	0.0396 U	96.9	40-150		
PFMPA	0.669				0.794	0.0396 U	84.3	40-150		
PFMBA	0.655				0.794	0.0396 U	82.5	40-150		
NFDHA	0.534				0.794	0.0594 U	67.3	40-150		
9CL-PF3ONS	0.328				0.742	0.0396 U	44.2	40-150		
11CL-PF3OUDS	0.655				0.750	0.0396 U	87.4	40-150		
3:3FTCA	1.24				1.59	0.0792 U	78.3	40-150		
5:3FTCA	1.69				1.59	0.268	89.5	40-150		
7:3FTCA	1.66				1.59	0.0792 U	105	40-150		

#### Surrogates

13C4-PFBA	3.31				3.17		104	20-150		
13C5-PFPEA	1.66				1.59		104	20-150		
13C5-PFHXA	0.816				0.794		103	20-150		
13C4-PFHPA	0.811				0.794		102	20-150		
13C8-PFOA	0.711				0.794		89.6	20-150		

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Project: Red Hill AFFF Assessment Sampling  
 Project Number: Red Hill AFFF Assessment Sampling  
 Project Manager: Watson Tanji

Reported: 01/12/2023 11:06

**Quality Control**  
 (Continued)

**Per- and Polyfluoroalkyl Substances (Continued)**

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch: BBL0100 - EPA 1633 (Continued)**

**Matrix Spike (BBL0100-MS1)**

**Source: 22L0023-06**

Prepared: 12/07/22 10:00 Analyzed: 12/08/22 22:26

ug/kg Dry

**Surrogates**

13C9-PFNA	0.414				0.397		104	20-150		
13C6-PFDA	0.338				0.397		85.3	20-150		
13C7-PFUnA	0.214				0.397		53.9	20-150		
13C2-PFDOA	0.345				0.397		86.9	20-150		
13C2-PFTEDA	0.170				0.397		42.8	20-150		
13C3-PFBS	0.735				0.794		92.7	20-150		
13C3-PFHXS	0.697				0.794		87.8	20-150		
13C8-PFOS	0.868				0.794		109	20-150		
13C2-4:2FTS	1.74				1.59		110	20-150		
13C2-6:2FTS	2.28				1.59		143	20-150		
13C2-8:2FTS	1.40				1.59		88.2	20-150		
13C8-PFOA	0.476				0.794		60.0	20-150		
D5-NETFOA	0.282				0.794		35.5	20-200		
D3-NMEFOA	0.274				0.794		34.6	20-200		
D3-NMEFOA	2.28				1.59		144	20-150		
D5-NETFOA	1.45				1.59		91.3	20-150		
D7-NMEFOA	5.27				7.94		66.4	20-200		
D9-NETFOA	5.51				7.94		69.4	20-200		
13C3-HFPO-DA	2.87				3.17		90.5	20-150		

**Matrix Spike Dup (BBL0100-MSD1)**

**Source: 22L0023-06**

Prepared: 12/07/22 10:00 Analyzed: 12/08/22 22:39

ug/kg Dry

PFBA	3.98				1.58	2.28	107	40-150	1.46	30
PFPEA	2.46				0.792	1.77	86.7	40-150	2.57	30
PFHXA	8.16 MS1				0.396	8.56	-99.3	40-150	0.966	30
PFHPA	0.678				0.396	0.287	98.6	40-150	6.17	30
PFOA	0.822				0.396	0.442	95.8	40-150	2.04	30
PFNA	0.424				0.396	0.0297 U	107	40-150	3.06	30
PFDA	0.506				0.396	0.0681	111	40-150	7.32	30
PFUnA	0.426				0.396	0.0198 U	108	40-150	6.06	30
PFDOA	0.407				0.396	0.0297 U	103	40-150	19.1	30
PFTRDA	0.367				0.396	0.0198 U	92.6	40-150	5.80	30
PFTEDA	0.374				0.396	0.0297 U	94.4	40-150	14.8	30
PFBS	0.337				0.350	0.0198 U	96.1	40-150	1.03	30
PFPEA	0.408				0.372	0.0198 U	110	40-150	0.0613	30
PFHXS	0.397				0.362	0.0351	99.8	40-150	5.76	30
PFHPS	0.0995 MS1				0.378	0.0198 U	26.3	40-150	1.70	30
PFOS	0.568				0.368	0.340	61.9	40-150	3.63	30
PFNS	0.261				0.380	0.0198 U	68.6	40-150	18.7	30
PFDS	0.400				0.382	0.0214	99.0	40-150	21.7	30
PFDOS	0.193				0.384	0.0159	46.1	40-150	27.3	30
4:2FTS	1.90				1.49	0.369	103	40-150	4.49	30
6:2FTS	131 MS2, E				1.50	109	1460	40-150	20.6	30
8:2FTS	1.65				1.52	0.0792 U	109	40-150	23.1	30
PFOA	0.382				0.396	0.0198 U	96.3	40-150	5.84	30

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Project: Red Hill AFFF Assessment Sampling  
 Project Number: Red Hill AFFF Assessment Sampling  
 Project Manager: Watson Tanji

Reported: 01/12/2023 11:06

**Quality Control**  
 (Continued)

**Per- and Polyfluoroalkyl Substances (Continued)**

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch: BBL0100 - EPA 1633 (Continued)**

**Matrix Spike Dup (BBL0100-MSD1)**

**Source: 22L0023-06**

Prepared: 12/07/22 10:00 Analyzed: 12/08/22 22:39

ug/kg Dry

NMeFOSA	1.70				1.58	0.0792 U	108	40-150	14.7	30
NETFOSA	1.48				1.58	0.0792 U	93.6	40-150	3.34	30
NMeFOSAA	0.367				0.396	0.0198 U	92.7	40-150	0.959	30
NETFOSAA	0.513				0.396	0.0198 U	129	40-150	11.9	30
NMeFOSE	1.71				1.58	0.0792 U	108	40-150	1.88	30
NETFOSE	1.67				1.58	0.0792 U	105	40-150	15.1	30
HFPO-DA	0.843				0.792	0.0396 U	106	40-150	12.3	30
ADONA	0.793				0.749	0.0396 U	106	40-150	8.39	30
PFEESA	0.639				0.705	0.0396 U	90.6	40-150	6.93	30
PFMPA	0.789				0.792	0.0396 U	99.6	40-150	16.4	30
PFMBA	0.829				0.792	0.0396 U	105	40-150	23.5	30
NFDHA	0.725 MS3				0.792	0.0594 U	91.5	40-150	30.3	30
9CL-PF3ONS	0.317				0.741	0.0396 U	42.8	40-150	3.41	30
11CL-PF3OUDS	0.631				0.749	0.0396 U	84.3	40-150	3.80	30
3:3FTCA	1.46				1.58	0.0792 U	92.1	40-150	16.1	30
5:3FTCA	1.91				1.58	0.268	104	40-150	12.3	30
7:3FTCA	1.66				1.58	0.0792 U	105	40-150	0.146	30

**Surrogates**

13C4-PFBA	2.98				3.17		94.0	20-150		
13C5-PFPEA	1.38				1.58		87.3	20-150		
13C5-PFHXA	0.741				0.792		93.5	20-150		
13C4-PFHFA	0.802				0.792		101	20-150		
13C8-PFOA	0.686				0.792		86.6	20-150		
13C9-PFNA	0.387				0.396		97.8	20-150		
13C6-PFDA	0.284				0.396		71.6	20-150		
13C7-PFUnA	0.164				0.396		41.3	20-150		
13C2-PFDOA	0.287				0.396		72.4	20-150		
13C2-PFTEDA	0.121				0.396		30.7	20-150		
13C3-PFBS	0.726				0.792		91.7	20-150		
13C3-PFHXS	0.727				0.792		91.8	20-150		
13C8-PFOS	0.878				0.792		111	20-150		
13C2-4:2FTS	1.62				1.58		102	20-150		
13C2-6:2FTS	2.01				1.58		127	20-150		
13C2-8:2FTS	0.894				1.58		56.4	20-150		
13C8-PFOA	0.447				0.792		56.4	20-150		
D5-NETFOSA	0.270				0.792		34.0	20-200		
D3-NMEFOSA	0.212				0.792		26.7	20-200		
D3-NMEFOSAA	2.42 S2				1.58		153	20-150		
D5-NETFOSAA	1.26				1.58		79.4	20-150		
D7-NMEFOSE	5.29				7.92		66.7	20-200		
D9-NETFOSE	5.46				7.92		69.0	20-200		
13C3-HFPO-DA	2.96				3.17		93.4	20-150		

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Project: Red Hill AFFF Assessment Sampling  
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Reported: 01/12/2023 11:06

### Quality Control (Continued)

#### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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#### Batch: BBL0372 - PFAS Leachates

##### Blank (BBL0372-BLK1)

Prepared: 12/19/22 12:22 Analyzed: 12/21/22 19:57

	ng/L			
PFBA	4.0 U	8.0	4.0	1.0
PFPEA	4.0 U	4.0	4.0	0.32
PFHXA	2.0 U	2.0	2.0	0.28
PFHPA	1.0 U	2.0	1.0	0.20
PFOA	1.0 U IR2,	2.0	1.0	0.75
PFNA	1.0 U	2.0	1.0	0.41
PFDA	1.0 U	2.0	1.0	0.50
PFUnA	1.0 U	2.0	1.0	0.80
PFDOA	1.0 U	2.0	1.0	0.55
PFTRDA	1.5 U	2.0	1.5	1.0
PFTEDA	1.0 U	2.0	1.0	1.0
PFBS	1.0 U	2.0	1.0	0.18
PFPEs	1.0 U	2.0	1.0	0.32
PFHXS	1.0 U	2.0	1.0	0.16
PFHPS	1.0 U	2.0	1.0	0.26
PFOS	0.604 J	2.0	1.0	0.32
PFNS	1.0 U	2.0	1.0	0.60
PFDS	1.0 U	2.0	1.0	0.75
PFDOS	1.0 U	2.0	1.0	0.60
4:2FTS	4.0 U	8.0	4.0	1.4
6:2FTS	4.0 U	8.0	4.0	1.6
8:2FTS	4.0 U	8.0	4.0	0.41
PFOSA	1.0 U	2.0	1.0	0.50
NMeFOSA	4.0 U	8.0	4.0	2.4
NEtFOSA	4.0 U	8.0	4.0	2.0
NMeFOSAA	1.0 U	2.0	1.0	0.55
NEtFOSAA	1.0 U	2.0	1.0	0.55
NMeFOSE	6.0 U	8.0	6.0	5.0
NEtFOSE	6.0 U	8.0	6.0	5.0
HFPO-DA	2.0 U	4.0	2.0	0.85
ADONA	2.0 U	4.0	2.0	0.60
PFEESA	2.0 U	4.0	2.0	0.55
PFMPA	2.0 U	4.0	2.0	0.27
PFMBA	2.0 U	4.0	2.0	0.46
NFDHA	2.0 U	4.0	2.0	1.5
9CL-PF3ONS	2.0 U	4.0	2.0	1.0
11CL-PF3OUDS	2.0 U	4.0	2.0	1.0
3:3FTCA	4.0 U	8.0	4.0	2.8
5:3FTCA	4.0 U	8.0	4.0	2.2
7:3FTCA	4.0 U	8.0	4.0	2.8

#### Surrogates

13C4-PFBA	151	160	94.4	20-150
13C5-PFPEA	72.6	80.0	90.8	20-150
13C5-PFHXA	34.9	40.0	87.4	20-150
13C4-PFHPA	34.5	40.0	86.2	20-150
13C8-PFOA	34.3	40.0	85.7	20-150

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### Quality Control (Continued)

#### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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#### Batch: BBL0372 - PFAS Leachates (Continued)

##### Blank (BBL0372-BLK1)

Prepared: 12/19/22 12:22 Analyzed: 12/21/22 19:57

	ng/L							
<b>Surrogates</b>								
13C9-PFNA	15.2			20.0		75.8	20-150	
13C6-PFDA	17.3			20.0		86.4	20-150	
13C7-PFUnA	13.4			20.0		66.8	20-150	
13C2-PFDOA	15.4			20.0		76.9	20-150	
13C2-PFTEDA	16.5			20.0		82.4	20-150	
13C3-PFBS	36.2			40.0		90.5	20-150	
13C3-PFHXS	32.8			40.0		82.1	20-150	
13C8-PFOS	30.3			40.0		75.7	20-150	
13C2-4:2FTS	65.7			80.0		82.2	20-150	
13C2-6:2FTS	58.8			80.0		73.6	20-150	
13C2-8:2FTS	63.8			80.0		79.8	20-150	
13C8-PFOA	31.1			40.0		77.8	20-150	
D5-NETFOA	8.64			40.0		21.6	20-150	
D3-NMEFOA	9.98			40.0		24.9	20-150	
D3-NMEFOA	62.9			80.0		78.6	20-150	
D5-NETFOA	68.1			80.0		85.2	20-150	
D7-NMEFOA	189			400		47.2	20-150	
D9-NETFOA	165			400		41.2	20-150	
13C3-HFOA-DA	134			160		83.8	20-150	

##### LCS (BBL0372-BS1)

Prepared: 12/19/22 12:22 Analyzed: 12/21/22 20:09

	ng/L							
PFBA	79.8			80.0		99.7	40-150	
PFPEA	39.7			40.0		99.3	40-150	
PFHXA	20.9			20.0		105	40-150	
PFHPA	19.3			20.0		96.7	40-150	
PFOA	19.6			20.0		98.0	40-150	
PFNA	21.7			20.0		109	40-150	
PFDA	19.3			20.0		96.5	40-150	
PFUnA	19.4			20.0		96.8	40-150	
PFDOA	21.4			20.0		107	40-150	
PFTRDA	20.5			20.0		102	40-150	
PFTEDA	21.9			20.0		109	40-150	
PFBS	18.7			17.7		106	40-150	
PFPEA	20.5			18.8		109	40-150	
PFHXS	19.1			18.3		104	40-150	
PFHPS	21.1			19.1		111	40-150	
PFOS	19.8			18.6		106	40-150	
PFNS	19.3			19.2		100	40-150	
PFDS	19.0			19.3		98.3	40-150	
PFDOS	20.3			19.4		104	40-150	
4:2FTS	76.8			75.0		102	40-150	
6:2FTS	81.0			76.0		107	40-150	
8:2FTS	77.3			76.8		101	40-150	
PFOA	20.5			20.0		103	40-150	



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Reported: 01/12/2023 11:06

**Quality Control**  
 (Continued)

**Per- and Polyfluoroalkyl Substances (Continued)**

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch: BBL0372 - PFAS Leachates (Continued)**

**LCS (BBL0372-BS1)**

Prepared: 12/19/22 12:22 Analyzed: 12/21/22 20:09

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
	ng/L									
NMeFOSA	87.1				80.0		109	40-150		
NETFOSA	91.7				80.0		115	40-150		
NMeFOSAA	23.5				20.0		117	40-150		
NETFOSAA	23.3				20.0		116	40-150		
NMeFOSE	71.2				80.0		89.0	40-150		
NETFOSE	58.1				80.0		72.6	40-150		
HFPO-DA	37.4				40.0		93.6	40-150		
ADONA	35.7				37.8		94.4	40-150		
PFEESA	36.6				35.6		103	40-150		
PFMPA	40.7				40.0		102	40-150		
PFMBA	36.6				40.0		91.6	40-150		
NFDHA	44.2				40.0		110	40-150		
9CL-PF3ONS	29.5				37.4		79.0	40-150		
11CL-PF3OUDS	29.1				37.8		76.9	40-150		
3:3FTCA	77.0				80.0		96.2	40-150		
5:3FTCA	80.7				80.0		101	40-150		
7:3FTCA	82.3				80.0		103	40-150		

**Surrogates**

13C4-PFBA	145				160		90.9	20-150		
13C5-PFPEA	75.6				80.0		94.5	20-150		
13C5-PFHXA	34.4				40.0		86.1	20-150		
13C4-PFHXA	35.6				40.0		89.1	20-150		
13C8-PFOA	34.9				40.0		87.2	20-150		
13C9-PFNA	18.0				20.0		89.9	20-150		
13C6-PFDA	16.2				20.0		80.8	20-150		
13C7-PFUnA	15.7				20.0		78.6	20-150		
13C2-PFDOA	13.7				20.0		68.7	20-150		
13C2-PFTEDA	13.6				20.0		68.2	20-150		
13C3-PFBS	35.8				40.0		89.4	20-150		
13C3-PFHXS	32.6				40.0		81.4	20-150		
13C8-PFOS	27.9				40.0		69.7	20-150		
13C2-4:2FTS	69.0				80.0		86.3	20-150		
13C2-6:2FTS	64.1				80.0		80.1	20-150		
13C2-8:2FTS	59.1				80.0		73.9	20-150		
13C8-PFOA	30.5				40.0		76.3	20-150		
D5-NETFOA	7.32 S1				40.0		18.3	20-150		
D3-NMEFOA	9.02				40.0		22.5	20-150		
D3-NMEFOSAA	54.5				80.0		68.1	20-150		
D5-NETFOSAA	52.9				80.0		66.1	20-150		
D7-NMEFOSE	165				400		41.3	20-150		
D9-NETFOSE	148				400		37.0	20-150		
13C3-HFPO-DA	147				160		91.9	20-150		

AECOM Honolulu  
1001 Bishop Street, Suite 1600  
Honolulu, HI 96813

Project: Red Hill AFFF Assessment Sampling  
Project Number: Red Hill AFFF Assessment Sampling  
Project Manager: Watson Tanji

Reported: 01/12/2023 11:06

## Quality Control (Continued)

### Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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#### Batch: BBL0372 - PFAS Leachates (Continued)

##### MRL Check (BBL0372-MRL1)

Prepared: 12/19/22 12:22 Analyzed: 12/21/22 20:22

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
	ng/L									
PFBA	6.93 J				8.00		86.7	0-200		
PFPEA	4.18				4.00		104	0-200		
PFHXA	2.19				2.00		110	0-200		
PFHPA	2.47				2.00		123	0-200		
PFOA	2.42				2.00		121	0-200		
PFNA	2.24				2.00		112	0-200		
PFDA	2.37				2.00		119	0-200		
PFUnA	1.90 J IR2,				2.00		94.8	0-200		
PFDOA	1.26 J IR2,				2.00		63.0	0-200		
PFTRDA	1.57 J IR2,				2.00		78.6	0-200		
PFTEDA	1.95 J				2.00		97.3	0-200		
PFBS	1.81 J				1.77		102	0-200		
PFPEs	1.90 J				1.88		101	0-200		
PFHXS	1.90 J				1.83		104	0-200		
PFHPS	1.67 J				1.91		87.4	0-200		
PFOS	2.00				1.86		108	0-200		
PFNS	1.40 J				1.92		72.7	0-200		
PFDS	1.52 J				1.93		78.9	0-200		
PFDOS	1.36 J				1.94		70.1	0-200		
4:2FTS	6.65 J				7.50		88.7	0-200		
6:2FTS	8.82				7.60		116	0-200		
8:2FTS	6.56 J				7.68		85.4	0-200		
PFOSA	1.76 J				2.00		88.0	0-200		
NMeFOSA	5.78 J				8.00		72.3	0-200		
NEtFOSA	6.02 J				8.00		75.3	0-200		
NMeFOSAA	2.08				2.00		104	0-200		
NEtFOSAA	1.94 J				2.00		96.8	0-200		
NMeFOSE	7.27 J				8.00		90.9	0-200		
NEtFOSE	7.22 J				8.00		90.3	0-200		
HFPO-DA	3.59 J				4.00		89.8	0-200		
ADONA	3.68 J				3.78		97.5	0-200		
PFEESA	3.22 J				3.56		90.4	0-200		
PFMPA	3.78 J				4.00		94.4	0-200		
PFMBA	3.64 J				4.00		90.9	0-200		
NFDHA	3.61 J				4.00		90.1	0-200		
9CL-PF3ONS	2.84 J				3.74		76.0	0-200		
11CL-PF3OUDS	2.80 J				3.78		74.0	0-200		
3:3FTCA	9.01				8.00		113	0-200		
5:3FTCA	7.50 J				8.00		93.8	0-200		
7:3FTCA	7.90 J				8.00		98.8	0-200		

#### Surrogates

13C4-PFBA	147				160		91.8	20-150		
13C5-PFPEA	72.8				80.0		91.0	20-150		
13C5-PFHXA	35.4				40.0		88.5	20-150		
13C4-PFHPA	36.6				40.0		91.5	20-150		
13C8-PFOA	34.4				40.0		86.0	20-150		

AECOM Honolulu  
 1001 Bishop Street, Suite 1600  
 Honolulu, HI 96813

Project: Red Hill AFFF Assessment Sampling  
 Project Number: Red Hill AFFF Assessment Sampling  
 Project Manager: Watson Tanji

Reported: 01/12/2023 11:06

**Quality Control**  
 (Continued)

**Per- and Polyfluoroalkyl Substances (Continued)**

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch: BBL0372 - PFAS Leachates (Continued)**

**MRL Check (BBL0372-MRL1)**

Prepared: 12/19/22 12:22 Analyzed: 12/21/22 20:22

	ng/L							
<b>Surrogates</b>								
13C9-PFNA	15.2			20.0		76.0	20-150	
13C6-PFDA	14.7			20.0		73.3	20-150	
13C7-PFUnA	14.4			20.0		71.8	20-150	
13C2-PFDOA	16.3			20.0		81.5	20-150	
13C2-PFTEDA	17.0			20.0		85.1	20-150	
13C3-PFBS	31.4			40.0		78.5	20-150	
13C3-PFHXS	31.7			40.0		79.2	20-150	
13C8-PFOS	31.8			40.0		79.5	20-150	
13C2-4:2FTS	69.6			80.0		87.0	20-150	
13C2-6:2FTS	64.8			80.0		81.0	20-150	
13C2-8:2FTS	58.4			80.0		72.9	20-150	
13C8-PFOA	29.4			40.0		73.5	20-150	
D5-NETFOA	9.78			40.0		24.5	20-150	
D3-NMEFOA	11.3			40.0		28.2	20-150	
D3-NMEFOSAA	61.0			80.0		76.3	20-150	
D5-NETFOSAA	59.0			80.0		73.8	20-150	
D7-NMEFOSE	199			400		49.7	20-150	
D9-NETFOSE	189			400		47.2	20-150	
13C3-HFPO-DA	144			160		89.9	20-150	

AECOM Honolulu  
1001 Bishop Street, Suite 1600  
Honolulu, HI 96813

Project: Red Hill AFFF Assessment Sampling  
Project Number: Red Hill AFFF Assessment Sampling  
Project Manager: Watson Tanji

Reported: 01/12/2023 11:06

## Notes and Definitions

Item	Definition
B	Blank contamination
BS2	Blank spike recovered above the upper control limit
BS3	BS/BSD recovered with high RPD
CV1	Calibration verification recovered below the lower control limit
CV2	Calibration verification recovered above the upper control limit
D3	Sample duplicate recovered with high RPD
E	Response exceeds linear range
IR1	Ion ratio below the lower control limit
IR2	Ion ratio above the upper control limit
J	Estimated value
MI5	Manual integration, whole peak was not integrated
MS1	Matrix spike recovered below the lower control limit
MS2	Matrix spike recovered above the upper control limit
MS3	MS/MSD recovered with high RPD
S1	Surrogate recovered below the lower control limit
S2	Surrogate recovered above the upper control limit
U	Not detected
Dry	Sample results reported on a dry weight basis.
DL	Dilution Factor
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
*	Value outside control limits
RPD	Relative Percent Difference
%REC	Percent Recovery
Source	Sample that was matrix spiked or duplicated.

**WORK ORDER****22L0023**

Printed: 01/12/2023 11:08 am

**Project:** Red Hill AFFF Assessment Sampling  
**Project Number:** Red Hill AFFF Assessment Sampling  
**Project Manager:** Gregory Salata  
**PO Number:**

**Report To:**

AECOM Honolulu  
 Watson Tanji  
 1001 Bishop Street, Suite 1600  
 Honolulu, HI 96813  
 Phone: (808) 954-4512  
 Fax: (808) 523-8950

**Invoice To:**

AECOM Honolulu  
 Watson Tanji  
 1001 Bishop Street, Suite 1600  
 Honolulu, HI 96813  
 Phone: (808) 954-4512  
 Fax: (808) 523-8950

Date Received: 12/03/2022 02:49 PM  
 Date Due: 12/19/2022 (10.00 day TAT)

Logged In By: Megan Salata  
 Received By: Megan Salata

**Analysis****Comments****22L0023-01 ADIT6-IDW-SON01MI-22DEC [Solid] Sampled 12/2/2022 7:10:00PM****Sample Comments: HOT!**

1312 SPLP Bottle Prep PFAS	NONE
1633	NONE
1633 SPLP	NONE

**22L0023-02 ADIT6-IDW-SOFD01MI-22DEC [Solid] Sampled 12/2/2022 7:20:00PM****Sample Comments: HOT!**

1312 SPLP Bottle Prep PFAS	NONE
1633	NONE
1633 SPLP	NONE

**22L0023-03 ADIT6-IDW-SOFT01MI-22DEC [Solid] Sampled 12/2/2022 7:30:00PM****Sample Comments: HOT!**

1312 SPLP Bottle Prep PFAS	NONE
1633	NONE
1633 SPLP	NONE

**22L0023-04 ADIT6-DU02-SON01MI-22DEC [Solid] Sampled 12/2/2022 1:00:00PM****Sample Comments: HOT!**

1312 SPLP Bottle Prep PFAS	NONE
1633	NONE
1633 SPLP	NONE

**22L0023-05 ADIT6-DU02-SOFD01MI-22DEC [Solid] Sampled 12/2/2022 1:00:00PM****Sample Comments: HOT!**

1312 SPLP Bottle Prep PFAS	NONE
1633	NONE
1633 SPLP	NONE

**WORK ORDER****22L0023**

Printed: 01/12/2023 11:08 am

**(Continued)****Project:** Red Hill AFFF Assessment Sampling**Project Number:** Red Hill AFFF Assessment Sampling**Project Manager:** Gregory Salata**PO Number:**

Analysis	Comments
<b>22L0023-06 ADIT6-DU02-SOFT01MI-22DEC [Solid] Sampled 12/2/2022 1:00:00PM</b>	
<i>Sample Comments: HOT! Run Lab Duplicate and Lab Replicate</i>	
1312 SPLP Bottle Prep PFAS	NONE
1633	NONE
1633 SPLP	NONE
<b>22L0023-07 ADIT6-DU04A-SON01MI-22DEC [Solid] Sampled 12/2/2022 10:55:00AM</b>	
1312 SPLP Bottle Prep PFAS	NONE
1633	NONE
1633 SPLP	NONE
<b>22L0023-08 ADIT6-DU01-SON01MI-22DEC [Solid] Sampled 12/2/2022 1:00:00PM</b>	
1312 SPLP Bottle Prep PFAS	NONE
1633	NONE
1633 SPLP	NONE
<b>22L0023-09 ADIT6-DU04B-SON01MI-22DEC [Solid] Sampled 12/2/2022 11:05:00AM</b>	
1312 SPLP Bottle Prep PFAS	NONE
1633	NONE
1633 SPLP	NONE

**WORK ORDER****22L0023**

Printed: 01/12/2023 11:08 am

**(Continued)**

**Project:** Red Hill AFFF Assessment Sampling  
**Project Number:** Red Hill AFFF Assessment Sampling  
**Project Manager:** Gregory Salata  
**PO Number:**

**22L0023 Sample Receipt Log****Default Cooler**Samples Received at: **0.6°C**

Custody Seals	Yes	Were all containers sealed in separate bags?	Yes
Containers Intact	Yes	Did all containers arrive in good condition?	Yes
COC/Labels Agree	Yes	Correct containers/preserv. for tests indicated?	Yes
Preservation Confirmed	No	Sufficient volume sent for tests requested?	Yes
Received On Ice	Yes	Were bubbles absent in volatile samples?	No
Was a chain of custody received?	Yes	Sufficient remaining holding time for analyses?	Yes
COCs complete/signed in the appropriate places?	Yes	pH of non-VOA preserved containers documented?	No
Sample labels complete? Sample ID, date/time, etc.	Yes	Unpreserved vials received for VOA analysis?	No
Did all container labels agree with COCs?	Yes	If "yes", are unpreserved VOA vials noted on ARF?	No

**New Cooler**Samples Received at: **2.2°C**

Custody Seals	Yes	Were all containers sealed in separate bags?	Yes
Containers Intact	Yes	Did all containers arrive in good condition?	Yes
COC/Labels Agree	Yes	Correct containers/preserv. for tests indicated?	Yes
Preservation Confirmed	No	Sufficient volume sent for tests requested?	Yes
Received On Ice	Yes	Were bubbles absent in volatile samples?	No
Was a chain of custody received?	Yes	Sufficient remaining holding time for analyses?	Yes
COCs complete/signed in the appropriate places?	Yes	pH of non-VOA preserved containers documented?	No
Sample labels complete? Sample ID, date/time, etc.	Yes	Unpreserved vials received for VOA analysis?	No
Did all container labels agree with COCs?	Yes	If "yes", are unpreserved VOA vials noted on ARF?	No

**New Cooler [1]**Samples Received at: **2.0°C**

Custody Seals	Yes	Were all containers sealed in separate bags?	Yes
Containers Intact	Yes	Did all containers arrive in good condition?	Yes
COC/Labels Agree	Yes	Correct containers/preserv. for tests indicated?	Yes
Preservation Confirmed	No	Sufficient volume sent for tests requested?	Yes
Received On Ice	Yes	Were bubbles absent in volatile samples?	No
Was a chain of custody received?	Yes	Sufficient remaining holding time for analyses?	Yes
COCs complete/signed in the appropriate places?	Yes	pH of non-VOA preserved containers documented?	No
Sample labels complete? Sample ID, date/time, etc.	Yes	Unpreserved vials received for VOA analysis?	No
Did all container labels agree with COCs?	Yes	If "yes", are unpreserved VOA vials noted on ARF?	No



**APPL, Inc.**  
 908 N Temperance Ave  
 Clovis, CA 93611

**ELECTRONIC CHAIN OF CUSTODY RECORD**

Phone: (559) 275-2175  
 Fax: (559) 275-4422

C.O.C. 2212W1AP-05

220023

Report to: **PLEASE PRINT**

Invoice to: **PLEASE PRINT**

Company Name: **AECOM**  
 Address: **1001 Bishop St Suite 1600  
 Honolulu, HI 96813**  
 Attn: **Watson Tanji (watson.wanji@aecom.com)**

Company Name: **AECOM**  
 Address: \_\_\_\_\_  
 Attn: **Sheree Smith (USAPImaging@aecom.com)**

Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_

Project Name/Number	Purchase Order Number	Sample Identification	Sampler (Print)	Location	Date Collected	Time Collected	Time Zone	Analysis Requested/Method Number			Date Shipped:
								Carrier:	Waybill No.:	Comments:	
60697810			Mitch Brees		12/02/22	1910	HST	No. of Containers: 6	Matrix: Aq, Sed, Soil		
ADIT6-IDW-SON01MI-22DEC		RHSF	Mitch Brees		↓	1926	HST	6	Soil: ✓	X	
ADIT6-IDW-SOFD01MI-22DEC		↓			↓	1930	HST	6	Soil: ✓	X	
ADIT6-IDW-SOFT01MI-22DEC		↓							Soil: ✓	X	
Turnaround Requested: Check one <input type="checkbox"/> Standard 2-3 wk <input checked="" type="checkbox"/> One week <input type="checkbox"/> 24/48 Hrs. <input type="checkbox"/> Other											
Sample Disposal: <input type="checkbox"/> Return to client <input checked="" type="checkbox"/> Disposal by Lab (30-day retention)											
Relinquished by sampler:		Received by:		Date		Time		Date		Time	
Mitch Brees		Alex Edwards		12/22/22		2030		12/22/22		2037	
Relinquished by:		Received by:		Date		Time		Date		Time	
Cristian Perez		Cristian Perez		12/21/22		1449		12-22-22		1449	

Store ALL samples until notified by client to dispose  
 Please initially  
 Samples are highly contaminated.

Relinquished by: Alex Edwards  
 Received by: Cristian Perez

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise





**ELECTRONIC CHAIN OF CUSTODY RECORD**  
 Phone: (559) 275-2175  
 Fax: (559) 275-4422  
 C.O.C. 2212W1AP-02

APPL, Inc.  
 908 N Temperance Ave  
 Clovis, CA 93611

Report to: Company Name: <b>AECOM</b> Address: <b>1001 Bishop St Suite 1600 Honolulu, HI 96813</b> Attn: <b>Watson Tanji (watson.wanji@aecom.com)</b>	Invoice to: Company Name: <b>AECOM</b> Address: Attn: <b>Sheree Smith (USAPimaging@aecom.com)</b>	PLEASE PRINT Phone: <b>808-954-4512</b> Fax: PLEASE PRINT Phone: Fax:	Project Name/Number: <b>60697810</b> Purchase Order Number: Sampler (Print): <b>Sheree Villalobos</b> Sampler (Signature): <i>[Signature]</i> Location: Date Collected: <b>12/2/22</b> Time Collected: <b>1300</b> Date Collected: <b>12/2/22</b> Time Collected: <b>1300</b> Date Collected: <b>12/2/22</b> Time Collected: <b>1300</b>	Analysis Requested/Method Number: PFAS EPA Draft 1633 Matrix: Aq Sed Soil No. of Containers: <b>6</b> Date Shipped: Carrier: Waybill No.: Comments: Store ALL samples until notified by client to dispose <b># Samples are highly contaminated.</b>	Turnaround Requested: Check one <input type="checkbox"/> Standard 2-3 wk <input checked="" type="checkbox"/> One week <input type="checkbox"/> 24/48 Hrs. <input type="checkbox"/> Other Sample Disposal: <input type="checkbox"/> Return to client <input type="checkbox"/> Disposal by Lab (30-day retention) Relinquished by: <b>Eli Martin</b> Relinquished by:
Title Temperature: Relinquished by sampler: Relinquished by:	Date: <b>12/2/22</b> Time: <b>1649</b> Date: <b>12/3/22</b> Time: <b>1443</b>	Received by: <b>Eli Martin</b> Received by:	Date: <b>12/2/22</b> Time: <b>1745</b> Date: <b>12/3/22</b> Time: <b>1449</b>	Received by: Received at Lab by:	Yellow: Laboratory Copy Pink: Sampler

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.



**ELECTRONIC CHAIN OF CUSTODY RECORD**

Phone: (559) 275-2175

Fax: (559) 275-4422

C.O.C. 2212W1AP-04

Report to: **AECOM** Invoice to: **AECOM**

Company Name: **1001 Bishop St Suite 1600** Phone: \_\_\_\_\_

Address: **Honolulu, HI 96813** Fax: \_\_\_\_\_

Attn: **Watson Tanji (watson.wanji@aecom.com)** Attn: **Sheree Smith (USAPImaging@aecom.com)**

Project Name/Number	Purchase Order Number	Sampler (Print)	Sampler (Signature)	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix			Analysis Requested/Method Number	Date Shipped:	Carrier:	Waybill No.:	Comments:		
									Aq	Sed.	Soil							
ADIT6-DU04A-SON01MI-22DEC			<i>Joe Watson</i>		12/2/22	1055		6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							

Turnaround Requested: Check one  
 Standard 2-3 wk  One week  24/48 Hrs.  Other

Sample Disposal:  
 Return to client  Disposal by Lab (30-day retention)

Relinquished by sampler: *[Signature]* Date: 12/2/22 Time: 1609  
 Relinquished by: *El Mark* Date: 12/3/22 Time: 1449

Received by: *[Signature]* Date: 12/2/22 Time: 1700  
 Received at lab by: *[Signature]* Date: 12/3/22 Time: 1449

Yellow: Laboratory Copy  
 Pink: Sampler

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.





### ELECTRONIC CHAIN OF CUSTODY RECORD

**APPL, Inc.**  
 908 N Temperance Ave  
 Clovis, CA 93611  
 Phone: (559) 275-2175  
 Fax: (559) 275-4422  
 C.O.C. 2212W1AP-05

**Report to:** PLEASE PRINT **Company Name:** AECOM **Phone:** 808-954-4512

**Address:** 1001 Bishop St Suite 1600 **Address:** \_\_\_\_\_ **Company Name:** AECOM **Phone:** \_\_\_\_\_

Honolulu, HI 96813 **Address:** \_\_\_\_\_ **Company Name:** AECOM **Phone:** \_\_\_\_\_

**Attn:** Watson Tanji (watson.wanji@aecom.com) **Address:** \_\_\_\_\_ **Company Name:** AECOM **Phone:** \_\_\_\_\_

**Attn:** Sheree Smith (USAPImaging@aecom.com) **Address:** \_\_\_\_\_ **Company Name:** AECOM **Phone:** \_\_\_\_\_

Project Name/Number	Sampler (Print)	Sampler (Signature)	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix			Analysis Requested/Method Number	Date Shipped:
								Aq	Sed.	Soil		
60697810	JORGE VIVARRO	<i>[Signature]</i>		12/12	1105		6	✓				
ADIT6-DU04B-SON01MI-22DEC								✓				
								✓				

**Sample Disposal:**  Return to client  Disposal by Lab (30-day retention)

**Relinquished by:** Eli Martin **Date:** 12/23/21 **Time:** 17:00 **Received by:** \_\_\_\_\_

**Relinquished by:** Eli Martin **Date:** 12/31/21 **Time:** 1449 **Received at lab by:** \_\_\_\_\_

**Turnaround Requested:** Check one  Standard 2-3 wk  One week  24/48 Hrs.  Other

**Date:** 12/22/21 **Time:** 1449 **Received by:** Eli Martin

**Date:** 12/31/21 **Time:** 1449 **Received by:** \_\_\_\_\_

**Site:** Return to client with report **Yellow:** Laboratory Copy **Pink:** Sampler

*Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.*



# ELECTRONIC CHAIN OF CUSTODY RECORD

**APPL, Inc.**  
908 N Temperance Ave  
Clovis, CA 93611

Phone: (559) 275-2175  
Fax: (559) 275-4422

C.O.C. 2212W1AP-06

Report to: \_\_\_\_\_ PLEASE PRINT  
Company Name: **AECOM** Phone: \_\_\_\_\_  
Address: **1001 Bishop St Suite 1600** Phone: \_\_\_\_\_  
**Honolulu, HI 96813** Fax: \_\_\_\_\_  
Attn: **Watson Tanji (watson.wanji@aecom.com)**

Invoice to: \_\_\_\_\_ PLEASE PRINT  
Company Name: **AECOM** Phone: \_\_\_\_\_  
Address: \_\_\_\_\_ Phone: \_\_\_\_\_  
Attn: **Sheree Smith (USAPImaging@aecom.com)** Fax: \_\_\_\_\_

Project Name/Number	Sampler (Print)	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix			Analysis Requested/Method Number	Date Shipped:
						Aq	Sed	Soil		
60697810	<b>Justin Descant</b>	12-2-22	1725	HST	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PFAS EPA Draft 1633	
	<i>Justin Descant</i>					<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
						<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
						<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
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						<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
						<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Turnaround Requested: Check one  
 Standard 2-3 wk  One week  24/48 Hrs.  Other

Sample Disposal:  
 Return to client  Disposal by Lab (30-day retention)

Relinquished by sampler: *Eli Martin* Received by: \_\_\_\_\_  
Date: 12-2-22 1853 Time: 1915 Date: 12/22/22 Time: 1449

Relinquished by: \_\_\_\_\_ Received by: \_\_\_\_\_  
Date: 12/2/22 1449 Time: 1915 Date: 12/30/22 Time: 1449

Note: Return to client with report  
Yellow: Laboratory Copy Pink: Sampler

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

Types of Samples		Types of Preservatives		Requested Information:
		<b>Keep all Samples on Ice</b>		
	<b>Liquids</b>	H <sub>2</sub> SO <sub>4</sub>	Sulfuric Acid	
		HCl	Hydrochloric Acid	
DW	Drinking Water	NaOH	Sodium Hydroxide	
GW	Ground Water	Na <sub>2</sub> SO <sub>3</sub>	Sodium Thiosulfate	
MW	Monitoring Water	HNO <sub>3</sub>	Nitric Acid	
SW	Surface Water		Zinc Acetate	
TB	Travel Blank			
WW	Waste Water	<b>Types of Containers</b>		
	<b>Solids</b>	A	Amber Glass	
		C	Clear Glass	
S	Soil	B	Brass Tube	
SLD	Solid	M	Metal Tube	
SL	Sludge	P	Plastic	
Oil	Oil	G	Bag	
M	Miscellaneous	AV	Amber Glass VOA	
W	Wipes	GV	Glass VOA	
SED	Sediment	O	Other _____	

Initials EM Date 3/10/07  
 AECOM (808) 1503-125  
**CUSTODY SEAL**

**OTHER**

## PREPARATION BATCH SUMMARY

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM Honolulu	Project:	Red Hill AFFF Assessment Sampling
Batch:	BBL0370	Batch Matrix:	Solid
		Preparation:	EPA 1312 Bottle Prep

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT g	FINAL VOL. mL
ADIT6-IDW-SON01MI-22DEC	22L0023-01	12/19/22 11:59	100.18	2005
ADIT6-IDW-SOFD01MI-22DEC	22L0023-02	12/19/22 11:59	100.27	2003
ADIT6-IDW-SOFT01MI-22DEC	22L0023-03	12/19/22 11:59	100.18	2008
ADIT6-DU02-SON01MI-22DEC	22L0023-04	12/19/22 11:59	100.05	2011
ADIT6-DU02-SOFD01MI-22DEC	22L0023-05	12/19/22 11:59	100.31	2003
ADIT6-DU02-SOFT01MI-22DEC	22L0023-06	12/19/22 11:59	100.19	2006
ADIT6-DU04A-SON01MI-22DEC	22L0023-07	12/19/22 11:59	100.31	2016
ADIT6-DU01-SON01MI-22DEC	22L0023-08	12/19/22 11:59	100.98	2017
ADIT6-DU04B-SON01MI-22DEC	22L0023-09	12/19/22 11:59	100.36	2013
Blank	BBL0370-BLK1	12/19/22 11:59	100.00	2000



# PFAS

# SAMPLE DATA

# FORM I

## ANALYSIS DATA SHEET

ADIT6-IDW-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-01
		File ID:	S2022-12-08B (27)
Sampled:	12/02/22 19:10	Prepared:	12/07/22 10:00
		Analyzed:	12/08/22 23:43
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	5.03 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
PFBA	2.8	0.30	0.20	0.15	
PFPEA	3.5	0.080	0.040	0.021	
PFHXA	6.3	0.040	0.020	0.015	
PFHPA	1.1	0.040	0.020	0.015	
PFOA	0.60	0.040	0.030	0.021	
PFNA	0.062	0.040	0.030	0.022	
PFDA	0.078	0.040	0.030	0.022	
PFUnA	0.11	0.040	0.020	0.020	
PFDOA	0.029 J	0.040	0.030	0.023	
PFTRDA	0.031 J	0.040	0.020	0.016	
PFTEDA	0.026 J	0.040	0.030	0.025	
PFBS	0.11	0.040	0.020	0.016	
PFPEs	0.020 U	0.040	0.020	0.012	
PFHXS	0.051	0.040	0.020	0.015	
PFHPS	0.020 U	0.040	0.020	0.011	
PFOS	1.2	0.040	0.020	0.0097	
PFNS	0.015 J	0.040	0.020	0.014	
PFDS	0.031 J	0.040	0.020	0.013	
PFDOS	0.031 J	0.040	0.020	0.013	IR1,
4:2FTS	2.1	0.16	0.080	0.045	
8:2FTS	0.080 U	0.16	0.080	0.051	IR2,
PFOSA	0.020 U	0.040	0.020	0.012	
NMeFOSA	0.080 U	0.16	0.080	0.066	
NEtFOSA	0.080 U	0.16	0.080	0.027	
NMeFOSAA	0.020 U	0.040	0.020	0.010	
NEtFOSAA	0.020 U	0.040	0.020	0.018	
NMeFOSE	0.080 U	0.16	0.080	0.053	
NEtFOSE	0.080 U	0.16	0.080	0.047	
HFPO-DA	0.040 U	0.080	0.040	0.022	
ADONA	0.040 U	0.080	0.040	0.026	

# FORM I ANALYSIS DATA SHEET

ADIT6-IDW-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-01
		File ID:	S2022-12-08B (27)
Sampled:	12/02/22 19:10	Prepared:	12/07/22 10:00
		Analyzed:	12/08/22 23:43
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	5.03 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
PFEESA	0.040 U	0.080	0.040	0.017	
PFMPA	0.040 U	0.080	0.040	0.028	
PFMBA	0.040 U	0.080	0.040	0.032	
NFDHA	0.060 U	0.080	0.060	0.049	
9CL-PF3ONS	0.040 U	0.080	0.040	0.024	
11CL-PF3OUDS	0.040 U	0.080	0.040	0.026	
3:3FTCA	0.080 U	0.16	0.080	0.063	
5:3FTCA	1.2	0.16	0.080	0.065	
7:3FTCA	0.080 U	0.16	0.080	0.049	



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-01  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 27  
 Acquired: 2022/12/08 - 23:43

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 443909	(3.78, 1.00) (0.00, N/A, 0.0)	58.3	N/A 0.0 0.0	7.0193	N/A			
PFPeA	(262.9 / 219.0) 777498 (262.9 / 69.0) 8620	(5.09, 1.00) (0.00, N/A, 0.0)	1026.0 175.8	0.0111 95.2 95.2	8.7659	N/A			
PFHxA	(313.0 / 269.0) 2364839 (313.0 / 119.0) 252049	(6.23, 1.00) (0.00, N/A, -0.1)	699.6 708.7	0.1066 118.6 110.2	15.8274	N/A			
PFHpA	(363.0 / 319.0) 372131 (363.0 / 169.0) 120144	(7.16, 1.00) (0.00, N/A, 0.0)	570.1 587.7	0.3229 112.5 109.8	2.6592	N/A			
PFOA	(413.0 / 369.0) 192123 (413.0 / 169.0) 55253	(7.98, 1.00) (0.00, N/A, 0.2)	359.6 381.0	0.2876 88.9 89.3	1.5039	N/A			
PFNA	(463.0 / 419.0) 16128 (463.0 / 169.0) 3802	(8.72, 1.00) (0.00, N/A, 0.3)	77.8 28.3	0.2357 117.1 120.4	0.1565	N/A			
PFDA	(513.0 / 469.0) 23912 (513.0 / 169.0) 2389	(9.40, 1.00) (0.01, N/A, -1.3)	64.0 1107.7	0.0999 112.5 97.0	0.1956	N/A			
PFUnA	(563.0 / 519.0) 20404 (563.0 / 169.0) 2842	(9.76, 1.00) (0.01, N/A, 2.9)	26.4 27.9	0.1393 129.6 149.9	0.2821	N/A			
PFDoA	(613.0 / 569.0) 9435 (613.0 / 169.0) 882	(9.91, 1.00) (0.00, N/A, 0.4)	33.7 9.0	0.0935 78.5 83.7	0.0737	N/A			
PFTTrDA	(663.0 / 619.0) 8675 (663.0 / 169.0) 1950	(10.02, 1.01) (N/A, -0.01, 0.0)	39.6 15.7	0.2248 120.7 116.8	0.0771	N/A			
PFTeDA	(713.0 / 669.0) 3977 (713.0 / 169.0) 798	(10.14, 1.00) (-0.01, N/A, 0.7)	20.7 10.5	0.2007 102.0 94.0	0.0650	N/A			



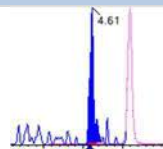
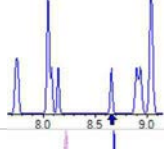
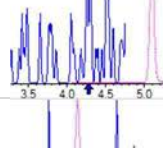
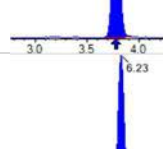
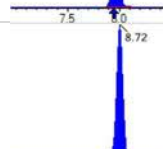
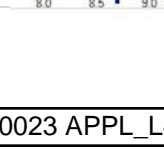
Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-01  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

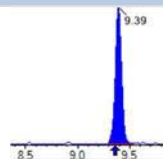
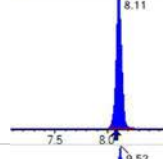
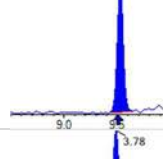
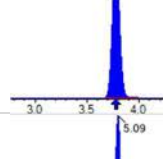
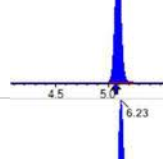
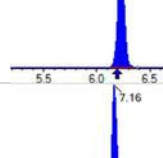
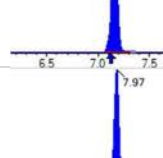
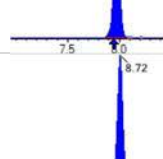
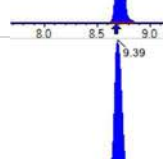
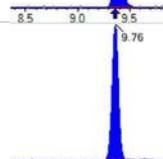
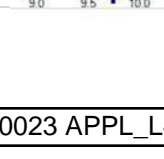
Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 27  
 Acquired: 2022/12/08 - 23:43

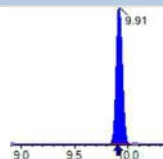
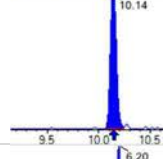
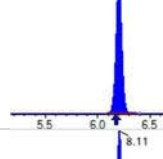
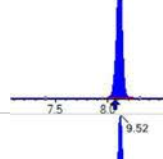
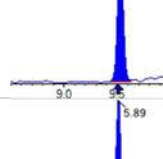
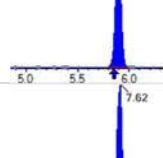
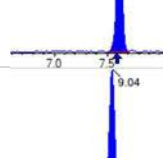
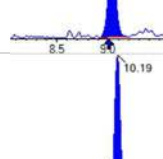
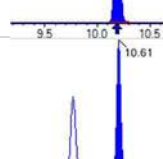
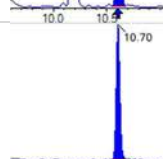
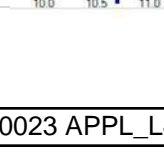
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 60581 ( 298.9 / 99.0 ) 40762	( 6.20 , 1.00 ) ( 0.00 , N/A , 0.4 )	211.0 230.5	0.6728 99.3 99.0	0.2785	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) 43997 ( 399.0 / 99.0 ) 14098	( 8.11 , 1.00 ) ( 0.00 , N/A , 0.4 )	113.9 1498.7	0.3204 92.9 91.1	0.1290	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 935588 ( 499.0 / 99.0 ) 223206	( 9.53 , 1.00 ) ( 0.00 , N/A , -0.1 )	197.2 318.8	0.2386 92.6 97.9	2.9054	N/A			
PFNS	( 549.0 / 80.0 ) 14347 ( 549.0 / 99.0 ) 2458	( 9.81 , 1.03 ) ( N/A , 0.03 , 0.1 )	4.5 21.5	0.1714 71.7 67.1	0.0379	N/A			
PFDS	( 599.0 / 80.0 ) 37146 ( 599.0 / 99.0 ) 6839	( 9.92 , 1.04 ) ( N/A , -0.01 , -1.0 )	9.2 28.0	0.1841 79.2 81.0	0.0784	N/A			
PFDoS	( 698.9 / 80.0 ) 21726 ( 698.9 / 99.0 ) 2412	( 10.10 , 1.06 ) ( N/A , -0.02 , -2.1 )	27.6 49.0	0.1110 47.9 50.2	0.0774	N/A			IR1,
4:2FTS	( 327.0 / 307.0 ) 514115 ( 327.0 / 81.0 ) 294967	( 5.89 , 1.00 ) ( 0.00 , N/A , 0.1 )	1502.9 414.3	0.5737 96.1 98.1	5.2462	N/A			
6:2FTS	( 427.0 / 407.0 ) 29220768 ( 427.0 / 81.0 ) 21215768	( 7.62 , 1.00 ) ( 0.00 , N/A , 0.0 )	1072.3 921.7	0.7261 101.0 104.2	421.9611	N/A			E,
8:2FTS	( 527.0 / 507.0 ) 2589 ( 527.0 / 81.0 ) 3003	( 9.03 , 1.00 ) ( -0.01 , N/A , -0.9 )	255.5 6.3	1.1597 186.0 175.1	0.0875	N/A			IR2,

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 4341 ( 498.0 / 478.0 ) N/A	( 10.19 , 1.00 ) ( 0.00 , N/A , #Value)	39.9 N/A	N/A 0.0 0.0	0.0219	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEiFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEiFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEiFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 651 (241.0 / 117.0) 1144	(4.61, 0.91) (N/A, 0.03, -0.5)	35.4 33.4	1.7560 100.9 104.2	0.1495	N/A			
5:3FTCA	(341.0 / 236.7) 92794 (341.0 / 217.0) 155690	(6.87, 1.10) (N/A, 0.03, -0.1)	413.2 304.1	1.6778 98.2 97.9	2.9232	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 89886	(3.78, N/A) (N/A, 0.01, N/A)	748.6	N/A	0.9351 [ 1.0000 ]	93.5% { 106.8% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 141214	(6.23, N/A) (N/A, 0.03, N/A)	640.1	N/A	1.1436 [ 1.0000 ]	114.4% { 121.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 135918	(7.97, N/A) (N/A, 0.03, N/A)	880.1	N/A	1.1465 [ 1.0000 ]	114.7% { 120.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 99742	(8.72, N/A) (N/A, 0.03, N/A)	870.9	N/A	1.0473 [ 1.0000 ]	104.7% { 115.5% }			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 92850	(9.39, N/A) (N/A, 0.03, N/A)	283.6	N/A	1.1270 [ 1.0000 ]	112.7% { 96.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 254446	(8.11, N/A) (N/A, 0.03, N/A)	728.7	N/A	1.1855 [ 1.0000 ]	118.5% { 124.3% }			
13C4_PFOS_IIS	(502.8 / 79.9) 169739	(9.52, N/A) (N/A, 0.02, N/A)	137.7	N/A	0.9120 [ 1.0000 ]	91.2% { 93.1% }			
13C4_PFBA_EIS	(217.0 / 172.0) 664451	(3.78, N/A) (N/A, 0.01, N/A)	1117.5	N/A	7.8847 [ 8.0000 ]	98.6% { 112.4% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 369066	(5.09, N/A) (N/A, 0.03, N/A)	1097.6	N/A	3.5828 [ 4.0000 ]	89.6% { 118.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 296483	(6.23, N/A) (N/A, 0.03, N/A)	751.7	N/A	2.0584 [ 2.0000 ]	102.9% { 117.5% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 276290	(7.16, N/A) (N/A, 0.03, N/A)	599.9	N/A	2.1251 [ 2.0000 ]	106.3% { 120.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 247850	(7.97, N/A) (N/A, 0.03, N/A)	607.3	N/A	1.7928 [ 2.0000 ]	89.6% { 104.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 106886	(8.72, N/A) (N/A, 0.03, N/A)	636.6	N/A	1.0859 [ 1.0000 ]	108.6% { 117.3% }			
13C6_PFDA_EIS	(519.0 / 474.0) 120492	(9.39, N/A) (N/A, 0.03, N/A)	398.0	N/A	0.8934 [ 1.0000 ]	89.3% { 100.9% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 82161	(9.76, N/A) (N/A, 0.02, N/A)	297.8	N/A	0.4538 [ 1.0000 ]	45.4% { 49.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 139156	(9.91, N/A) (N/A, 0.01, N/A)	434.0	N/A	0.6334 [ 1.0000 ]	63.3% { 73.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 62108	(10.14, N/A) (N/A, 0.00, N/A)	212.0	N/A	0.3851 [ 1.0000 ]	38.5% { 44.1% }			
13C3_PFBs_EIS	(302.0 / 80.0) 712665	(6.20, N/A) (N/A, 0.03, N/A)	845.2	N/A	1.9058 [ 2.0000 ]	95.3% { 126.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 406741	(8.11, N/A) (N/A, 0.03, N/A)	768.4	N/A	1.9108 [ 2.0000 ]	95.5% { 118.5% }			
13C8_PFOS_EIS	(507.0 / 80.0) 573660	(9.52, N/A) (N/A, 0.02, N/A)	175.4	N/A	2.2170 [ 2.0000 ]	110.8% { 101.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 112209	(5.89, N/A) (N/A, 0.04, N/A)	464.4	N/A	5.3204 [ 4.0000 ]	133.0% { 173.9% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 174625	(7.62, N/A) (N/A, 0.03, N/A)	362.5	N/A	6.1715 [ 4.0000 ]	154.3% { 203.7% }			S2,
13C2_8:2FTS_EIS	(529.0 / 81.0) 75395	(9.04, N/A) (N/A, 0.03, N/A)	101.3	N/A	3.0699 [ 4.0000 ]	76.7% { 95.2% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 356398	(10.19, N/A) (N/A, 0.01, N/A)	671.1	N/A	0.9022 [ 2.0000 ]	45.1% { 37.6% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 37429	(10.61, N/A) (N/A, 0.01, N/A)	116.0	N/A	0.3202 [ 2.0000 ]	16.0% { 16.2% }			S1,
D5_NeIFOSA_EIS	(531.1 / 169.0) 39315	(10.70, N/A) (N/A, 0.01, N/A)	348.9	N/A	0.3709 [ 2.0000 ]	18.5% { 17.7% }			S1,



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-01  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 27  
 Acquired: 2022/12/08 - 23:43

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 450657	( 9.56, N/A ) ( N/A, 0.02, N/A )	677.3	N/A	7.8282 [ 4.0000 ]	195.7% { 187.7% }			S2,
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 156365	( 9.71, N/A ) ( N/A, 0.01, N/A )	273.4	N/A	3.1602 [ 4.0000 ]	79.0% { 68.9% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 156369	( 10.58, N/A ) ( N/A, 0.01, N/A )	271.9	N/A	7.8319 [ 20.0000 ]	39.2% { 36.0% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 77920	( 10.67, N/A ) ( N/A, 0.01, N/A )	480.7	N/A	7.6594 [ 20.0000 ]	38.3% { 35.6% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 779247	( 6.58, N/A ) ( N/A, 0.03, N/A )	728.2	N/A	8.2144 [ 8.0000 ]	102.7% { 116.8% }			

# FORM I ANALYSIS DATA SHEET

ADIT6-IDW-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-01RE1
		File ID:	S2022-12-08B (28)
Sampled:	12/02/22 19:10	Prepared:	12/07/22 10:00
		Analyzed:	12/08/22 23:55
Solids:		Preparation:	EPA 1633
		Dilution:	10
Initial/Final:	5.03 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
6:2FTS	190	1.6	0.80	0.61	



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-01RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 28  
 Acquired: 2022/12/08 - 23:55

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 44324	(3.80, 1.00) (0.00, N/A, 0.0)	40.1	N/A 0.0 0.0	0.7510	N/A			
PFPeA	(262.9 / 219.0) 71126 (262.9 / 69.0) 861	(5.11, 1.00) (0.00, N/A, 0.3)	395.1 38.1	0.0121 104.0 103.9	0.8196	N/A			
PFHxA	(313.0 / 269.0) 253937 (313.0 / 119.0) 22094	(6.23, 1.00) (0.00, N/A, -0.2)	781.0 258.4	0.0870 96.8 90.0	1.8507	N/A			
PFHpA	(363.0 / 319.0) 36848 (363.0 / 169.0) 9528	(7.16, 1.00) (0.00, N/A, -0.2)	168.1 176.6	0.2586 90.1 88.0	0.2861	N/A			
PFOA	(413.0 / 369.0) 21635 (413.0 / 169.0) 5660	(7.97, 1.00) (0.00, N/A, 0.2)	89.9 110.6	0.2616 80.9 81.2	0.1571	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) 5736 (513.0 / 169.0) 526	(9.40, 1.00) (0.00, N/A, -0.8)	30.3 26.1	0.0918 103.4 89.1	0.0354	N/A			
PFUnA	(563.0 / 519.0) 3913 (563.0 / 169.0) 945	(9.75, 1.00) (0.00, N/A, 2.1)	18.6 83.7	0.2416 224.8 260.1	0.0231	N/A			IR2,
PFDoA	(613.0 / 569.0) 1502 (613.0 / 169.0) N/A	(9.94, 1.00) (0.03, N/A, #Value!)	14.4 N/A	N/A 0.0 0.0	0.0055	N/A			IR1,
PFTrDA	(663.0 / 619.0) 1673 (663.0 / 169.0) 843	(10.03, 1.01) (N/A, -0.01, 0.4)	9.1 35.9	0.5040 270.6 262.0	0.0069	N/A			IR2,
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



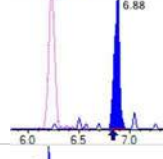
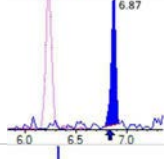
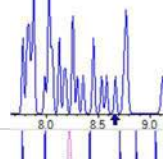
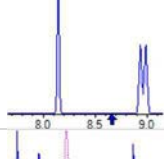
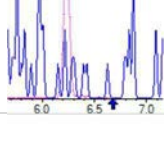
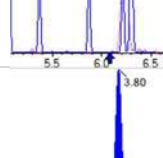
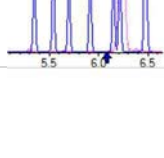
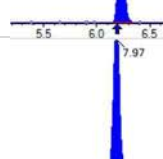
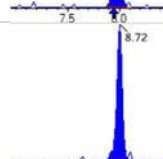
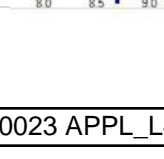
Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-01RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-07.dam

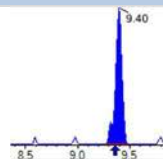
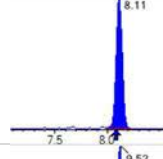
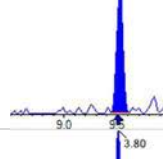
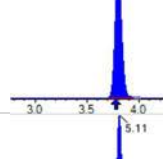
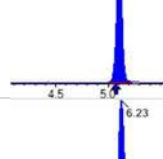
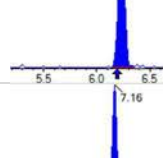
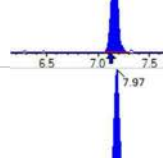
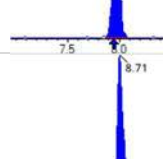
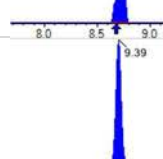
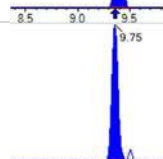
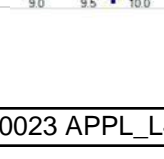
Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 28  
 Acquired: 2022/12/08 - 23:55

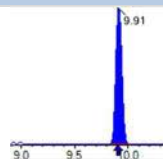
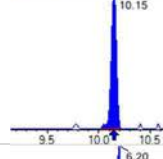
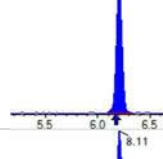
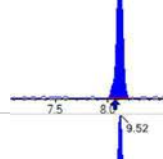
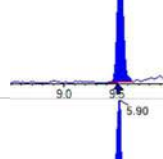
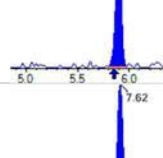
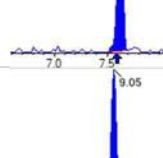
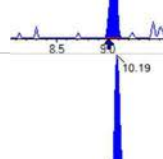
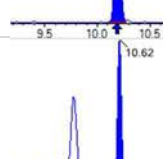
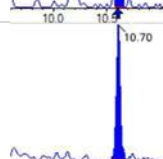
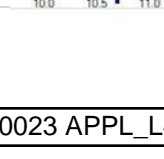
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 6496 ( 298.9 / 99.0 ) 3838	( 6.21 , 1.00 ) ( 0.00 , N/A , 0.2)	79.7 70.5	0.5909 87.2 87.0	0.0323	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) 4953 ( 399.0 / 99.0 ) 649	( 8.14 , 1.00 ) ( 0.02 , N/A , 2.4)	59.6 98.0	0.1309 38.0 37.2	0.0140	N/A			IR1,
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 112097 ( 499.0 / 99.0 ) 32199	( 9.52 , 1.00 ) ( 0.00 , N/A , 0.0)	104.9 165.4	0.2872 111.5 117.9	0.2606	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) 32433 ( 327.0 / 81.0 ) 20782	( 5.89 , 1.00 ) ( -0.01 , N/A , 0.2)	474.2 177.4	0.6408 107.3 109.6	0.4968	N/A			
6:2FTS	( 427.0 / 407.0 ) 3305234 ( 427.0 / 81.0 ) 2300926	( 7.62 , 1.00 ) ( 0.00 , N/A , 0.0)	938.5 1033.7	0.6961 96.8 99.9	48.1838	N/A			
8:2FTS	( 527.0 / 507.0 ) 536 ( 527.0 / 81.0 ) 552	( 9.05 , 1.00 ) ( 0.00 , N/A , -2.1)	4139.1 7.0	1.0296 165.1 155.5	0.0111	N/A			IR2,

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) N/A ( 498.0 / 478.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-PF3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) 5522 (341.0 / 217.0) 10416	(6.88, 1.10) (N/A, 0.04, 0.3)	99.8 67.4	1.8864 110.5 110.0	0.1894	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 8368	(3.80, N/A) (N/A, 0.04, N/A)	260.5	N/A	0.8705 [ 1.0000 ]	87.1% { 9.9% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 16352	(6.23, N/A) (N/A, 0.04, N/A)	337.8	N/A	1.3242 [ 1.0000 ]	132.4% { 14.1% }			
13C4_PFOA_IIS	(417.0 / 372.0) 12985	(7.97, N/A) (N/A, 0.03, N/A)	239.1	N/A	1.0953 [ 1.0000 ]	109.5% { 11.5% }			
13C5_PFNA_IIS	(468.0 / 423.0) 10399	(8.72, N/A) (N/A, 0.03, N/A)	730.8	N/A	1.0919 [ 1.0000 ]	109.2% { 12.0% }			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 10667	(9.40, N/A) (N/A, 0.04, N/A)	236.1	N/A	1.2948 [ 1.0000 ]	129.5% { 11.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 25496	(8.11, N/A) (N/A, 0.03, N/A)	300.4	N/A	1.1879 [ 1.0000 ]	118.8% { 12.5% }			
13C4_PFOS_IIS	(502.8 / 79.9) 23104	(9.52, N/A) (N/A, 0.02, N/A)	59.6	N/A	1.2413 [ 1.0000 ]	124.1% { 12.7% }			
13C4_PFBA_EIS	(217.0 / 172.0) 62013	(3.80, N/A) (N/A, 0.03, N/A)	1013.1	N/A	0.7904 [ 0.8000 ]	98.8% { 10.5% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 36111	(5.11, N/A) (N/A, 0.04, N/A)	591.4	N/A	0.3027 [ 0.4000 ]	75.7% { 11.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 27227	(6.23, N/A) (N/A, 0.04, N/A)	329.2	N/A	0.1632 [ 0.2000 ]	81.6% { 10.8% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 25431	(7.16, N/A) (N/A, 0.03, N/A)	371.2	N/A	0.1689 [ 0.2000 ]	84.5% { 11.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 26711	(7.97, N/A) (N/A, 0.03, N/A)	442.6	N/A	0.2022 [ 0.2000 ]	101.1% { 11.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 13486	(8.71, N/A) (N/A, 0.03, N/A)	146.0	N/A	0.1314 [ 0.1000 ]	131.4% { 14.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 15976	(9.39, N/A) (N/A, 0.03, N/A)	97.5	N/A	0.1031 [ 0.1000 ]	103.1% { 13.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 19258	(9.75, N/A) (N/A, 0.02, N/A)	16149.8	N/A	0.0926 [ 0.1000 ]	92.6% { 11.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 29831	(9.91, N/A) (N/A, 0.00, N/A)	982.6	N/A	0.1182 [0.1000]	118.2% {15.8%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 12939	(10.15, N/A) (N/A, 0.01, N/A)	219.1	N/A	0.0698 [0.1000]	69.8% {9.2%}			
13C3_PFBs_EIS	(302.0 / 80.0) 65825	(6.20, N/A) (N/A, 0.03, N/A)	433.0	N/A	0.1757 [0.2000]	87.8% {11.7%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 42174	(8.11, N/A) (N/A, 0.04, N/A)	254.9	N/A	0.1977 [0.2000]	98.9% {12.3%}			
13C8_PFOS_EIS	(507.0 / 80.0) 76637	(9.52, N/A) (N/A, 0.02, N/A)	149.2	N/A	0.2176 [0.2000]	108.8% {13.5%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 7475	(5.90, N/A) (N/A, 0.04, N/A)	97.4	N/A	0.3537 [0.4000]	88.4% {11.6%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 17298	(7.62, N/A) (N/A, 0.04, N/A)	138.0	N/A	0.6101 [0.4000]	152.5% {20.2%}			S2,
13C2_8:2FTS_EIS	(529.0 / 81.0) 12283	(9.05, N/A) (N/A, 0.05, N/A)	96.2	N/A	0.4991 [0.4000]	124.8% {15.5%}			
13C8_PFOsa_EIS	(506.0 / 78.0) 81192	(10.19, N/A) (N/A, 0.01, N/A)	427.3	N/A	0.1510 [0.2000]	75.5% {8.6%}			
D3_NMeFOsa_EIS	(515.0 / 169.0) 5959	(10.62, N/A) (N/A, 0.01, N/A)	52.9	N/A	0.0375 [0.2000]	18.7% {2.6%}			S1,
D5_NEiFOsa_EIS	(531.1 / 169.0) 6183	(10.70, N/A) (N/A, 0.01, N/A)	89.7	N/A	0.0429 [0.2000]	21.4% {2.8%}			



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-01RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 28  
 Acquired: 2022/12/08 - 23:55

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 48893	( 9.56, N/A ) ( N/A, 0.02, N/A )	1363.3	N/A	0.6240 [ 0.4000 ]	156.0% { 20.4% }			S2,
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 47622	( 9.71, N/A ) ( N/A, 0.01, N/A )	178.3	N/A	0.7071 [ 0.4000 ]	176.8% { 21.0% }			S2,
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 29003	( 10.58, N/A ) ( N/A, 0.01, N/A )	86.8	N/A	1.0672 [ 2.0000 ]	53.4% { 6.7% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 13818	( 10.68, N/A ) ( N/A, 0.01, N/A )	125.8	N/A	0.9979 [ 2.0000 ]	49.9% { 6.3% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 70532	( 6.58, N/A ) ( N/A, 0.03, N/A )	614.7	N/A	0.6421 [ 0.8000 ]	80.3% { 10.6% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-IDW-SOFD01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-02
		File ID:	S2022-12-08B (29)
Sampled:	12/02/22 19:20	Prepared:	12/07/22 10:00
		Analyzed:	12/09/22 00:08
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	5.06 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
PFBA	2.8	0.30	0.20	0.15	
PFPEA	3.1	0.079	0.040	0.021	
PFHXA	6.5	0.040	0.020	0.015	
PFHPA	1.0	0.040	0.020	0.015	
PFOA	0.53	0.040	0.030	0.021	
PFNA	0.060	0.040	0.030	0.022	
PFDA	0.11	0.040	0.030	0.022	IR1
PFUnA	0.070	0.040	0.020	0.020	IR2
PFDOA	0.030 U	0.040	0.030	0.023	IR2,
PFTRDA	0.033 J	0.040	0.020	0.016	
PFTEDA	0.030 U	0.040	0.030	0.025	
PFBS	0.10	0.040	0.020	0.016	
PFPEs	0.020 U	0.040	0.020	0.012	
PFHXS	0.041	0.040	0.020	0.015	
PFHPS	0.020 U	0.040	0.020	0.011	
PFOS	1.1	0.040	0.020	0.0096	
PFNS	0.020 U	0.040	0.020	0.014	
PFDS	0.021 J	0.040	0.020	0.013	IR2,
PFDOS	0.038 J	0.040	0.020	0.013	IR1,
4:2FTS	2.2	0.16	0.079	0.045	
8:2FTS	0.079 U	0.16	0.079	0.050	
PFOSA	0.020 U	0.040	0.020	0.012	
NMeFOSA	0.079 U	0.16	0.079	0.065	
NEtFOSA	0.079 U	0.16	0.079	0.027	
NMeFOSAA	0.020 U	0.040	0.020	0.0099	
NEtFOSAA	0.020 U	0.040	0.020	0.018	
NMeFOSE	0.079 U	0.16	0.079	0.053	
NEtFOSE	0.079 U	0.16	0.079	0.047	
HFPO-DA	0.040 U	0.079	0.040	0.022	
ADONA	0.040 U	0.079	0.040	0.026	

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-IDW-SOFD01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-02
		File ID:	S2022-12-08B (29)
Sampled:	12/02/22 19:20	Prepared:	12/07/22 10:00
		Analyzed:	12/09/22 00:08
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	5.06 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
PFEEESA	0.040 U	0.079	0.040	0.017	
PFMPA	0.040 U	0.079	0.040	0.028	
PFMBA	0.040 U	0.079	0.040	0.032	
NFDHA	0.059 U	0.079	0.059	0.049	
9CL-PF3ONS	0.040 U	0.079	0.040	0.024	
11CL-PF3OUDS	0.040 U	0.079	0.040	0.026	
3:3FTCA	0.079 U	0.16	0.079	0.063	
5:3FTCA	1.0	0.16	0.079	0.064	
7:3FTCA	0.079 U	0.16	0.079	0.049	



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-02  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 29  
 Acquired: 2022/12/09 - 00:08

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 461960	(3.77, 1.00) (0.00, N/A, 0.0)	59.5	N/A 0.0 0.0	7.1500	N/A			
PFPeA	(262.9 / 219.0) 796670 (262.9 / 69.0) 9069	(5.10, 1.00) (0.00, N/A, 0.1)	916.5 195.5	0.0114 97.7 97.7	7.9341	N/A			
PFHxA	(313.0 / 269.0) 2624003 (313.0 / 119.0) 251844	(6.24, 1.00) (0.00, N/A, 0.1)	891.9 794.1	0.0960 106.8 99.3	16.4092	N/A			
PFHpA	(363.0 / 319.0) 372500 (363.0 / 169.0) 105046	(7.17, 1.00) (0.00, N/A, 0.0)	596.3 714.7	0.2820 98.3 95.9	2.5904	N/A			
PFOA	(413.0 / 369.0) 192961 (413.0 / 169.0) 61069	(7.98, 1.00) (0.00, N/A, 0.1)	431.8 384.5	0.3165 97.8 98.3	1.3306	N/A			
PFNA	(463.0 / 419.0) 16910 (463.0 / 169.0) 3576	(8.72, 1.00) (0.00, N/A, -0.1)	69.9 44.1	0.2115 105.1 108.0	0.1530	N/A			
PFDA	(513.0 / 469.0) 33405 (513.0 / 169.0) 1064	(9.40, 1.00) (0.01, N/A, 0.9)	69.1 15.0	0.0319 35.9 30.9	0.2821	N/A			IR1,
PFUnA	(563.0 / 519.0) 12707 (563.0 / 169.0) 3465	(9.76, 1.00) (0.00, N/A, 0.0)	21.4 29.6	0.2727 253.7 293.5	0.1774	N/A			IR2,
PFDoA	(613.0 / 569.0) 7659 (613.0 / 169.0) 2382	(9.91, 1.00) (-0.01, N/A, -1.5)	16.3 67.7	0.3111 261.2 278.4	0.0471	N/A			IR2,
PFTrDA	(663.0 / 619.0) 11818 (663.0 / 169.0) 3274	(10.02, 1.01) (N/A, -0.01, 0.3)	73.2 25.7	0.2771 148.8 144.0	0.0827	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-02  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 29  
 Acquired: 2022/12/09 - 00:08

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 61887 ( 298.9 / 99.0 ) 37723	( 6.21 , 1.00 ) ( 0.00 , N/A , 0.1 )	199.4 183.8	0.6095 90.0 89.7	0.2540	N/A			
PFPeS	( 349.0 / 80.0 ) 7033 ( 349.0 / 99.0 ) 2303	( 7.26 , 0.90 ) ( N/A , 0.05 , 0.5 )	14.6 22.6	0.3275 89.8 89.8	0.0182	N/A			
PFHxS	( 399.0 / 80.0 ) 36000 ( 399.0 / 99.0 ) 15231	( 8.12 , 1.00 ) ( 0.00 , N/A , 0.0 )	99.3 78040.3	0.4231 122.7 120.3	0.1049	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 870184 ( 499.0 / 99.0 ) 248719	( 9.52 , 1.00 ) ( 0.00 , N/A , -0.1 )	208.6 438.9	0.2858 111.0 117.3	2.8385	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) 23484 ( 599.0 / 99.0 ) 9480	( 9.93 , 1.04 ) ( N/A , 0.00 , 0.3 )	7.8 24.3	0.4037 173.6 177.5	0.0521	N/A			IR2,
PFDoS	( 698.9 / 80.0 ) 25629 ( 698.9 / 99.0 ) 2456	( 10.09 , 1.06 ) ( N/A , -0.03 , 2.2 )	22.5 21.3	0.0958 41.4 43.4	0.0959	N/A			IR1,
4:2FTS	( 327.0 / 307.0 ) 526156 ( 327.0 / 81.0 ) 317743	( 5.90 , 1.00 ) ( 0.00 , N/A , 0.0 )	1041.4 538.3	0.6039 101.1 103.3	5.6670	N/A			
6:2FTS	( 427.0 / 407.0 ) 30635354 ( 427.0 / 81.0 ) 22793216	( 7.62 , 1.00 ) ( 0.00 , N/A , -0.1 )	977.7 1039.0	0.7440 103.5 106.8	435.4802	N/A			E,
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



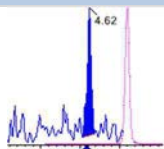
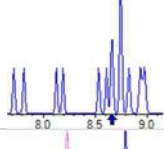

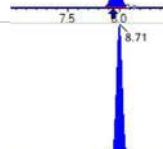
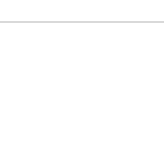
Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

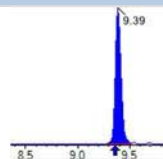
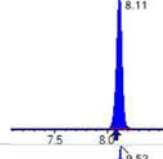
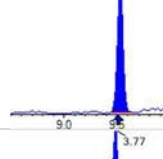
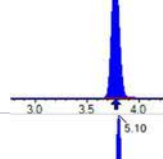
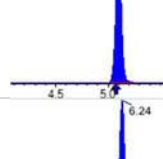
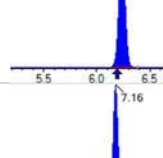
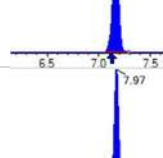
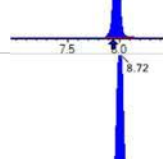
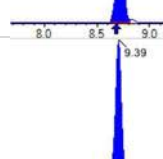
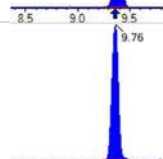
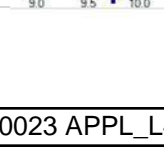
Sample I.D.: 22L0023-02  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

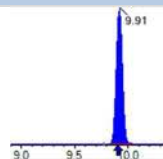
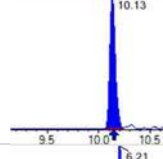
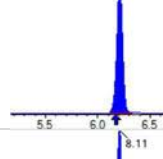
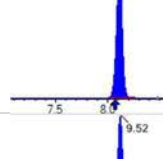
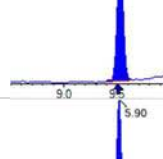
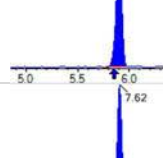
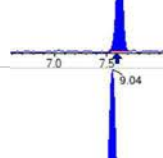
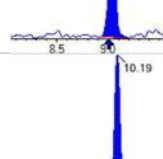
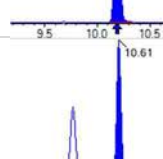
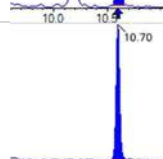
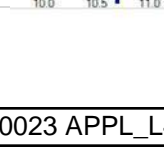
Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 29  
 Acquired: 2022/12/09 - 00:08

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 3337 ( 498.0 / 478.0 ) N/A	( 10.18 , 1.00 ) ( -0.01 , N/A , #Value!)	24.9 N/A	N/A 0.0 0.0	0.0154	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEiFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEiFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEiFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 627 (241.0 / 117.0) 1146	(4.62, 0.90) (N/A, 0.03, -0.1)	38.8 26.2	1.8284 105.0 108.5	0.1271	N/A			
5:3FTCA	(341.0 / 236.7) 88699 (341.0 / 217.0) 139891	(6.87, 1.10) (N/A, 0.04, -0.1)	403.9 312.5	1.5771 92.3 92.0	2.6108	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 85902	(3.77, N/A) (N/A, 0.01, N/A)	663.0	N/A	0.8936 [ 1.0000 ]	89.4% { 102.0% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 153390	(6.24, N/A) (N/A, 0.04, N/A)	694.6	N/A	1.2422 [ 1.0000 ]	124.2% { 132.1% }			
13C4_PFOA_IIS	(417.0 / 372.0) 136694	(7.97, N/A) (N/A, 0.03, N/A)	553.3	N/A	1.1531 [ 1.0000 ]	115.3% { 120.9% }			
13C5_PFNA_IIS	(468.0 / 423.0) 100031	(8.71, N/A) (N/A, 0.03, N/A)	661.2	N/A	1.0503 [ 1.0000 ]	105.0% { 115.9% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 89864	(9.39, N/A) (N/A, 0.03, N/A)	383.1	N/A	1.0908 [ 1.0000 ]	109.1% { 93.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 251128	(8.11, N/A) (N/A, 0.03, N/A)	987.6	N/A	1.1700 [ 1.0000 ]	117.0% { 122.7% }			
13C4_PFOS_IIS	(502.8 / 79.9) 179623	(9.52, N/A) (N/A, 0.02, N/A)	158.2	N/A	0.9651 [ 1.0000 ]	96.5% { 98.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 678835	(3.77, N/A) (N/A, 0.01, N/A)	1002.0	N/A	8.4289 [ 8.0000 ]	105.4% { 114.9% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 417811	(5.10, N/A) (N/A, 0.03, N/A)	1143.1	N/A	3.7341 [ 4.0000 ]	93.4% { 134.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 317311	(6.24, N/A) (N/A, 0.04, N/A)	428.4	N/A	2.0281 [ 2.0000 ]	101.4% { 125.8% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 283915	(7.16, N/A) (N/A, 0.04, N/A)	639.3	N/A	2.0104 [ 2.0000 ]	100.5% { 124.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 281348	(7.97, N/A) (N/A, 0.03, N/A)	586.4	N/A	2.0236 [ 2.0000 ]	101.2% { 118.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 114657	(8.72, N/A) (N/A, 0.03, N/A)	1102.1	N/A	1.1615 [ 1.0000 ]	116.1% { 125.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 116731	(9.39, N/A) (N/A, 0.03, N/A)	494.2	N/A	0.8943 [ 1.0000 ]	89.4% { 97.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 81392	(9.76, N/A) (N/A, 0.02, N/A)	471.2	N/A	0.4645 [ 1.0000 ]	46.5% { 48.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 176808	(9.91, N/A) (N/A, 0.01, N/A)	578.2	N/A	0.8315 [ 1.0000 ]	83.1% { 93.6% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 68295	(10.13, N/A) (N/A, -0.01, N/A)	177.1	N/A	0.4375 [ 1.0000 ]	43.8% { 48.5% }			
13C3_PFBs_EIS	(302.0 / 80.0) 798124	(6.21, N/A) (N/A, 0.04, N/A)	751.0	N/A	2.1625 [ 2.0000 ]	108.1% { 141.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 409237	(8.11, N/A) (N/A, 0.03, N/A)	741.3	N/A	1.9479 [ 2.0000 ]	97.4% { 119.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 546128	(9.52, N/A) (N/A, 0.02, N/A)	182.6	N/A	1.9945 [ 2.0000 ]	99.7% { 96.5% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 106310	(5.90, N/A) (N/A, 0.05, N/A)	437.4	N/A	5.1073 [ 4.0000 ]	127.7% { 164.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 177395	(7.62, N/A) (N/A, 0.03, N/A)	371.2	N/A	6.3523 [ 4.0000 ]	158.8% { 207.0% }			S2,
13C2_8:2FTS_EIS	(529.0 / 81.0) 78571	(9.04, N/A) (N/A, 0.03, N/A)	114.9	N/A	3.2415 [ 4.0000 ]	81.0% { 99.2% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 389818	(10.19, N/A) (N/A, 0.01, N/A)	634.2	N/A	0.9325 [ 2.0000 ]	46.6% { 41.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 36166	(10.61, N/A) (N/A, 0.01, N/A)	123.4	N/A	0.2924 [ 2.0000 ]	14.6% { 15.6% }			S1,
D5_NeIFOSA_EIS	(531.1 / 169.0) 34971	(10.70, N/A) (N/A, 0.00, N/A)	343.6	N/A	0.3118 [ 2.0000 ]	15.6% { 15.7% }			S1,



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-02  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 29  
 Acquired: 2022/12/09 - 00:08

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 418321	( 9.55, N/A ) ( N/A, 0.02, N/A )	705.6	N/A	6.8667 [ 4.0000 ]	171.7% { 174.2% }			S2,
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 166356	( 9.71, N/A ) ( N/A, 0.01, N/A )	244.3	N/A	3.1771 [ 4.0000 ]	79.4% { 73.3% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 151019	( 10.57, N/A ) ( N/A, 0.01, N/A )	275.1	N/A	7.1477 [ 20.0000 ]	35.7% { 34.8% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 78085	( 10.67, N/A ) ( N/A, 0.01, N/A )	343.8	N/A	7.2533 [ 20.0000 ]	36.3% { 35.7% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 827924	( 6.58, N/A ) ( N/A, 0.03, N/A )	844.2	N/A	8.0347 [ 8.0000 ]	100.4% { 124.1% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-IDW-SOFD01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-02RE1
		File ID:	S2022-12-08B (30)
Sampled:	12/02/22 19:20	Prepared:	12/07/22 10:00
		Analyzed:	12/09/22 00:21
Solids:		Preparation:	EPA 1633
		Dilution:	10
Initial/Final:	5.06 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
6:2FTS	140	1.6	0.79	0.60	



Chemist: DAG  
Instrument: Saphira  
Type: Sciex Q3 5500

Sample I.D.: 22L0023-02RE1@10  
DF, IV: 1, 1.0µL  
Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
Path: S2022-12-08B.wiff- 30  
Acquired: 2022/12/09 - 00:21

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 42907	(3.76, 1.00) (0.00, N/A, 0.0)	42.8	N/A 0.0 0.0	0.6924	N/A			
PFPeA	(262.9 / 219.0) 65571 (262.9 / 69.0) 678	(5.06, 1.00) (0.00, N/A, 0.1)	447.6 19.8	0.0103 88.8 88.8	0.8020	N/A			
PFHxA	(313.0 / 269.0) 236661 (313.0 / 119.0) 25404	(6.18, 1.00) (0.01, N/A, 0.1)	530.5 271.9	0.1073 119.4 111.0	1.8453	N/A			
PFHpA	(363.0 / 319.0) 36245 (363.0 / 169.0) 10357	(7.12, 1.00) (0.00, N/A, 0.5)	120.8 103.0	0.2857 99.6 97.2	0.2597	N/A			
PFOA	(413.0 / 369.0) 21101 (413.0 / 169.0) 6759	(7.92, 1.00) (0.00, N/A, -0.1)	70.7 94.7	0.3203 99.0 99.5	0.1455	N/A			
PFNA	(463.0 / 419.0) 2090 (463.0 / 169.0) 1156	(8.65, 1.00) (-0.02, N/A, -2.3)	12.1 70.3	0.5531 274.8 282.5	0.0170	N/A			IR2,
PFDA	(513.0 / 469.0) 7028 (513.0 / 169.0) N/A	(9.36, 1.00) (0.00, N/A, #Value!)	25.5 N/A	N/A 0.0 0.0	0.0321	N/A			IR1,
PFUnA	(563.0 / 519.0) 1572 (563.0 / 169.0) 940	(9.75, 1.00) (0.01, N/A, 1.2)	10.4 22.2	0.5977 556.2 643.3	0.0088	N/A			IR2,
PFDoA	(613.0 / 569.0) 2696 (613.0 / 169.0) N/A	(9.92, 1.00) (0.01, N/A, #Value!)	13.2 N/A	N/A 0.0 0.0	0.0123	N/A			IR1,
PFTrDA	(663.0 / 619.0) 2515 (663.0 / 169.0) 1680	(10.03, 1.01) (N/A, -0.01, -0.3)	32.4 131.2	0.6678 358.6 347.1	0.0130	N/A			IR2,
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 5502 ( 298.9 / 99.0 ) 4256	( 6.16 , 1.00 ) ( 0.01 , N/A , 0.8 )	89.6 56.6	0.7735 114.2 113.8	0.0265	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) 5343 ( 399.0 / 99.0 ) 1567	( 8.07 , 1.00 ) ( 0.01 , N/A , 0.3 )	134.1 66.9	0.2933 85.1 83.4	0.0143	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 86243 ( 499.0 / 99.0 ) 29093	( 9.50 , 1.00 ) ( 0.00 , N/A , -0.2 )	118.1 205.0	0.3373 131.0 138.4	0.2037	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) 5753 ( 599.0 / 99.0 ) 298	( 9.91 , 1.04 ) ( N/A , -0.02 , -1.4 )	8.1 49.9	0.0517 22.2 22.7	0.0092	N/A			IR1,
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) 30471 ( 327.0 / 81.0 ) 20317	( 5.84 , 1.00 ) ( 0.00 , N/A , 0.2 )	473.2 157.9	0.6668 111.6 114.0	0.5026	N/A			
6:2FTS	( 427.0 / 407.0 ) 3262845 ( 427.0 / 81.0 ) 2320468	( 7.57 , 1.00 ) ( 0.00 , N/A , -0.1 )	1167.7 1030.4	0.7112 98.9 102.1	36.2658	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-02RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 30  
 Acquired: 2022/12/09 - 00:21

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 784 ( 498.0 / 478.0 ) N/A	( 10.16 , 1.00 ) ( -0.03 , N/A , #Value!)	61.0 N/A	N/A 0.0 0.0	0.0022	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



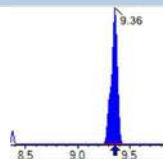
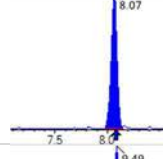
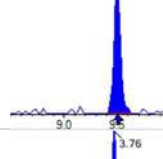
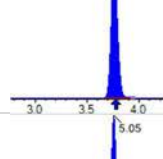
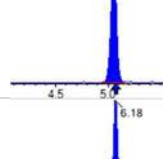
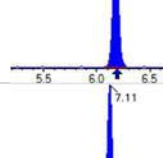
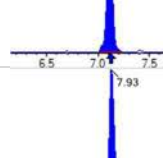
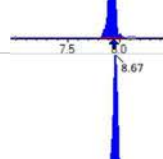
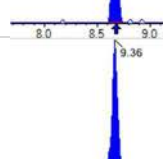
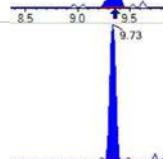
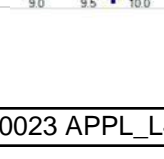


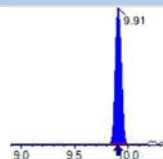
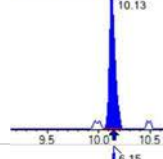
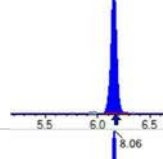
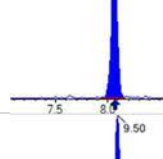
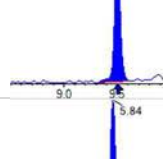
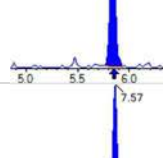
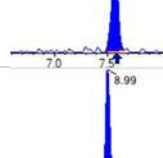
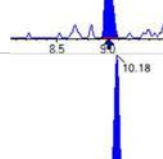
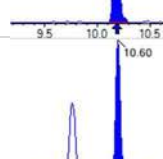
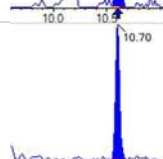
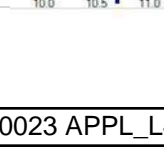
Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-02RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff\_30  
 Acquired: 2022/12/09 - 00:21

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) 4530 (341.0 / 217.0) 11135	(6.82, 1.10) (N/A, -0.02, 0.2)	70.1 64.2	2.4580 143.9 143.4	0.1663	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 8349	(3.76, N/A) (N/A, -0.01, N/A)	207.6	N/A	0.8685 [ 1.0000 ]	86.9% { 9.9% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 11599	(6.18, N/A) (N/A, -0.01, N/A)	191.8	N/A	0.9393 [ 1.0000 ]	93.9% { 10.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 11079	(7.93, N/A) (N/A, -0.01, N/A)	1708.2	N/A	0.9346 [ 1.0000 ]	93.5% { 9.8% }			
13C5_PFNA_IIS	(468.0 / 423.0) 10458	(8.67, N/A) (N/A, -0.02, N/A)	1212.0	N/A	1.0981 [ 1.0000 ]	109.8% { 12.1% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 10814	(9.36, N/A) (N/A, 0.00, N/A)	3567.7	N/A	1.3126 [ 1.0000 ]	131.3% { 11.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 24113	(8.07, N/A) (N/A, -0.01, N/A)	378.9	N/A	1.1235 [ 1.0000 ]	112.3% { 11.8% }			
13C4_PFOS_IIS	(502.8 / 79.9) 30883	(9.49, N/A) (N/A, -0.01, N/A)	96.7	N/A	1.6593 [ 1.0000 ]	165.9% { 16.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 65111	(3.76, N/A) (N/A, 0.00, N/A)	1001.8	N/A	0.8318 [ 0.8000 ]	104.0% { 11.0% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 34022	(5.05, N/A) (N/A, -0.01, N/A)	516.1	N/A	0.4021 [ 0.4000 ]	100.5% { 10.9% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 25448	(6.18, N/A) (N/A, -0.02, N/A)	524.1	N/A	0.2151 [ 0.2000 ]	107.5% { 10.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 27554	(7.11, N/A) (N/A, -0.01, N/A)	475.1	N/A	0.2580 [ 0.2000 ]	129.0% { 12.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 28135	(7.93, N/A) (N/A, -0.02, N/A)	416.3	N/A	0.2497 [ 0.2000 ]	124.8% { 11.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 12766	(8.67, N/A) (N/A, -0.01, N/A)	559.4	N/A	0.1237 [ 0.1000 ]	123.7% { 14.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 21586	(9.36, N/A) (N/A, 0.00, N/A)	120.4	N/A	0.1374 [ 0.1000 ]	137.4% { 18.1% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 20221	(9.73, N/A) (N/A, 0.00, N/A)	130.4	N/A	0.0959 [ 0.1000 ]	95.9% { 12.1% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 23898	(9.91, N/A) (N/A, 0.00, N/A)	221.9	N/A	0.0934 [0.1000]	93.4% {12.7%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 8471	(10.13, N/A) (N/A, -0.01, N/A)	116.8	N/A	0.0451 [0.1000]	45.1% {6.0%}			
13C3_PFBs_EIS	(302.0 / 80.0) 67953	(6.15, N/A) (N/A, -0.02, N/A)	433.5	N/A	0.1918 [0.2000]	95.9% {12.0%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 44669	(8.06, N/A) (N/A, -0.02, N/A)	265.2	N/A	0.2214 [0.2000]	110.7% {13.0%}			
13C8_PFOS_EIS	(507.0 / 80.0) 75408	(9.50, N/A) (N/A, 0.00, N/A)	114.7	N/A	0.1602 [0.2000]	80.1% {13.3%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 6942	(5.84, N/A) (N/A, -0.01, N/A)	140.9	N/A	0.3473 [0.4000]	86.8% {10.8%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 22687	(7.57, N/A) (N/A, -0.01, N/A)	127.7	N/A	0.8461 [0.4000]	211.5% {26.5%}			S2,
13C2_8:2FTS_EIS	(529.0 / 81.0) 12740	(8.99, N/A) (N/A, -0.01, N/A)	73.4	N/A	0.5474 [0.4000]	136.9% {16.1%}			
13C8_PFOsa_EIS	(506.0 / 78.0) 64034	(10.18, N/A) (N/A, 0.01, N/A)	381.1	N/A	0.0891 [0.2000]	44.5% {6.8%}			
D3_NMeFOSA_EIS	(515.0 / 169.0) 6355	(10.60, N/A) (N/A, 0.00, N/A)	62.1	N/A	0.0299 [0.2000]	14.9% {2.7%}			S1,
D5_NeIFOSA_EIS	(531.1 / 169.0) 7073	(10.70, N/A) (N/A, 0.00, N/A)	103.7	N/A	0.0367 [0.2000]	18.3% {3.2%}			S1,



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-02RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 30  
 Acquired: 2022/12/09 - 00:21

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 46592	( 9.53 , N/A ) ( N/A , -0.01 , N/A )	228.5	N/A	0.4448 [ 0.4000 ]	111.2% { 19.4% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 43317	( 9.70 , N/A ) ( N/A , 0.00 , N/A )	206.2	N/A	0.4812 [ 0.4000 ]	120.3% { 19.1% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 25830	( 10.57 , N/A ) ( N/A , 0.00 , N/A )	70.9	N/A	0.7110 [ 2.0000 ]	35.6% { 5.9% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 11482	( 10.67 , N/A ) ( N/A , 0.00 , N/A )	125.4	N/A	0.6204 [ 2.0000 ]	31.0% { 5.2% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 78331	( 6.53 , N/A ) ( N/A , -0.02 , N/A )	567.9	N/A	1.0053 [ 0.8000 ]	125.7% { 11.7% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-IDW-SOFT01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-03
		File ID:	S2022-12-08B (31)
Sampled:	12/02/22 19:30	Prepared:	12/07/22 10:00
		Analyzed:	12/09/22 00:33
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	5.14 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
PFBA	2.7	0.29	0.19	0.15	
PFPEA	3.3	0.078	0.039	0.021	
PFHXA	6.4	0.039	0.019	0.015	
PFHPA	1.2	0.039	0.019	0.015	
PFOA	0.58	0.039	0.029	0.021	
PFNA	0.071	0.039	0.029	0.021	
PFDA	0.11	0.039	0.029	0.021	
PFUnA	0.097	0.039	0.019	0.020	
PFDOA	0.030 J	0.039	0.029	0.022	
PFTRDA	0.042	0.039	0.019	0.016	
PFTEDA	0.029 U	0.039	0.029	0.024	
PFBS	0.10	0.039	0.019	0.016	
PFPEs	0.019 U	0.039	0.019	0.011	
PFHXS	0.053	0.039	0.019	0.015	
PFHPS	0.019 U	0.039	0.019	0.010	
PFOS	1.1	0.039	0.019	0.0095	
PFNS	0.019 U	0.039	0.019	0.014	
PFDS	0.020 J	0.039	0.019	0.013	
PFDOS	0.023 J	0.039	0.019	0.013	
4:2FTS	1.7	0.16	0.078	0.044	
8:2FTS	0.078 U	0.16	0.078	0.050	
PFOSA	0.019 U	0.039	0.019	0.012	
NMeFOSA	0.078 U	0.16	0.078	0.064	
NEtFOSA	0.078 U	0.16	0.078	0.026	
NMeFOSAA	0.019 U	0.039	0.019	0.0098	
NEtFOSAA	0.019 U	0.039	0.019	0.017	
NMeFOSE	0.078 U	0.16	0.078	0.052	
NEtFOSE	0.078 U	0.16	0.078	0.046	
HFPO-DA	0.039 U	0.078	0.039	0.021	
ADONA	0.039 U	0.078	0.039	0.026	

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-IDW-SOFT01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-03
		File ID:	S2022-12-08B (31)
Sampled:	12/02/22 19:30	Prepared:	12/07/22 10:00
		Analyzed:	12/09/22 00:33
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	5.14 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
PFEEESA	0.039 U	0.078	0.039	0.017	
PFMPA	0.039 U	0.078	0.039	0.027	
PFMBA	0.039 U	0.078	0.039	0.031	
NFDHA	0.058 U	0.078	0.058	0.048	
9CL-PF3ONS	0.039 U	0.078	0.039	0.023	
11CL-PF3OUDS	0.039 U	0.078	0.039	0.026	
3:3FTCA	0.078 U	0.16	0.078	0.062	
5:3FTCA	0.84	0.16	0.078	0.063	
7:3FTCA	0.078 U	0.16	0.078	0.048	



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-03  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 31  
 Acquired: 2022/12/09 - 00:33

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 504253	(3.76, 1.00) (0.00, N/A, 0.0)	59.1	N/A 0.0 0.0	6.9541	N/A			
PFPeA	(262.9 / 219.0) 814660 (262.9 / 69.0) 9535	(5.09, 1.00) (0.00, N/A, 0.0)	1032.9 233.3	0.0117 100.5 100.4	8.5437	N/A			
PFHxA	(313.0 / 269.0) 3102706 (313.0 / 119.0) 285521	(6.23, 1.00) (0.00, N/A, 0.1)	1018.3 1033.3	0.0920 102.4 95.2	16.4244	N/A			
PFHpA	(363.0 / 319.0) 429301 (363.0 / 169.0) 120807	(7.17, 1.00) (0.00, N/A, -0.1)	602.3 561.8	0.2814 98.1 95.7	3.0241	N/A			
PFOA	(413.0 / 369.0) 201654 (413.0 / 169.0) 65052	(7.97, 1.00) (0.00, N/A, -0.2)	350.8 556.6	0.3226 99.7 100.2	1.4794	N/A			
PFNA	(463.0 / 419.0) 20651 (463.0 / 169.0) 3345	(8.72, 1.00) (0.00, N/A, 0.3)	87.0 45.2	0.1620 80.5 82.7	0.1837	N/A			
PFDA	(513.0 / 469.0) 36439 (513.0 / 169.0) 2629	(9.39, 1.00) (0.00, N/A, -0.8)	69.0 16.1	0.0721 81.3 70.0	0.2802	N/A			
PFUnA	(563.0 / 519.0) 15921 (563.0 / 169.0) 1843	(9.76, 1.00) (0.00, N/A, 3.0)	39.8 6.6	0.1158 107.7 124.6	0.2488	N/A			
PFDoA	(613.0 / 569.0) 12118 (613.0 / 169.0) 1187	(9.92, 1.00) (0.01, N/A, 2.0)	32.1 11.4	0.0980 82.3 87.7	0.0761	N/A			
PFTrDA	(663.0 / 619.0) 15060 (663.0 / 169.0) 1920	(10.04, 1.01) (N/A, 0.01, -1.2)	44.5 20.7	0.1275 68.5 66.3	0.1076	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: DAG  
Instrument: Saphira  
Type: Sciex Q3 5500

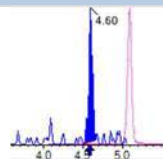
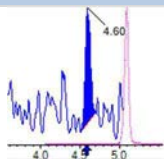
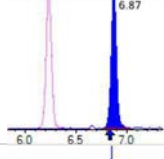
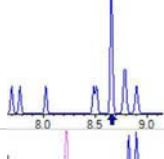
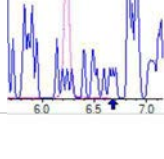
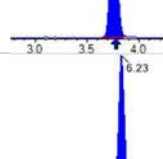
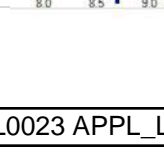
Sample I.D.: 22L0023-03  
DF, IV: 1, 10.0µL  
Acquisition Method: 1633 2022-12-07.dam

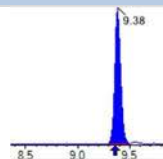
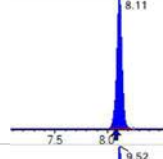
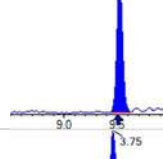
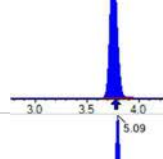
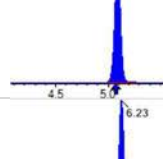
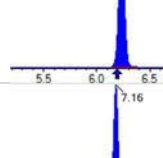
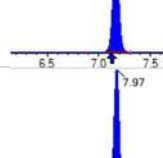
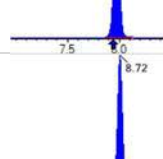
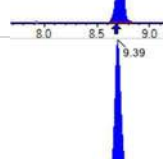
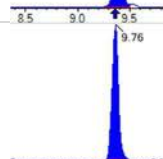
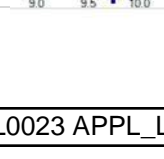
Quant Method: 1633 - 2022-12-07  
Path: S2022-12-08B.wiff- 31  
Acquired: 2022/12/09 - 00:33

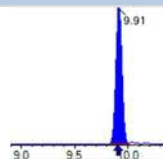
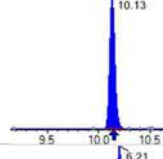
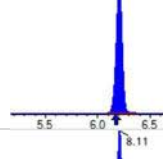
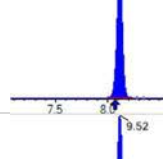
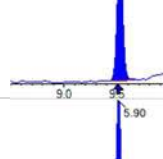
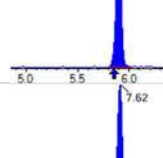
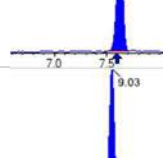
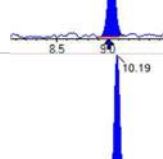
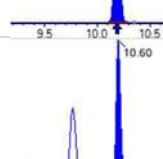
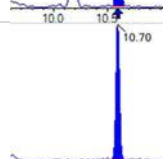
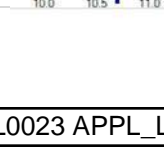
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 62570 ( 298.9 / 99.0 ) 40226	( 6.20 , 1.00 ) ( 0.00 , N/A , -0.3)	223.1 234.9	0.6429 94.9 94.6	0.2638	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) 48321 ( 399.0 / 99.0 ) 11588	( 8.11 , 1.00 ) ( 0.00 , N/A , 0.1)	110.9 261.6	0.2398 69.5 68.2	0.1372	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 907052 ( 499.0 / 99.0 ) 230982	( 9.52 , 1.00 ) ( 0.00 , N/A , 0.0)	183.0 305.9	0.2547 98.9 104.5	2.8600	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) 24559 ( 599.0 / 99.0 ) 8043	( 9.93 , 1.04 ) ( N/A , 0.00 , -0.3)	6.9 30.9	0.3275 140.8 144.0	0.0527	N/A			
PFDoS	( 698.9 / 80.0 ) 16276 ( 698.9 / 99.0 ) 3476	( 10.08 , 1.06 ) ( N/A , -0.04 , -2.1)	13.9 40.0	0.2136 92.2 96.7	0.0588	N/A			
4:2FTS	( 327.0 / 307.0 ) 528017 ( 327.0 / 81.0 ) 311319	( 5.90 , 1.00 ) ( 0.00 , N/A , 0.2)	813.6 453.5	0.5896 98.7 100.8	4.3754	N/A			
6:2FTS	( 427.0 / 407.0 ) 32419220 ( 427.0 / 81.0 ) 24847133	( 7.62 , 1.00 ) ( 0.00 , N/A , 0.0)	1008.5 994.1	0.7664 106.6 110.0	414.4335	N/A			E,
8:2FTS	( 527.0 / 507.0 ) 2604 ( 527.0 / 81.0 ) 1626	( 9.02 , 1.00 ) ( -0.01 , N/A , -3.6)	1349.1 4.5	0.6243 100.1 94.3	0.0813	N/A			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) N/A ( 498.0 / 478.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOFA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOFA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 668 (241.0 / 117.0) 779	(4.60, 0.90) (N/A, 0.01, -0.2)	42.3 15.8	1.1678 67.1 69.3	0.1425	N/A			
5:3FTCA	(341.0 / 236.7) 86900 (341.0 / 217.0) 151612	(6.88, 1.10) (N/A, 0.04, 0.1)	374.9 356.2	1.7447 102.2 101.8	2.1652	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 102449	(3.76, N/A) (N/A, -0.01, N/A)	779.4	N/A	1.0658 [ 1.0000 ]	106.6% { 121.7% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 166045	(6.23, N/A) (N/A, 0.03, N/A)	699.1	N/A	1.3447 [ 1.0000 ]	134.5% { 143.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 141063	(7.98, N/A) (N/A, 0.03, N/A)	702.5	N/A	1.1899 [ 1.0000 ]	119.0% { 124.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 118001	(8.72, N/A) (N/A, 0.03, N/A)	637.2	N/A	1.2390 [ 1.0000 ]	123.9% { 136.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 105310	(9.38, N/A) (N/A, 0.02, N/A)	342.3	N/A	1.2783 [ 1.0000 ]	127.8% { 109.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 276208	(8.11, N/A) (N/A, 0.03, N/A)	809.9	N/A	1.2869 [ 1.0000 ]	128.7% { 134.9% }			
13C4_PFOS_IIS	(502.8 / 79.9) 178511	(9.52, N/A) (N/A, 0.02, N/A)	121.2	N/A	0.9591 [ 1.0000 ]	95.9% { 98.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 761848	(3.75, N/A) (N/A, -0.01, N/A)	993.9	N/A	7.9319 [ 8.0000 ]	99.1% { 128.9% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 396762	(5.09, N/A) (N/A, 0.02, N/A)	1068.3	N/A	3.2757 [ 4.0000 ]	81.9% { 127.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 374851	(6.23, N/A) (N/A, 0.04, N/A)	880.0	N/A	2.2133 [ 2.0000 ]	110.7% { 148.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 280277	(7.16, N/A) (N/A, 0.04, N/A)	810.5	N/A	1.8334 [ 2.0000 ]	91.7% { 122.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 264452	(7.97, N/A) (N/A, 0.03, N/A)	480.6	N/A	1.8431 [ 2.0000 ]	92.2% { 111.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 116611	(8.72, N/A) (N/A, 0.03, N/A)	630.2	N/A	1.0014 [ 1.0000 ]	100.1% { 128.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 128213	(9.39, N/A) (N/A, 0.02, N/A)	264.1	N/A	0.8382 [ 1.0000 ]	83.8% { 107.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 72679	(9.76, N/A) (N/A, 0.02, N/A)	313.8	N/A	0.3540 [ 1.0000 ]	35.4% { 43.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 173110	(9.91, N/A) (N/A, 0.00, N/A)	368.6	N/A	0.6947 [ 1.0000 ]	69.5% { 91.6% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 70987	(10.13, N/A) (N/A, -0.01, N/A)	333.5	N/A	0.3881 [ 1.0000 ]	38.8% { 50.4% }			
13C3_PFBs_EIS	(302.0 / 80.0) 776970	(6.21, N/A) (N/A, 0.04, N/A)	765.6	N/A	1.9140 [ 2.0000 ]	95.7% { 137.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 420032	(8.11, N/A) (N/A, 0.04, N/A)	786.3	N/A	1.8178 [ 2.0000 ]	90.9% { 122.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 564982	(9.52, N/A) (N/A, 0.02, N/A)	165.6	N/A	2.0762 [ 2.0000 ]	103.8% { 99.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 138180	(5.90, N/A) (N/A, 0.04, N/A)	627.7	N/A	6.0356 [ 4.0000 ]	150.9% { 214.2% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 197258	(7.62, N/A) (N/A, 0.03, N/A)	430.1	N/A	6.4222 [ 4.0000 ]	160.6% { 230.1% }			S2,
13C2_8:2FTS_EIS	(529.0 / 81.0) 81609	(9.03, N/A) (N/A, 0.03, N/A)	115.0	N/A	3.0611 [ 4.0000 ]	76.5% { 103.1% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 354540	(10.19, N/A) (N/A, 0.01, N/A)	583.4	N/A	0.8534 [ 2.0000 ]	42.7% { 37.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 35306	(10.60, N/A) (N/A, 0.00, N/A)	106.4	N/A	0.2872 [ 2.0000 ]	14.4% { 15.3% }			S1,
D5_NeIFOSA_EIS	(531.1 / 169.0) 32933	(10.70, N/A) (N/A, 0.00, N/A)	269.8	N/A	0.2955 [ 2.0000 ]	14.8% { 14.8% }			S1,



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-03  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 31  
 Acquired: 2022/12/09 - 00:33

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 454248	( 9.55, N/A ) ( N/A, 0.01, N/A )	262.3	N/A	7.5029 [ 4.0000 ]	187.6% { 189.2% }			S2,
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 182077	( 9.70, N/A ) ( N/A, 0.00, N/A )	276.0	N/A	3.4990 [ 4.0000 ]	87.5% { 80.2% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 147273	( 10.57, N/A ) ( N/A, 0.00, N/A )	271.9	N/A	7.0138 [ 20.0000 ]	35.1% { 33.9% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 81129	( 10.67, N/A ) ( N/A, 0.00, N/A )	320.8	N/A	7.5830 [ 20.0000 ]	37.9% { 37.1% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 826079	( 6.58, N/A ) ( N/A, 0.04, N/A )	834.0	N/A	7.4058 [ 8.0000 ]	92.6% { 123.8% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-IDW-SOFT01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-03RE1
		File ID:	S2022-12-08B (32)
Sampled:	12/02/22 19:30	Prepared:	12/07/22 10:00
		Analyzed:	12/09/22 00:46
Solids:		Preparation:	EPA 1633
		Dilution:	10
Initial/Final:	5.14 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
6:2FTS	170	1.6	0.78	0.59	



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-03RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 32  
 Acquired: 2022/12/09 - 00:46

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 49653	(3.78, 1.00) (0.00, N/A, 0.0)	48.8	N/A 0.0 0.0	0.8179	N/A			
PFPeA	(262.9 / 219.0) 76984 (262.9 / 69.0) 931	(5.09, 1.00) (0.00, N/A, 0.0)	389.6 31.4	0.0121 103.9 103.8	0.8472	N/A			
PFHxA	(313.0 / 269.0) 234442 (313.0 / 119.0) 24277	(6.22, 1.00) (0.00, N/A, -0.1)	479.2 395.4	0.1036 115.2 107.1	1.8070	N/A			
PFHpA	(363.0 / 319.0) 39939 (363.0 / 169.0) 9965	(7.14, 1.00) (0.00, N/A, 0.1)	136.9 146.3	0.2495 87.0 84.9	0.3228	N/A			
PFOA	(413.0 / 369.0) 21217 (413.0 / 169.0) 9121	(7.96, 1.00) (0.00, N/A, 0.5)	80.3 180.0	0.4299 132.9 133.5	0.1492	N/A			
PFNA	(463.0 / 419.0) 1402 (463.0 / 169.0) 867	(8.70, 1.00) (0.01, N/A, 2.4)	10.4 54.0	0.6180 307.0 315.6	0.0096	N/A			IR2,
PFDA	(513.0 / 469.0) 5619 (513.0 / 169.0) 267	(9.37, 1.00) (-0.01, N/A, 0.0)	21.6 42.3	0.0475 53.5 46.1	0.0351	N/A			IR1,
PFUnA	(563.0 / 519.0) 4683 (563.0 / 169.0) 1561	(9.76, 1.00) (0.03, N/A, 4.7)	23.3 47.7	0.3334 310.3 358.8	0.0198	N/A			IR2,
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTTrDA	(663.0 / 619.0) 3627 (663.0 / 169.0) N/A	(10.03, 1.01) (N/A, -0.01, #Value!)	20.6 N/A	N/A 0.0 0.0	0.0173	N/A			IR1,
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: DAG  
Instrument: Saphira  
Type: Sciex Q3 5500

Sample I.D.: 22L0023-03RE1@10  
DF, IV: 1, 1.0µL  
Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
Path: S2022-12-08B.wiff- 32  
Acquired: 2022/12/09 - 00:46

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 6506 ( 298.9 / 99.0 ) 3760	( 6.18 , 1.00 ) ( -0.01 , N/A , -0.1)	106.4 37.1	0.5780 85.3 85.1	0.0253	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) 5144 ( 399.0 / 99.0 ) 1865	( 8.09 , 1.00 ) ( -0.01 , N/A , -0.6)	61.8 86.2	0.3626 105.2 103.2	0.0130	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 109500 ( 499.0 / 99.0 ) 33543	( 9.51 , 1.00 ) ( 0.00 , N/A , 0.0)	125.8 140.3	0.3063 119.0 125.7	0.2610	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) 33549 ( 327.0 / 81.0 ) 19706	( 5.88 , 1.00 ) ( 0.00 , N/A , 0.2)	441.4 204.5	0.5874 98.3 100.4	0.5014	N/A			
6:2FTS	( 427.0 / 407.0 ) 3384026 ( 427.0 / 81.0 ) 2536672	( 7.61 , 1.00 ) ( 0.01 , N/A , 0.1)	1116.8 1189.8	0.7496 104.2 107.6	44.4599	N/A			
8:2FTS	( 527.0 / 507.0 ) 262 ( 527.0 / 81.0 ) 811	( 9.04 , 1.00 ) ( 0.02 , N/A , -1.5)	3114.7 5.2	3.0939 496.3 467.2	0.0047	N/A			IR2,



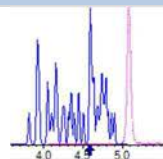
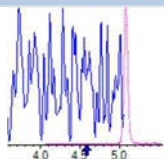
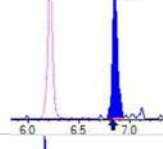
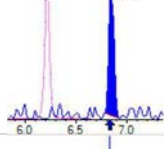
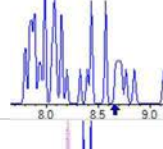
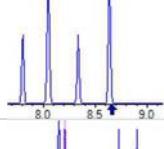
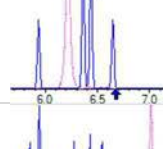
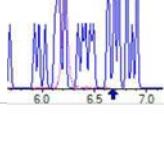
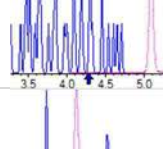
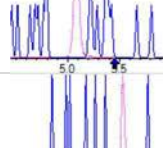
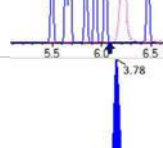
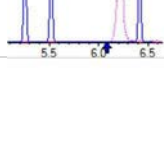
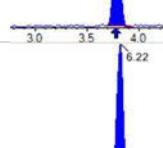
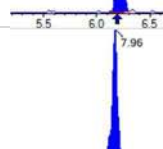
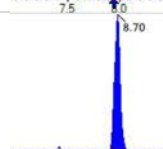
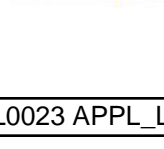


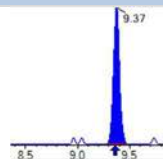
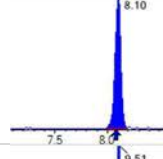
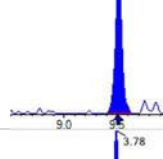
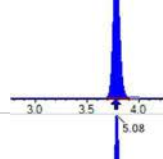
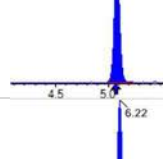
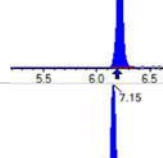
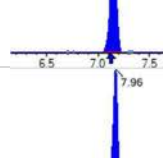
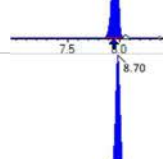
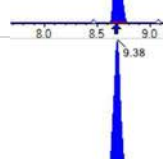
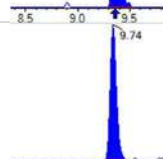
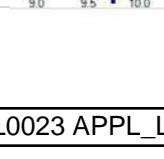
Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

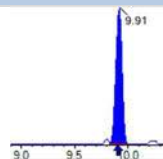
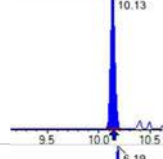
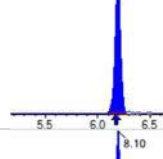
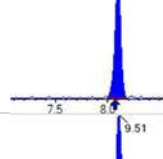
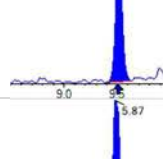
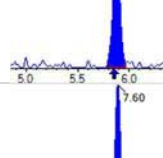
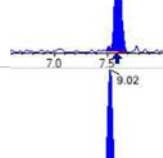
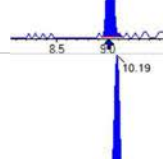
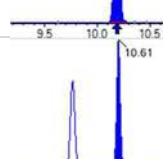
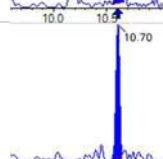
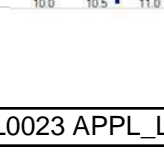
Sample I.D.: 22L0023-03RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-07.dam

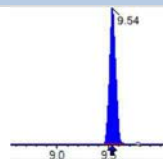
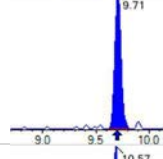
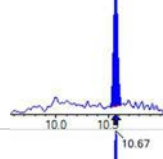
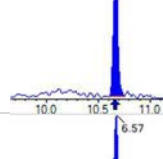
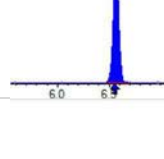
Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wif- 32  
 Acquired: 2022/12/09 - 00:46

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) N/A ( 498.0 / 478.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEiFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEiFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEiFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-PF3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) 7381 (341.0 / 217.0) 10355	(6.85, 1.10) (N/A, 0.02, 0.3)	126.5 40.4	1.4029 82.1 81.8	0.2678	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 9033	(3.78, N/A) (N/A, 0.02, N/A)	292.7	N/A	0.9397 [ 1.0000 ]	94.0% { 10.7% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 14084	(6.22, N/A) (N/A, 0.02, N/A)	285.0	N/A	1.1406 [ 1.0000 ]	114.1% { 12.1% }			
13C4_PFOA_IIS	(417.0 / 372.0) 13946	(7.96, N/A) (N/A, 0.01, N/A)	333.5	N/A	1.1764 [ 1.0000 ]	117.6% { 12.3% }			
13C5_PFNA_IIS	(468.0 / 423.0) 10464	(8.70, N/A) (N/A, 0.01, N/A)	44538.2	N/A	1.0987 [ 1.0000 ]	109.9% { 12.1% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 10981	(9.37, N/A) (N/A, 0.01, N/A)	152.9	N/A	1.3329 [ 1.0000 ]	133.3% { 11.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 22721	(8.10, N/A) (N/A, 0.02, N/A)	341.3	N/A	1.0586 [ 1.0000 ]	105.9% { 11.1% }			
13C4_PFOS_IIS	(502.8 / 79.9) 28795	(9.51, N/A) (N/A, 0.01, N/A)	91.7	N/A	1.5471 [ 1.0000 ]	154.7% { 15.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 63782	(3.78, N/A) (N/A, 0.02, N/A)	876.3	N/A	0.7532 [ 0.8000 ]	94.1% { 10.8% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 37809	(5.08, N/A) (N/A, 0.01, N/A)	673.3	N/A	0.3680 [ 0.4000 ]	92.0% { 12.1% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 25745	(6.22, N/A) (N/A, 0.02, N/A)	261.5	N/A	0.1792 [ 0.2000 ]	89.6% { 10.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 24428	(7.15, N/A) (N/A, 0.02, N/A)	609.0	N/A	0.1884 [ 0.2000 ]	94.2% { 10.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 27596	(7.96, N/A) (N/A, 0.02, N/A)	659.3	N/A	0.1945 [ 0.2000 ]	97.3% { 11.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 15126	(8.70, N/A) (N/A, 0.01, N/A)	1114.7	N/A	0.1465 [ 0.1000 ]	146.5% { 16.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 15780	(9.38, N/A) (N/A, 0.02, N/A)	1187.4	N/A	0.0989 [ 0.1000 ]	98.9% { 13.2% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 26844	(9.74, N/A) (N/A, 0.00, N/A)	259.3	N/A	0.1254 [ 0.1000 ]	125.4% { 16.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 25991	(9.91, N/A) (N/A, 0.00, N/A)	260.1	N/A	0.1000 [0.1000]	100.0% {13.8%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 15164	(10.13, N/A) (N/A, -0.01, N/A)	182.8	N/A	0.0795 [0.1000]	79.5% {10.8%}			
13C3_PFBs_EIS	(302.0 / 80.0) 84359	(6.19, N/A) (N/A, 0.02, N/A)	455.3	N/A	0.2526 [0.2000]	126.3% {14.9%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 47209	(8.10, N/A) (N/A, 0.02, N/A)	304.8	N/A	0.2484 [0.2000]	124.2% {13.8%}			
13C8_PFOS_EIS	(507.0 / 80.0) 74752	(9.51, N/A) (N/A, 0.01, N/A)	88.0	N/A	0.1703 [0.2000]	85.1% {13.2%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 7661	(5.87, N/A) (N/A, 0.02, N/A)	73.6	N/A	0.4068 [0.4000]	101.7% {11.9%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 19193	(7.60, N/A) (N/A, 0.01, N/A)	150.4	N/A	0.7596 [0.4000]	189.9% {22.4%}			S2,
13C2_8:2FTS_EIS	(529.0 / 81.0) 14095	(9.02, N/A) (N/A, 0.01, N/A)	95.8	N/A	0.6427 [0.4000]	160.7% {17.8%}			S2,
13C8_PFOsa_EIS	(506.0 / 78.0) 79200	(10.19, N/A) (N/A, 0.01, N/A)	405.8	N/A	0.1182 [0.2000]	59.1% {8.4%}			
D3_NMeFOSA_EIS	(515.0 / 169.0) 4733	(10.61, N/A) (N/A, 0.00, N/A)	49.9	N/A	0.0239 [0.2000]	11.9% {2.0%}			S1,
D5_NEiFOSA_EIS	(531.1 / 169.0) 5645	(10.70, N/A) (N/A, 0.00, N/A)	61.5	N/A	0.0314 [0.2000]	15.7% {2.5%}			S1,

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 43908	( 9.54 , N/A ) ( N/A , 0.00 , N/A )	1328.8	N/A	0.4496 [ 0.4000 ]	112.4% { 18.3% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 36860	( 9.71 , N/A ) ( N/A , 0.00 , N/A )	130.9	N/A	0.4391 [ 0.4000 ]	109.8% { 16.2% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 23590	( 10.57 , N/A ) ( N/A , 0.00 , N/A )	74.0	N/A	0.6965 [ 2.0000 ]	34.8% { 5.4% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 12257	( 10.67 , N/A ) ( N/A , 0.00 , N/A )	99.6	N/A	0.7102 [ 2.0000 ]	35.5% { 5.6% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 83847	( 6.57 , N/A ) ( N/A , 0.02 , N/A )	656.6	N/A	0.8862 [ 0.8000 ]	110.8% { 12.6% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU02-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-04
		File ID:	S2022-12-08B (33)
Sampled:	12/02/22 13:00	Prepared:	12/07/22 10:00
		Analyzed:	12/09/22 00:59
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	5.11 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
PFBA	4.2	0.29	0.20	0.15	
PFPEA	1.6	0.078	0.039	0.021	
PFHXA	12	0.039	0.020	0.015	
PFHPA	0.33	0.039	0.020	0.015	
PFOA	0.92	0.039	0.029	0.021	
PFNA	0.029 U	0.039	0.029	0.021	IR2,
PFDA	0.099	0.039	0.029	0.021	IR2
PFUnA	0.020 U	0.039	0.020	0.020	IR1,
PFDOA	0.029 U	0.039	0.029	0.023	IR2,
PFTRDA	0.020 U	0.039	0.020	0.016	
PFTEDA	0.029 U	0.039	0.029	0.025	IR2,
PFBS	0.020 U	0.039	0.020	0.016	
PFPEs	0.020 U	0.039	0.020	0.012	
PFHXS	0.042	0.039	0.020	0.015	
PFHPS	0.020 U	0.039	0.020	0.011	
PFOS	0.53	0.039	0.020	0.0095	
PFNS	0.020 U	0.039	0.020	0.014	
PFDS	0.029 J	0.039	0.020	0.013	IR1,
PFDOS	0.017 J	0.039	0.020	0.013	IR1,
4:2FTS	0.71	0.16	0.078	0.044	
8:2FTS	0.078 U	0.16	0.078	0.050	
PFOSA	0.020 U	0.039	0.020	0.012	
NMeFOSA	0.078 U	0.16	0.078	0.065	
NEtFOSA	0.078 U	0.16	0.078	0.026	
NMeFOSAA	0.020 U	0.039	0.020	0.0098	
NEtFOSAA	0.020 U	0.039	0.020	0.017	
NMeFOSE	0.45	0.16	0.078	0.053	
NEtFOSE	0.078 U	0.16	0.078	0.046	
HFPO-DA	0.039 U	0.078	0.039	0.021	
ADONA	0.039 U	0.078	0.039	0.026	

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU02-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-04
		File ID:	S2022-12-08B (33)
Sampled:	12/02/22 13:00	Prepared:	12/07/22 10:00
		Analyzed:	12/09/22 00:59
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	5.11 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
PFEEESA	0.039 U	0.078	0.039	0.017	
PFMPA	0.039 U	0.078	0.039	0.027	
PFMBA	0.039 U	0.078	0.039	0.032	
NFDHA	0.059 U	0.078	0.059	0.048	
9CL-PF3ONS	0.039 U	0.078	0.039	0.024	
11CL-PF3OUDS	0.039 U	0.078	0.039	0.026	
3:3FTCA	0.078 U	0.16	0.078	0.062	
5:3FTCA	0.33	0.16	0.078	0.064	
7:3FTCA	0.078 U	0.16	0.078	0.049	



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-04  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 33  
 Acquired: 2022/12/09 - 00:59

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 738341	(3.74, 1.00) (0.00, N/A, 0.0)	51.3	N/A 0.0 0.0	10.6268	N/A			
PFPeA	(262.9 / 219.0) 384264 (262.9 / 69.0) 4245	(5.05, 1.00) (0.00, N/A, 0.0)	848.9 99.8	0.0110 94.9 94.8	4.0441	N/A			
PFHxA	(313.0 / 269.0) 4663960 (313.0 / 119.0) 459881	(6.19, 1.00) (0.00, N/A, 0.0)	905.4 1220.7	0.0986 109.7 102.0	29.9649	N/A			
PFHpA	(363.0 / 319.0) 128755 (363.0 / 169.0) 34531	(7.11, 1.00) (0.00, N/A, -0.2)	364.3 316.5	0.2682 93.5 91.2	0.8337	N/A			
PFOA	(413.0 / 369.0) 280911 (413.0 / 169.0) 97605	(7.93, 1.00) (0.00, N/A, 0.0)	472.3 511.1	0.3475 107.4 107.9	2.3445	N/A			
PFNA	(463.0 / 419.0) 1180 (463.0 / 169.0) 435	(8.65, 1.00) (-0.02, N/A, -2.3)	16.9 11.9	0.3689 183.2 188.4	0.0140	N/A			IR2,
PFDA	(513.0 / 469.0) 18616 (513.0 / 169.0) 2976	(9.35, 1.00) (0.01, N/A, -0.5)	73.9 19.8	0.1599 180.1 155.1	0.2533	N/A			IR2,
PFUnA	(563.0 / 519.0) 1386 (563.0 / 169.0) N/A	(9.76, 1.00) (0.02, N/A, #Value!)	8.7 N/A	N/A 0.0 0.0	0.0308	N/A			IR1,
PFDoA	(613.0 / 569.0) 5066 (613.0 / 169.0) 1196	(9.91, 1.00) (0.01, N/A, -0.2)	31.4 14.5	0.2360 198.2 211.2	0.0282	N/A			IR2,
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) 1007 (713.0 / 169.0) 754	(10.13, 1.00) (0.00, N/A, -5.1)	10.1 24.2	0.7491 380.5 350.9	0.0232	N/A			IR2,





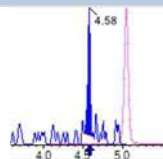
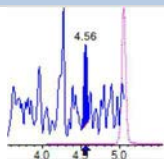
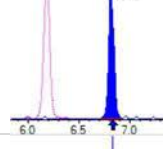
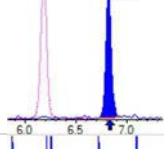
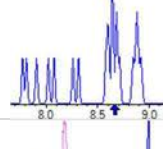
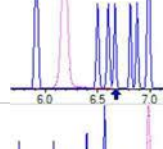
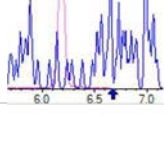
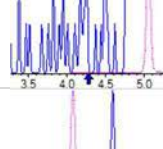
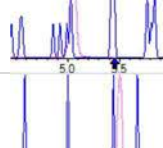
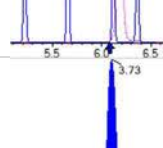
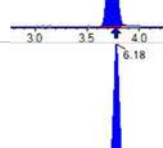
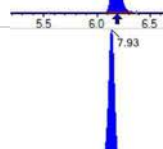
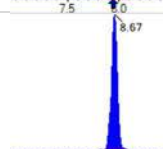
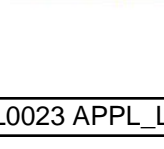
Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

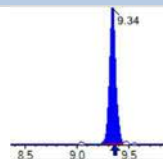
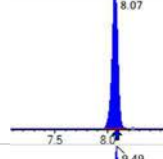
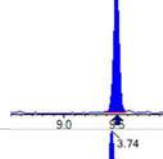
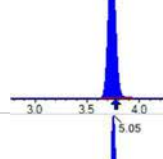
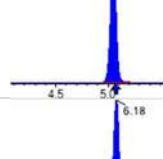
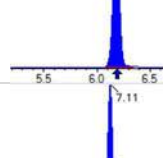
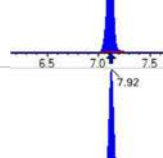
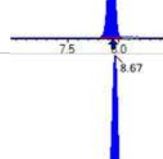
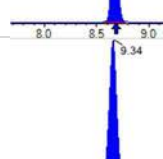
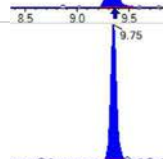
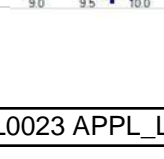
Sample I.D.: 22L0023-04  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

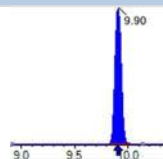
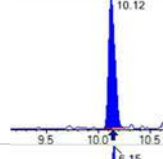
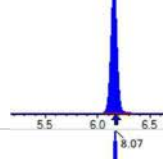
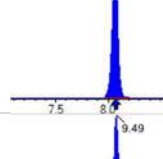
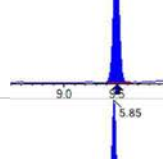
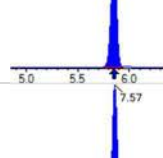
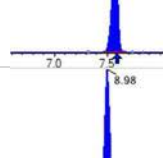
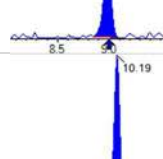
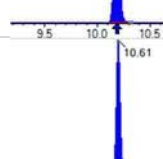
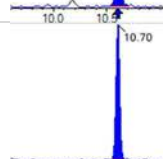
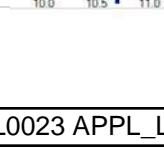
Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 33  
 Acquired: 2022/12/09 - 00:59

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 3153 ( 298.9 / 99.0 ) 1473	( 6.15 , 1.00 ) ( 0.00 , N/A , -0.1)	20.3 21.2	0.4670 68.9 68.7	0.0137	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) 34684 ( 399.0 / 99.0 ) 11397	( 8.07 , 1.00 ) ( 0.00 , N/A , 0.2)	112.5 56675.6	0.3286 95.3 93.5	0.1064	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 406232 ( 499.0 / 99.0 ) 95120	( 9.49 , 1.00 ) ( 0.00 , N/A , 0.1)	937.1 433.3	0.2342 90.9 96.1	1.3630	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) 31988 ( 599.0 / 99.0 ) 3296	( 9.91 , 1.04 ) ( N/A , -0.03 , 0.9)	15.2 17.2	0.1030 44.3 45.3	0.0730	N/A			IR1,
PFDoS	( 698.9 / 80.0 ) 11393 ( 698.9 / 99.0 ) 268	( 10.09 , 1.06 ) ( N/A , -0.04 , -2.1)	14.7 13.5	0.0235 10.1 10.6	0.0438	N/A			IR1,
4:2FTS	( 327.0 / 307.0 ) 188307 ( 327.0 / 81.0 ) 106155	( 5.85 , 1.00 ) ( 0.00 , N/A , 0.0)	750.7 346.7	0.5637 94.4 96.4	1.8113	N/A			
6:2FTS	( 427.0 / 407.0 ) 23245811 ( 427.0 / 81.0 ) 16864776	( 7.57 , 1.00 ) ( 0.00 , N/A , 0.0)	1013.4 794.7	0.7255 100.9 104.2	334.2049	N/A			E,
8:2FTS	( 527.0 / 507.0 ) 1519 ( 527.0 / 81.0 ) 1338	( 8.95 , 1.00 ) ( -0.03 , N/A , -5.3)	4344.6 9.0	0.8813 141.4 133.1	0.0850	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 4893 ( 498.0 / 478.0 ) 254	( 10.18 , 1.00 ) ( -0.01 , N/A , -2.9)	47.7 37.5	0.0519 217.4 296.9	0.0247	N/A			
NMeFOFA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEFOFA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) 17519	( 10.60 , 1.00 ) ( 0.03 , N/A , 0.0)	24.9	N/A 0.0 0.0	1.1547	N/A			
NEFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 227 (241.0 / 117.0) 254	(4.58, 0.91) (N/A, -0.01, 1.1)	24.5 7.8	1.1205 64.4 66.5	0.0486	N/A			
5:3FTCA	(341.0 / 236.7) 27647 (341.0 / 217.0) 45524	(6.82, 1.10) (N/A, -0.02, -0.2)	248.8 203.9	1.6466 96.4 96.0	0.8361	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 92673	(3.73, N/A) (N/A, -0.03, N/A)	664.1	N/A	0.9641 [ 1.0000 ]	96.4% { 110.1% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 139985	(6.18, N/A) (N/A, -0.01, N/A)	683.3	N/A	1.1336 [ 1.0000 ]	113.4% { 120.5% }			
13C4_PFOA_IIS	(417.0 / 372.0) 133960	(7.93, N/A) (N/A, -0.02, N/A)	619.0	N/A	1.1300 [ 1.0000 ]	113.0% { 118.5% }			
13C5_PFNA_IIS	(468.0 / 423.0) 94182	(8.67, N/A) (N/A, -0.02, N/A)	622.6	N/A	0.9889 [ 1.0000 ]	98.9% { 109.1% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 58303	(9.34, N/A) (N/A, -0.02, N/A)	200.1	N/A	0.7077 [ 1.0000 ]	70.8% { 60.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 231789	(8.07, N/A) (N/A, -0.01, N/A)	957.4	N/A	1.0799 [ 1.0000 ]	108.0% { 113.2% }			
13C4_PFOS_IIS	(502.8 / 79.9) 152645	(9.49, N/A) (N/A, -0.01, N/A)	292.6	N/A	0.8201 [ 1.0000 ]	82.0% { 83.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 729993	(3.74, N/A) (N/A, -0.03, N/A)	1153.9	N/A	8.4019 [ 8.0000 ]	105.0% { 123.5% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 395378	(5.05, N/A) (N/A, -0.02, N/A)	958.4	N/A	3.8719 [ 4.0000 ]	96.8% { 127.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 308851	(6.18, N/A) (N/A, -0.01, N/A)	459.9	N/A	2.1631 [ 2.0000 ]	108.2% { 122.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 304910	(7.11, N/A) (N/A, -0.01, N/A)	611.2	N/A	2.3658 [ 2.0000 ]	118.3% { 133.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 232458	(7.92, N/A) (N/A, -0.02, N/A)	381.2	N/A	1.7061 [ 2.0000 ]	85.3% { 97.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 87174	(8.67, N/A) (N/A, -0.01, N/A)	1109.4	N/A	0.9379 [ 1.0000 ]	93.8% { 95.7% }			
13C6_PFDA_EIS	(519.0 / 474.0) 72458	(9.34, N/A) (N/A, -0.02, N/A)	226.0	N/A	0.8556 [ 1.0000 ]	85.6% { 60.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 51170	(9.75, N/A) (N/A, 0.01, N/A)	197.0	N/A	0.4501 [ 1.0000 ]	45.0% { 30.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 195136	(9.90, N/A) (N/A, 0.00, N/A)	476.4	N/A	1.4144 [ 1.0000 ]	141.4% { 103.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 44011	(10.12, N/A) (N/A, -0.02, N/A)	152.3	N/A	0.4346 [ 1.0000 ]	43.5% { 31.2% }			
13C3_PFBs_EIS	(302.0 / 80.0) 755035	(6.15, N/A) (N/A, -0.02, N/A)	835.8	N/A	2.2164 [ 2.0000 ]	110.8% { 133.8% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 388707	(8.07, N/A) (N/A, -0.01, N/A)	828.7	N/A	2.0046 [ 2.0000 ]	100.2% { 113.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 530935	(9.49, N/A) (N/A, -0.01, N/A)	335.7	N/A	2.2817 [ 2.0000 ]	114.1% { 93.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 119041	(5.85, N/A) (N/A, 0.00, N/A)	583.3	N/A	6.1960 [ 4.0000 ]	154.9% { 184.5% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 175396	(7.57, N/A) (N/A, -0.02, N/A)	586.5	N/A	6.8047 [ 4.0000 ]	170.1% { 204.6% }			S2,
13C2_8:2FTS_EIS	(529.0 / 81.0) 45526	(8.98, N/A) (N/A, -0.02, N/A)	115.3	N/A	2.0349 [ 4.0000 ]	50.9% { 57.5% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 356859	(10.19, N/A) (N/A, 0.01, N/A)	708.8	N/A	1.0046 [ 2.0000 ]	50.2% { 37.7% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 42893	(10.61, N/A) (N/A, 0.00, N/A)	193.2	N/A	0.4080 [ 2.0000 ]	20.4% { 18.5% }			
D5_NEiFOsa_EIS	(531.1 / 169.0) 43992	(10.70, N/A) (N/A, 0.01, N/A)	446.6	N/A	0.4615 [ 2.0000 ]	23.1% { 19.8% }			



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-04  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 33  
 Acquired: 2022/12/09 - 00:59

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 384272	( 9.52, N/A ) ( N/A, -0.01, N/A )	552.6	N/A	7.4226 [ 4.0000 ]	185.6% { 160.1% }			S2,
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 119990	( 9.69, N/A ) ( N/A, -0.02, N/A )	263.0	N/A	2.6966 [ 4.0000 ]	67.4% { 52.9% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 215839	( 10.57, N/A ) ( N/A, 0.00, N/A )	341.3	N/A	12.0211 [ 20.0000 ]	60.1% { 49.7% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 114548	( 10.67, N/A ) ( N/A, 0.00, N/A )	627.9	N/A	12.5208 [ 20.0000 ]	62.6% { 52.3% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 773900	( 6.53, N/A ) ( N/A, -0.01, N/A )	783.2	N/A	8.2296 [ 8.0000 ]	102.9% { 116.0% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU02-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-04RE1
		File ID:	S2022-12-08B (34)
Sampled:	12/02/22 13:00	Prepared:	12/07/22 10:00
		Analyzed:	12/09/22 01:12
Solids:		Preparation:	EPA 1633
		Dilution:	10
Initial/Final:	5.11 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
6:2FTS	130	1.6	0.78	0.60	



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-04RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff\_34  
 Acquired: 2022/12/09 - 01:12

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 58018	(3.78, 1.00) (0.00, N/A, 0.0)	48.0	N/A 0.0 0.0	0.9286	N/A			
PFPeA	(262.9 / 219.0) 32484 (262.9 / 69.0) 387	(5.09, 1.00) (0.00, N/A, 0.4)	264.6 17.6	0.0119 102.2 102.2	0.3619	N/A			
PFHxA	(313.0 / 269.0) 483858 (313.0 / 119.0) 39004	(6.22, 1.00) (0.00, N/A, -0.1)	870.4 359.0	0.0806 89.7 83.4	2.9691	N/A			
PFHpA	(363.0 / 319.0) 13281 (363.0 / 169.0) 2998	(7.15, 1.00) (-0.01, N/A, -0.4)	64.3 64.7	0.2257 78.7 76.8	0.0853	N/A			
PFOA	(413.0 / 369.0) 29499 (413.0 / 169.0) 9117	(7.97, 1.00) (0.00, N/A, 0.0)	117.4 169.2	0.3091 95.5 96.0	0.1996	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) 3196 (513.0 / 169.0) 804	(9.39, 1.00) (0.00, N/A, -1.0)	17.3 34.2	0.2515 283.3 244.0	0.0186	N/A			IR2,
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) 871 (613.0 / 169.0) N/A	(9.96, 1.00) (0.05, N/A, #Value!)	25.1 N/A	N/A 0.0 0.0	0.0031	N/A			IR1,
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			





Chemist: DAG  
Instrument: Saphira  
Type: Sciex Q3 5500

Sample I.D.: 22L0023-04RE1@10  
DF, IV: 1, 1.0µL  
Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
Path: S2022-12-08B.wiff- 34  
Acquired: 2022/12/09 - 01:12

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) N/A ( 298.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) 2919 ( 399.0 / 99.0 ) 1057	( 8.11 , 1.00 ) ( 0.00 , N/A , -1.0 )	1358.1 167.0	0.3622 105.0 103.0	0.0088	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 58730 ( 499.0 / 99.0 ) 10709	( 9.52 , 1.00 ) ( -0.01 , N/A , -0.5 )	349.0 2092.6	0.1823 70.8 74.8	0.1497	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) 10661 ( 327.0 / 81.0 ) 8133	( 5.88 , 1.00 ) ( 0.01 , N/A , 0.2 )	212.3 89.0	0.7628 127.7 130.4	0.1623	N/A			
6:2FTS	( 427.0 / 407.0 ) 2277490 ( 427.0 / 81.0 ) 1647767	( 7.62 , 1.00 ) ( -0.01 , N/A , -0.1 )	1006.5 873.9	0.7235 100.6 103.9	33.8906	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

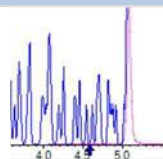
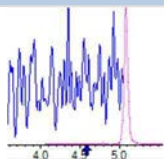
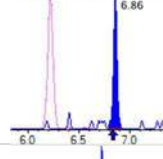
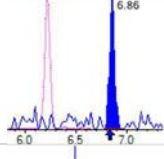
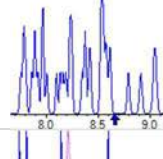
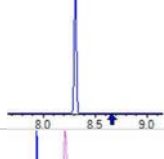
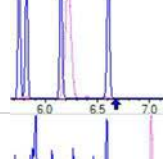
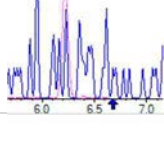
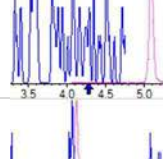
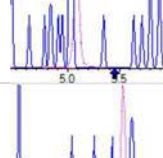
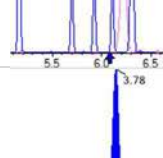
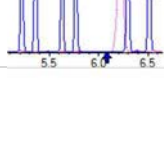
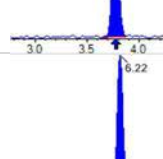
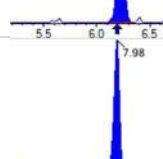
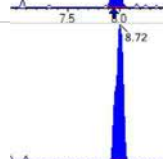
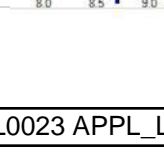


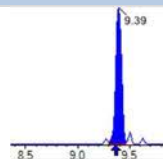
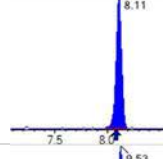
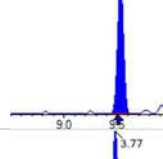
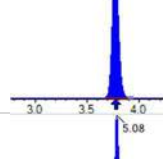
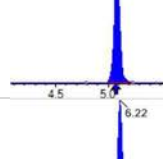
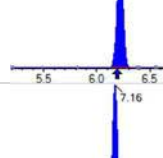
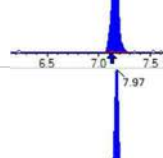
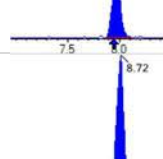
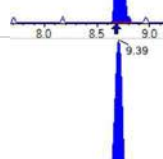
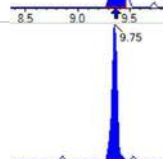
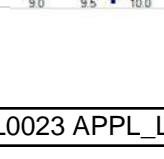
Chemist: DAG  
Instrument: Saphira  
Type: Sciex Q3 5500

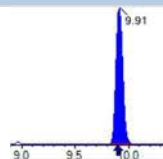
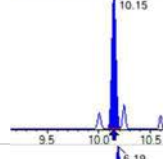
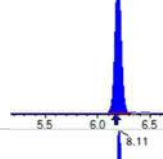
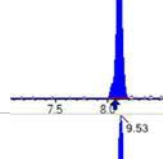
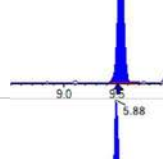
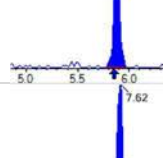
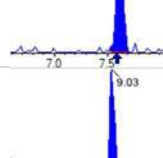
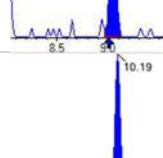
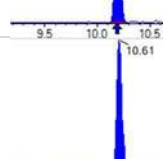
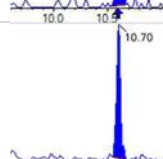
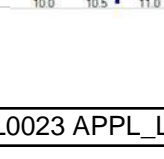
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DF, IV: 1, 1.0µL  
Acquisition Method: 1633 2022-12-07.dam

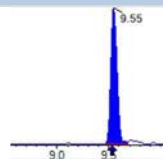
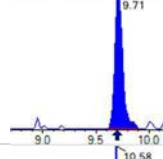
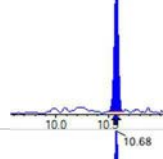
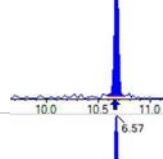
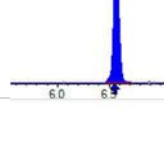
Quant Method: 1633 - 2022-12-07  
Path: S2022-12-08B.wif- 34  
Acquired: 2022/12/09 - 01:12

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) N/A ( 498.0 / 478.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEiFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEiFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) 614	( 10.60 , 1.00 ) ( 0.02 , N/A , 0.0 )	7.0	N/A 0.0 0.0	0.0317	N/A			
NEiFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-PF3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) 2541 (341.0 / 217.0) 5092	(6.86, 1.10) (N/A, 0.02, 0.1)	76.0 38.0	2.0039 117.3 116.9	0.0734	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 7909	(3.78, N/A) (N/A, 0.01, N/A)	244.5	N/A	0.8228 [ 1.0000 ]	82.3% { 9.4% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 12195	(6.22, N/A) (N/A, 0.02, N/A)	195.5	N/A	0.9876 [ 1.0000 ]	98.8% { 10.5% }			
13C4_PFOA_IIS	(417.0 / 372.0) 14372	(7.98, N/A) (N/A, 0.03, N/A)	236.5	N/A	1.2123 [ 1.0000 ]	121.2% { 12.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 11513	(8.72, N/A) (N/A, 0.03, N/A)	884.1	N/A	1.2088 [ 1.0000 ]	120.9% { 13.3% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 11966	(9.39, N/A) (N/A, 0.03, N/A)	141.6	N/A	1.4525 [ 1.0000 ]	145.2% { 12.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 23345	(8.11, N/A) (N/A, 0.03, N/A)	400.1	N/A	1.0877 [ 1.0000 ]	108.8% { 11.4% }			
13C4_PFOS_IIS	(502.8 / 79.9) 24614	(9.53, N/A) (N/A, 0.02, N/A)	175.1	N/A	1.3224 [ 1.0000 ]	132.2% { 13.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 65647	(3.77, N/A) (N/A, 0.01, N/A)	1045.9	N/A	0.8853 [ 0.8000 ]	110.7% { 11.1% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 37349	(5.08, N/A) (N/A, 0.01, N/A)	622.3	N/A	0.4198 [ 0.4000 ]	105.0% { 12.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 32337	(6.22, N/A) (N/A, 0.02, N/A)	512.7	N/A	0.2600 [ 0.2000 ]	130.0% { 12.8% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 30723	(7.16, N/A) (N/A, 0.03, N/A)	302.6	N/A	0.2736 [ 0.2000 ]	136.8% { 13.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 28671	(7.97, N/A) (N/A, 0.03, N/A)	328.8	N/A	0.1961 [ 0.2000 ]	98.1% { 12.1% }			
13C9_PFNA_EIS	(472.0 / 427.0) 10106	(8.72, N/A) (N/A, 0.03, N/A)	319.1	N/A	0.0889 [ 0.1000 ]	88.9% { 11.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 16940	(9.39, N/A) (N/A, 0.03, N/A)	528.7	N/A	0.0975 [ 0.1000 ]	97.5% { 14.2% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 12622	(9.75, N/A) (N/A, 0.02, N/A)	208.1	N/A	0.0541 [ 0.1000 ]	54.1% { 7.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 30653	(9.91, N/A) (N/A, 0.01, N/A)	1372.8	N/A	0.1083 [0.1000]	108.3% {16.2%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 6330	(10.15, N/A) (N/A, 0.01, N/A)	110.8	N/A	0.0305 [0.1000]	30.5% {4.5%}			
13C3_PFBs_EIS	(302.0 / 80.0) 68057	(6.19, N/A) (N/A, 0.02, N/A)	515.8	N/A	0.1984 [0.2000]	99.2% {12.1%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 39760	(8.11, N/A) (N/A, 0.03, N/A)	349.7	N/A	0.2036 [0.2000]	101.8% {11.6%}			
13C8_PFOS_EIS	(507.0 / 80.0) 69898	(9.53, N/A) (N/A, 0.03, N/A)	291.5	N/A	0.1863 [0.2000]	93.1% {12.3%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 7520	(5.88, N/A) (N/A, 0.02, N/A)	125.8	N/A	0.3886 [0.4000]	97.2% {11.7%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 16946	(7.62, N/A) (N/A, 0.03, N/A)	117.0	N/A	0.6528 [0.4000]	163.2% {19.8%}			S2,
13C2_8:2FTS_EIS	(529.0 / 81.0) 8435	(9.03, N/A) (N/A, 0.03, N/A)	62.3	N/A	0.3744 [0.4000]	93.6% {10.7%}			
13C8_PFOsa_EIS	(506.0 / 78.0) 85079	(10.19, N/A) (N/A, 0.01, N/A)	287.6	N/A	0.1485 [0.2000]	74.3% {9.0%}			
D3_NMeFOsa_EIS	(515.0 / 169.0) 6178	(10.61, N/A) (N/A, 0.01, N/A)	66.1	N/A	0.0364 [0.2000]	18.2% {2.7%}			S1,
D5_NEiFOsa_EIS	(531.1 / 169.0) 6212	(10.70, N/A) (N/A, 0.01, N/A)	92.8	N/A	0.0404 [0.2000]	20.2% {2.8%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 43601	( 9.55, N/A ) ( N/A, 0.01, N/A )	173.9	N/A	0.5223 [ 0.4000 ]	130.6% { 18.2% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 26446	( 9.71, N/A ) ( N/A, 0.01, N/A )	85.2	N/A	0.3686 [ 0.4000 ]	92.1% { 11.7% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 27539	( 10.58, N/A ) ( N/A, 0.01, N/A )	121.8	N/A	0.9512 [ 2.0000 ]	47.6% { 6.3% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 12562	( 10.68, N/A ) ( N/A, 0.01, N/A )	138.0	N/A	0.8516 [ 2.0000 ]	42.6% { 5.7% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 77755	( 6.57, N/A ) ( N/A, 0.02, N/A )	643.5	N/A	0.9491 [ 0.8000 ]	118.6% { 11.7% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU02-SOFD01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-05
		File ID:	S2022-12-08B (35)
Sampled:	12/02/22 13:00	Prepared:	12/07/22 10:00
		Analyzed:	12/09/22 01:24
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	5.07 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
PFBA	5.8	0.30	0.20	0.15	
PFPEA	2.2	0.079	0.039	0.021	
PFHXA	17	0.039	0.020	0.015	
PFHPA	0.47	0.039	0.020	0.015	
PFOA	1.2	0.039	0.030	0.021	
PFNA	0.030 U	0.039	0.030	0.021	IR2,
PFDA	0.15	0.039	0.030	0.022	
PFUnA	0.032 J	0.039	0.020	0.020	IR1,
PFDOA	0.030 U	0.039	0.030	0.023	IR2,
PFTRDA	0.020 U	0.039	0.020	0.016	
PFTEDA	0.030 U	0.039	0.030	0.025	
PFBS	0.020 U	0.039	0.020	0.016	
PFPEs	0.020 U	0.039	0.020	0.012	
PFHXS	0.051	0.039	0.020	0.015	
PFHPS	0.020 U	0.039	0.020	0.011	
PFOS	0.30	0.039	0.020	0.0096	
PFNS	0.020 U	0.039	0.020	0.014	
PFDS	0.022 J	0.039	0.020	0.013	IR1,
PFDOS	0.014 J	0.039	0.020	0.013	IR1,
4:2FTS	1.0	0.16	0.079	0.045	
8:2FTS	0.079 U	0.16	0.079	0.050	
PFOSA	0.020 U	0.039	0.020	0.012	
NMeFOSA	0.079 U	0.16	0.079	0.065	
NEtFOSA	0.079 U	0.16	0.079	0.026	
NMeFOSAA	0.020 U	0.039	0.020	0.0099	
NEtFOSAA	0.020 U	0.039	0.020	0.018	
NMeFOSE	0.73	0.16	0.079	0.053	
NEtFOSE	0.079 U	0.16	0.079	0.046	
HFPO-DA	0.039 U	0.079	0.039	0.021	
ADONA	0.039 U	0.079	0.039	0.026	

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU02-SOFD01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-05
		File ID:	S2022-12-08B (35)
Sampled:	12/02/22 13:00	Prepared:	12/07/22 10:00
		Analyzed:	12/09/22 01:24
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	5.07 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
PFEEESA	0.039 U	0.079	0.039	0.017	
PFMPA	0.039 U	0.079	0.039	0.027	
PFMBA	0.039 U	0.079	0.039	0.032	
NFDHA	0.059 U	0.079	0.059	0.049	
9CL-PF3ONS	0.039 U	0.079	0.039	0.024	
11CL-PF3OUDS	0.039 U	0.079	0.039	0.026	
3:3FTCA	0.079 U	0.16	0.079	0.063	
5:3FTCA	0.58	0.16	0.079	0.064	
7:3FTCA	0.079 U	0.16	0.079	0.049	



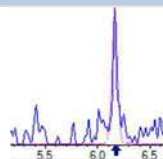
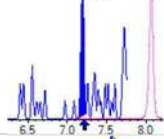
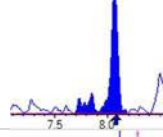
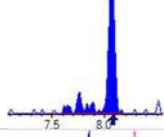
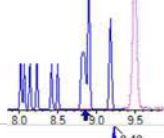
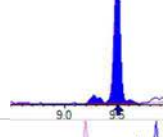
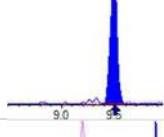
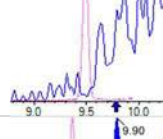
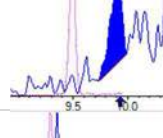
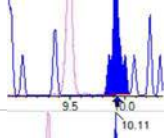
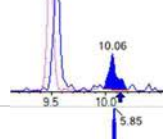
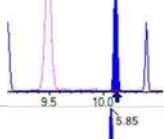
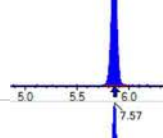
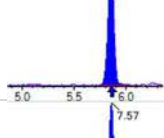
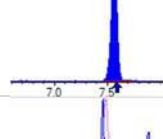
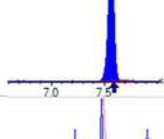
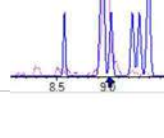
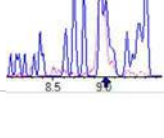


Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

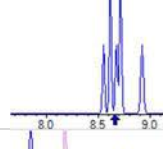
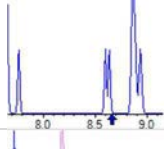
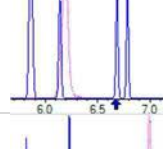
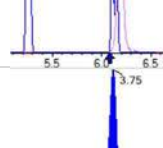
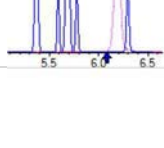
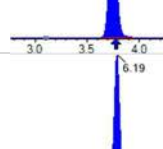
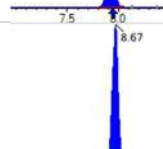
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 Acquisition Method: 1633 2022-12-07.dam

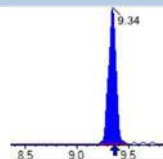
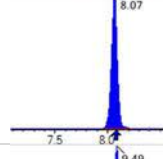
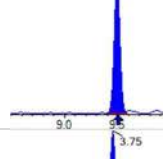
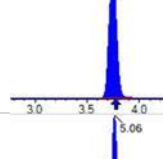
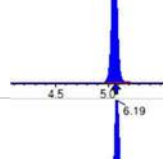
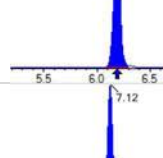
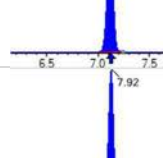
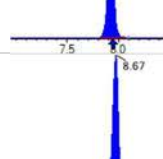
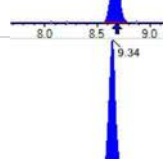
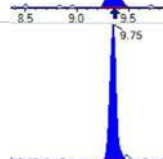
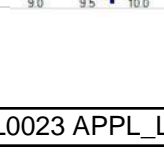
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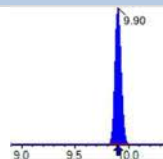
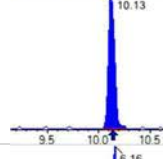
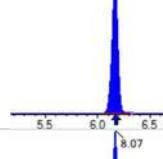
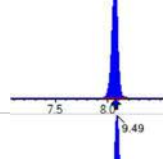
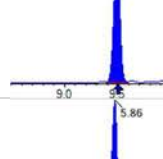
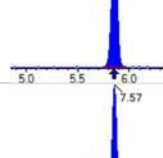
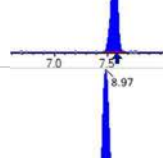
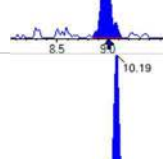
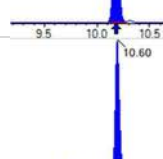
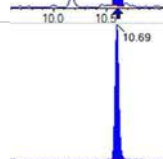
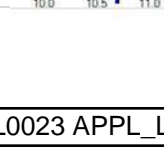
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 979581	(3.74, 1.00) (0.00, N/A, 0.0)	51.3	N/A 0.0 0.0	14.6807	N/A			
PFPeA	(262.9 / 219.0) 529953 (262.9 / 69.0) 5984	(5.06, 1.00) (0.00, N/A, -0.1)	860.2 143.8	0.0113 97.0 96.9	5.5972	N/A			
PFHxA	(313.0 / 269.0) 5997783 (313.0 / 119.0) 563617	(6.19, 1.00) (0.00, N/A, 0.0)	823.0 752.3	0.0940 104.6 97.2	42.0781	N/A			E,
PFHpA	(363.0 / 319.0) 184561 (363.0 / 169.0) 55567	(7.12, 1.00) (0.00, N/A, -0.1)	421.2 484.3	0.3011 104.9 102.4	1.1880	N/A			
PFOA	(413.0 / 369.0) 376449 (413.0 / 169.0) 115184	(7.92, 1.00) (0.00, N/A, -0.1)	818.7 588.4	0.3060 94.6 95.0	3.1536	N/A			
PFNA	(463.0 / 419.0) 1692 (463.0 / 169.0) 852	(8.65, 1.00) (-0.02, N/A, -0.8)	20.6 10.6	0.5036 250.2 257.2	0.0236	N/A			IR2,
PFDA	(513.0 / 469.0) 26480 (513.0 / 169.0) 1875	(9.35, 1.00) (0.01, N/A, -0.7)	79.3 24.9	0.0708 79.7 68.7	0.3882	N/A			
PFUnA	(563.0 / 519.0) 3158 (563.0 / 169.0) N/A	(9.74, 1.00) (-0.01, N/A, #Value!)	11.9 N/A	N/A 0.0 0.0	0.0815	N/A			IR1,
PFDoA	(613.0 / 569.0) 2410 (613.0 / 169.0) 597	(9.91, 1.00) (0.01, N/A, -0.3)	10.7 10.9	0.2476 207.9 221.6	0.0152	N/A			IR2,
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) N/A (298.9 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	(349.0 / 80.0) 4265 (349.0 / 99.0) 1188	(7.18, 0.89) (N/A, -0.03, -0.7)	15.8 14.1	0.2786 76.4 76.4	0.0143	N/A			
PFHxS	(399.0 / 80.0) 34395 (399.0 / 99.0) 10482	(8.07, 1.00) (0.00, N/A, -0.1)	135.2 4438.8	0.3047 88.4 86.7	0.1299	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) 188773 (499.0 / 99.0) 43281	(9.49, 1.00) (0.00, N/A, 0.2)	573.0 158.7	0.2293 89.0 94.1	0.7666	N/A			
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) 20113 (599.0 / 99.0) 2047	(9.90, 1.04) (N/A, -0.03, -1.0)	11.2 11.5	0.1018 43.8 44.8	0.0555	N/A			IR1,
PFDoS	(698.9 / 80.0) 7404 (698.9 / 99.0) 536	(10.06, 1.06) (N/A, -0.06, -3.2)	15.4 388.4	0.0724 31.3 32.8	0.0345	N/A			IR1,
4:2FTS	(327.0 / 307.0) 234636 (327.0 / 81.0) 137411	(5.85, 1.00) (0.00, N/A, 0.1)	1237.4 449.6	0.5856 98.0 100.1	2.5864	N/A			
6:2FTS	(427.0 / 407.0) 26242234 (427.0 / 81.0) 18897077	(7.57, 1.00) (0.00, N/A, 0.1)	815.8 729.0	0.7201 100.1 103.4	422.5870	N/A			E,
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) N/A ( 498.0 / 478.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSEA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSEA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) 31629	( 10.58 , 1.00 ) ( 0.01 , N/A , 0.0 )	33.6	N/A 0.0 0.0	1.8552	N/A			
NEtFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 326 (241.0 / 117.0) 334	(4.57, 0.90) (N/A, -0.02, 0.1)	24.8 8.0	1.0242 58.8 60.8	0.0701	N/A			
5:3FTCA	(341.0 / 236.7) 44464 (341.0 / 217.0) 68445	(6.82, 1.10) (N/A, -0.01, 0.2)	313.1 196.7	1.5393 90.1 89.8	1.4683	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 97764	(3.75, N/A) (N/A, -0.02, N/A)	786.1	N/A	1.0170 [ 1.0000 ]	101.7% { 116.1% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 138652	(6.19, N/A) (N/A, -0.01, N/A)	878.2	N/A	1.1228 [ 1.0000 ]	112.3% { 119.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 101852	(7.92, N/A) (N/A, -0.02, N/A)	613.7	N/A	0.8592 [ 1.0000 ]	85.9% { 90.1% }			
13C5_PFNA_IIS	(468.0 / 423.0) 72927	(8.67, N/A) (N/A, -0.01, N/A)	631.4	N/A	0.7657 [ 1.0000 ]	76.6% { 84.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 55008	(9.34, N/A) (N/A, -0.02, N/A)	191.4	N/A	0.6677 [ 1.0000 ]	66.8% { 57.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 185822	(8.07, N/A) (N/A, -0.01, N/A)	930.9	N/A	0.8658 [ 1.0000 ]	86.6% { 90.8% }			
13C4_PFOS_IIS	(502.8 / 79.9) 117345	(9.49, N/A) (N/A, -0.01, N/A)	195.8	N/A	0.6305 [ 1.0000 ]	63.0% { 64.4% }			
13C4_PFBA_EIS	(217.0 / 172.0) 701062	(3.75, N/A) (N/A, -0.02, N/A)	1131.2	N/A	7.6488 [ 8.0000 ]	95.6% { 118.6% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 393971	(5.06, N/A) (N/A, -0.01, N/A)	909.9	N/A	3.8953 [ 4.0000 ]	97.4% { 126.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 282840	(6.19, N/A) (N/A, -0.01, N/A)	892.3	N/A	1.9999 [ 2.0000 ]	100.0% { 112.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 306725	(7.12, N/A) (N/A, -0.01, N/A)	786.1	N/A	2.4028 [ 2.0000 ]	120.1% { 133.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 231598	(7.92, N/A) (N/A, -0.02, N/A)	817.6	N/A	2.2356 [ 2.0000 ]	111.8% { 97.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 74521	(8.67, N/A) (N/A, -0.01, N/A)	534.3	N/A	1.0355 [ 1.0000 ]	103.5% { 81.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 67245	(9.34, N/A) (N/A, -0.02, N/A)	202.6	N/A	0.8416 [ 1.0000 ]	84.2% { 56.3% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 44001	(9.75, N/A) (N/A, 0.01, N/A)	175.9	N/A	0.4103 [ 1.0000 ]	41.0% { 26.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 172433	(9.90, N/A) (N/A, -0.01, N/A)	513.6	N/A	1.3247 [ 1.0000 ]	132.5% { 91.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 39003	(10.13, N/A) (N/A, -0.01, N/A)	234.4	N/A	0.4082 [ 1.0000 ]	40.8% { 27.7% }			
13C3_PFBs_EIS	(302.0 / 80.0) 701215	(6.16, N/A) (N/A, -0.01, N/A)	748.0	N/A	2.5676 [ 2.0000 ]	128.4% { 124.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 315972	(8.07, N/A) (N/A, -0.01, N/A)	836.7	N/A	2.0326 [ 2.0000 ]	101.6% { 92.1% }			
13C8_PFOS_EIS	(507.0 / 80.0) 438699	(9.49, N/A) (N/A, -0.01, N/A)	324.3	N/A	2.4524 [ 2.0000 ]	122.6% { 77.5% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 103874	(5.86, N/A) (N/A, 0.00, N/A)	523.7	N/A	6.7440 [ 4.0000 ]	168.6% { 161.0% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 156593	(7.57, N/A) (N/A, -0.02, N/A)	457.4	N/A	7.5780 [ 4.0000 ]	189.5% { 182.7% }			S2,
13C2_8:2FTS_EIS	(529.0 / 81.0) 26917	(8.97, N/A) (N/A, -0.03, N/A)	69.1	N/A	1.5007 [ 4.0000 ]	37.5% { 34.0% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 311247	(10.19, N/A) (N/A, 0.01, N/A)	305.9	N/A	1.1397 [ 2.0000 ]	57.0% { 32.9% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 52867	(10.60, N/A) (N/A, 0.00, N/A)	184.9	N/A	0.6542 [ 2.0000 ]	32.7% { 22.8% }			
D5_NEiFOsa_EIS	(531.1 / 169.0) 52790	(10.69, N/A) (N/A, 0.00, N/A)	492.9	N/A	0.7205 [ 2.0000 ]	36.0% { 23.7% }			



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-05  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 35  
 Acquired: 2022/12/09 - 01:24

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 363006	( 9.52 , N/A ) ( N/A , -0.02 , N/A )	784.2	N/A	9.1211 [ 4.0000 ]	228.0% { 151.2% }			S2,
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 88145	( 9.69 , N/A ) ( N/A , -0.02 , N/A )	117.0	N/A	2.5769 [ 4.0000 ]	64.4% { 38.8% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 242523	( 10.57 , N/A ) ( N/A , 0.00 , N/A )	355.8	N/A	17.5705 [ 20.0000 ]	87.9% { 55.8% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 123545	( 10.66 , N/A ) ( N/A , 0.00 , N/A )	809.9	N/A	17.5666 [ 20.0000 ]	87.8% { 56.4% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 784796	( 6.54 , N/A ) ( N/A , -0.01 , N/A )	906.6	N/A	8.4257 [ 8.0000 ]	105.3% { 117.6% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU02-SOFD01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-05RE1
		File ID:	S2022-12-08B (36)
Sampled:	12/02/22 13:00	Prepared:	12/07/22 10:00
		Analyzed:	12/09/22 01:37
Solids:		Preparation:	EPA 1633
		Dilution:	10
Initial/Final:	5.07 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
6:2FTS	150	1.6	0.79	0.60	





Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-05RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 36  
 Acquired: 2022/12/09 - 01:37

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 85436	(3.76, 1.00) (0.00, N/A, 0.0)	64.9	N/A 0.0 0.0	1.4478	N/A			
PFPeA	(262.9 / 219.0) 46377 (262.9 / 69.0) 634	(5.07, 1.00) (0.00, N/A, -0.4)	355.8 20.9	0.0137 117.4 117.3	0.5033	N/A			
PFHxA	(313.0 / 269.0) 600142 (313.0 / 119.0) 56734	(6.20, 1.00) (0.00, N/A, 0.2)	789.3 620.3	0.0945 105.2 97.8	3.8747	N/A			
PFHpA	(363.0 / 319.0) 16738 (363.0 / 169.0) 5408	(7.13, 1.00) (0.00, N/A, 0.1)	83.0 99.4	0.3231 112.6 109.9	0.1159	N/A			
PFOA	(413.0 / 369.0) 45573 (413.0 / 169.0) 15179	(7.96, 1.00) (0.00, N/A, -0.3)	204.9 649.4	0.3331 102.9 103.4	0.3067	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) 5145 (513.0 / 169.0) 520	(9.39, 1.00) (0.01, N/A, -0.7)	86.8 13.4	0.1011 113.8 98.1	0.0365	N/A			
PFUnA	(563.0 / 519.0) 948 (563.0 / 169.0) N/A	(9.73, 1.00) (-0.02, N/A, #Value!)	31.9 N/A	N/A 0.0 0.0	0.0063	N/A			IR1,
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) N/A ( 298.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) 4874 ( 399.0 / 99.0 ) 811	( 8.09 , 1.00 ) ( 0.00 , N/A , -0.7 )	1350.4 865.3	0.1663 48.2 47.3	0.0144	N/A			IR1,
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 25262 ( 499.0 / 99.0 ) 6950	( 9.51 , 1.00 ) ( -0.01 , N/A , 0.0 )	46128.9 234.1	0.2751 106.8 112.9	0.0640	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) 18700 ( 327.0 / 81.0 ) 9891	( 5.86 , 1.00 ) ( 0.00 , N/A , -0.1 )	340.8 99.5	0.5289 88.5 90.4	0.3235	N/A			
6:2FTS	( 427.0 / 407.0 ) 3634292 ( 427.0 / 81.0 ) 2508582	( 7.60 , 1.00 ) ( 0.00 , N/A , -0.1 )	1075.4 956.4	0.6903 96.0 99.1	39.0302	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) N/A ( 498.0 / 478.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

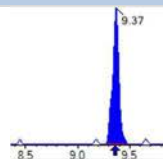
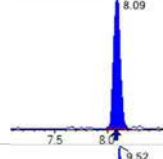
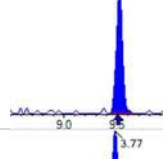
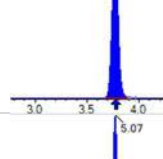
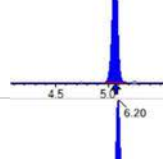
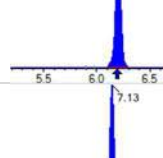
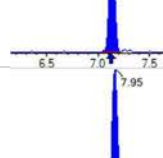
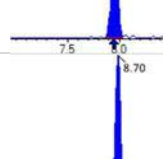
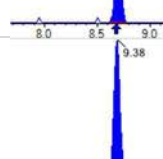
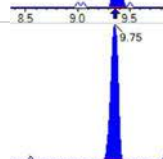
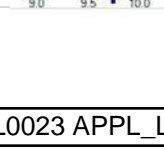


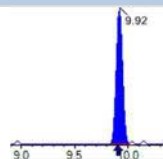
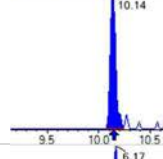
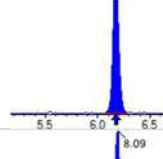
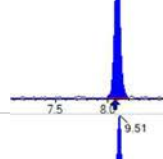
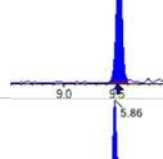
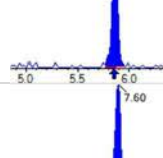
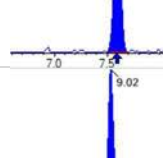
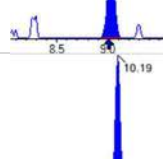
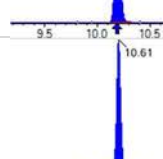
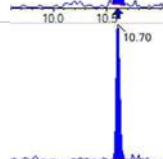
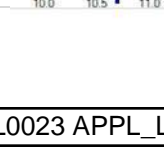
Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-05RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 36  
 Acquired: 2022/12/09 - 01:37

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) 4317 (341.0 / 217.0) 5954	(6.85, 1.10) (N/A, 0.01, 0.2)	76.8 40.0	1.3794 80.8 80.4	0.1312	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 8845	(3.77, N/A) (N/A, 0.01, N/A)	301.3	N/A	0.9202 [ 1.0000 ]	92.0% { 10.5% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 14169	(6.20, N/A) (N/A, 0.00, N/A)	122.3	N/A	1.1474 [ 1.0000 ]	114.7% { 12.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 13050	(7.95, N/A) (N/A, 0.00, N/A)	211.7	N/A	1.1008 [ 1.0000 ]	110.1% { 11.5% }			
13C5_PFNA_IIS	(468.0 / 423.0) 8188	(8.70, N/A) (N/A, 0.01, N/A)	39506.7	N/A	0.8597 [ 1.0000 ]	86.0% { 9.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 13434	(9.37, N/A) (N/A, 0.01, N/A)	283.2	N/A	1.6306 [ 1.0000 ]	163.1% { 14.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 23285	(8.09, N/A) (N/A, 0.01, N/A)	254.0	N/A	1.0849 [ 1.0000 ]	108.5% { 11.4% }			
13C4_PFOS_IIS	(502.8 / 79.9) 24784	(9.52, N/A) (N/A, 0.02, N/A)	96.6	N/A	1.3316 [ 1.0000 ]	133.2% { 13.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 62001	(3.77, N/A) (N/A, 0.00, N/A)	1016.4	N/A	0.7477 [ 0.8000 ]	93.5% { 10.5% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 38339	(5.07, N/A) (N/A, 0.00, N/A)	710.1	N/A	0.3709 [ 0.4000 ]	92.7% { 12.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 30734	(6.20, N/A) (N/A, 0.00, N/A)	727.1	N/A	0.2127 [ 0.2000 ]	106.3% { 12.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 28518	(7.13, N/A) (N/A, 0.01, N/A)	451.9	N/A	0.2186 [ 0.2000 ]	109.3% { 12.5% }			
13C8_PFOA_EIS	(421.0 / 376.0) 28828	(7.95, N/A) (N/A, 0.01, N/A)	232.0	N/A	0.2172 [ 0.2000 ]	108.6% { 12.1% }			
13C9_PFNA_EIS	(472.0 / 427.0) 8717	(8.70, N/A) (N/A, 0.01, N/A)	1054.9	N/A	0.1079 [ 0.1000 ]	107.9% { 9.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 13902	(9.38, N/A) (N/A, 0.02, N/A)	194.7	N/A	0.0712 [ 0.1000 ]	71.2% { 11.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 17056	(9.75, N/A) (N/A, 0.02, N/A)	964.7	N/A	0.0651 [ 0.1000 ]	65.1% { 10.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 22936	(9.92, N/A) (N/A, 0.01, N/A)	216.7	N/A	0.0722 [0.1000]	72.2% {12.1%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 9545	(10.14, N/A) (N/A, 0.00, N/A)	91.6	N/A	0.0409 [0.1000]	40.9% {6.8%}			
13C3_PFBs_EIS	(302.0 / 80.0) 70953	(6.17, N/A) (N/A, 0.00, N/A)	358.7	N/A	0.2073 [0.2000]	103.7% {12.6%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 40296	(8.09, N/A) (N/A, 0.01, N/A)	293.7	N/A	0.2069 [0.2000]	103.4% {11.7%}			
13C8_PFOS_EIS	(507.0 / 80.0) 70357	(9.51, N/A) (N/A, 0.01, N/A)	208.8	N/A	0.1862 [0.2000]	93.1% {12.4%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 6618	(5.86, N/A) (N/A, 0.01, N/A)	123.4	N/A	0.3429 [0.4000]	85.7% {10.3%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 23480	(7.60, N/A) (N/A, 0.02, N/A)	193.8	N/A	0.9068 [0.4000]	226.7% {27.4%}			S2,
13C2_8:2FTS_EIS	(529.0 / 81.0) 8108	(9.02, N/A) (N/A, 0.02, N/A)	71.1	N/A	0.3607 [0.4000]	90.2% {10.2%}			
13C8_PFOsa_EIS	(506.0 / 78.0) 81961	(10.19, N/A) (N/A, 0.01, N/A)	380.5	N/A	0.1421 [0.2000]	71.1% {8.7%}			
D3_NMeFOSA_EIS	(515.0 / 169.0) 9836	(10.61, N/A) (N/A, 0.01, N/A)	99.2	N/A	0.0576 [0.2000]	28.8% {4.2%}			
D5_NeIFOSA_EIS	(531.1 / 169.0) 8610	(10.70, N/A) (N/A, 0.01, N/A)	139.3	N/A	0.0556 [0.2000]	27.8% {3.9%}			



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-05RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 36  
 Acquired: 2022/12/09 - 01:37

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 35251	( 9.54, N/A ) ( N/A, 0.01, N/A )	164.0	N/A	0.4194 [ 0.4000 ]	104.8% { 14.7% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 20964	( 9.71, N/A ) ( N/A, 0.01, N/A )	98.1	N/A	0.2902 [ 0.4000 ]	72.5% { 9.2% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 33636	( 10.58, N/A ) ( N/A, 0.01, N/A )	156.6	N/A	1.1538 [ 2.0000 ]	57.7% { 7.7% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 15669	( 10.67, N/A ) ( N/A, 0.01, N/A )	198.4	N/A	1.0549 [ 2.0000 ]	52.7% { 7.2% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 72329	( 6.55, N/A ) ( N/A, 0.01, N/A )	468.8	N/A	0.7599 [ 0.8000 ]	95.0% { 10.8% }			

# FORM I ANALYSIS DATA SHEET

ADIT6-DU02-SOFT01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-06
		File ID:	S2022-12-08B (37)
Sampled:	12/02/22 13:00	Prepared:	12/07/22 10:00
		Analyzed:	12/09/22 01:50
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	5.05 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
PFBA	2.3	0.30	0.20	0.15	
PFPEA	1.8	0.079	0.040	0.021	
PFHXA	8.6	0.040	0.020	0.015	
PFHPA	0.29	0.040	0.020	0.015	
PFOA	0.44	0.040	0.030	0.021	
PFNA	0.030 U	0.040	0.030	0.022	
PFDA	0.068	0.040	0.030	0.022	
PFUnA	0.020 U	0.040	0.020	0.020	IR1,
PFDOA	0.030 U	0.040	0.030	0.023	IR2,
PFTRDA	0.020 U	0.040	0.020	0.016	
PFTEDA	0.030 U	0.040	0.030	0.025	
PFBS	0.020 U	0.040	0.020	0.016	
PFPEs	0.020 U	0.040	0.020	0.012	
PFHXS	0.035 J	0.040	0.020	0.015	
PFHPS	0.020 U	0.040	0.020	0.011	
PFOS	0.34	0.040	0.020	0.0096	
PFNS	0.020 U	0.040	0.020	0.014	
PFDS	0.021 J	0.040	0.020	0.013	IR1,
PFDOS	0.016 J	0.040	0.020	0.013	IR1,
4:2FTS	0.37	0.16	0.079	0.045	
8:2FTS	0.079 U	0.16	0.079	0.051	
PFOSA	0.020 U	0.040	0.020	0.012	
NMeFOSA	0.079 U	0.16	0.079	0.065	
NEtFOSA	0.079 U	0.16	0.079	0.027	
NMeFOSAA	0.020 U	0.040	0.020	0.010	
NEtFOSAA	0.020 U	0.040	0.020	0.018	
NMeFOSE	0.079 U	0.16	0.079	0.053	
NEtFOSE	0.079 U	0.16	0.079	0.047	
HFPO-DA	0.040 U	0.079	0.040	0.022	
ADONA	0.040 U	0.079	0.040	0.026	



# FORM I

## ANALYSIS DATA SHEET

ADIT6-DU02-SOFT01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-06
		File ID:	S2022-12-08B (37)
Sampled:	12/02/22 13:00	Prepared:	12/07/22 10:00
		Analyzed:	12/09/22 01:50
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	5.05 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
PFEEESA	0.040 U	0.079	0.040	0.017	
PFMPA	0.040 U	0.079	0.040	0.028	
PFMBA	0.040 U	0.079	0.040	0.032	
NFDHA	0.059 U	0.079	0.059	0.049	
9CL-PF3ONS	0.040 U	0.079	0.040	0.024	
11CL-PF3OUDS	0.040 U	0.079	0.040	0.026	
3:3FTCA	0.079 U	0.16	0.079	0.063	
5:3FTCA	0.27	0.16	0.079	0.064	
7:3FTCA	0.079 U	0.16	0.079	0.049	



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-06  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 37  
 Acquired: 2022/12/09 - 01:50

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 380521	(3.78, 1.00) (0.00, N/A, 0.0)	60.4	N/A 0.0 0.0	5.7533	N/A			
PFPeA	(262.9 / 219.0) 437681 (262.9 / 69.0) 5342	(5.10, 1.00) (0.00, N/A, 0.1)	1003.4 157.0	0.0122 104.8 104.8	4.4773	N/A			
PFHxA	(313.0 / 269.0) 3146545 (313.0 / 119.0) 314022	(6.23, 1.00) (0.00, N/A, 0.0)	1082.9 953.5	0.0998 111.0 103.2	21.6037	N/A			
PFHpA	(363.0 / 319.0) 97320 (363.0 / 169.0) 33278	(7.16, 1.00) (0.00, N/A, 0.3)	256.0 245.2	0.3419 119.2 116.3	0.7256	N/A			
PFOA	(413.0 / 369.0) 159462 (413.0 / 169.0) 49499	(7.97, 1.00) (0.00, N/A, 0.0)	376.0 324.0	0.3104 95.9 96.4	1.1172	N/A			
PFNA	(463.0 / 419.0) 1630 (463.0 / 169.0) 260	(8.71, 1.00) (0.00, N/A, -0.6)	12.9 8.7	0.1598 79.4 81.6	0.0174	N/A			
PFDA	(513.0 / 469.0) 18421 (513.0 / 169.0) 1062	(9.39, 1.00) (0.00, N/A, -1.1)	75.0 123.2	0.0577 64.9 56.0	0.1721	N/A			
PFUnA	(563.0 / 519.0) 2430 (563.0 / 169.0) N/A	(9.77, 1.00) (0.00, N/A, #Value!)	15.4 N/A	N/A 0.0 0.0	0.0313	N/A			IR1,
PFDoA	(613.0 / 569.0) 3090 (613.0 / 169.0) 597	(9.93, 1.00) (0.01, N/A, 1.6)	10.8 53266.4	0.1932 162.3 172.9	0.0158	N/A			IR2,
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



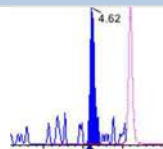
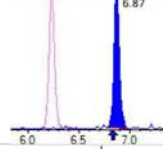
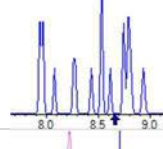
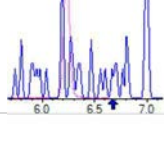
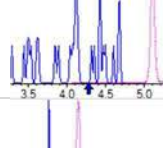
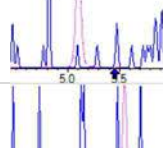
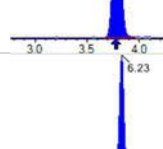
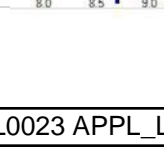
Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

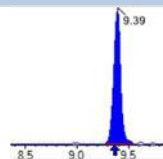
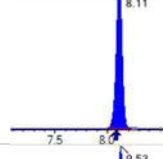
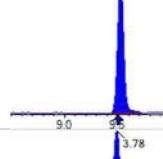
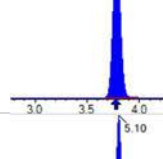
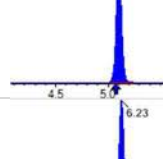
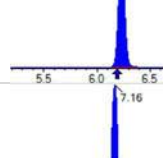
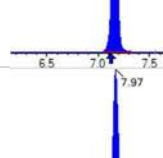
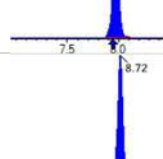
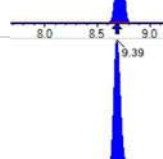
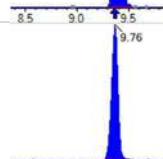
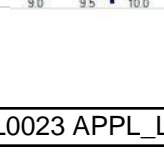
Sample I.D.: 22L0023-06  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

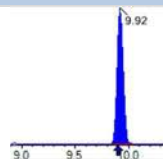
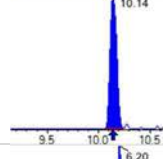
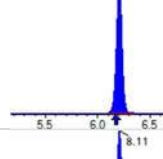
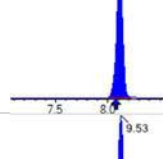
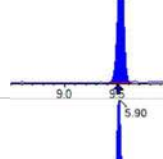
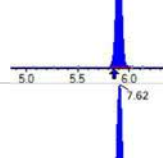
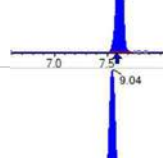
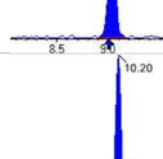
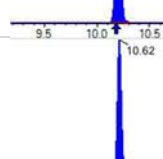
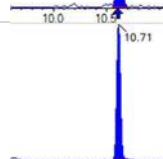
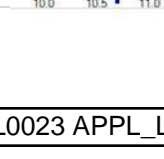
Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 37  
 Acquired: 2022/12/09 - 01:50

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 3004 ( 298.9 / 99.0 ) 2161	( 6.21 , 1.00 ) ( 0.01 , N/A , 0.0 )	23.4 33.0	0.7194 106.2 105.9	0.0127	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) 30731 ( 399.0 / 99.0 ) 9643	( 8.11 , 1.00 ) ( 0.00 , N/A , 0.1 )	169.2 124.8	0.3138 91.0 89.3	0.0886	N/A			MI5 DG 2022-12-09
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 256022 ( 499.0 / 99.0 ) 71097	( 9.53 , 1.00 ) ( 0.00 , N/A , 0.2 )	419.6 116843.1	0.2777 107.8 113.9	0.8580	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) 23688 ( 599.0 / 99.0 ) 2382	( 9.92 , 1.04 ) ( N/A , -0.01 , -0.1 )	16.3 14.8	0.1005 43.2 44.2	0.0540	N/A			IR1,
PFDoS	( 698.9 / 80.0 ) 10465 ( 698.9 / 99.0 ) 279	( 10.07 , 1.06 ) ( N/A , -0.05 , 1.4 )	24.0 54.9	0.0266 11.5 12.0	0.0402	N/A			IR1,
4:2FTS	( 327.0 / 307.0 ) 80128 ( 327.0 / 81.0 ) 45059	( 5.90 , 1.00 ) ( 0.00 , N/A , 0.2 )	623.0 209.2	0.5623 94.1 96.2	0.9315	N/A			
6:2FTS	( 427.0 / 407.0 ) 18777124 ( 427.0 / 81.0 ) 14868971	( 7.62 , 1.00 ) ( 0.00 , N/A , 0.0 )	824.4 958.4	0.7919 110.1 113.7	274.5861	N/A			E,
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) N/A ( 498.0 / 478.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOFA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOFA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 535 (241.0 / 117.0) 826	(4.62, 0.90) (N/A, 0.03, 0.0)	25.1 19.5	1.5447 88.7 91.6	0.1114	N/A			
5:3FTCA	(341.0 / 236.7) 20931 (341.0 / 217.0) 36880	(6.87, 1.10) (N/A, 0.03, -0.1)	187.1 160.9	1.7620 103.2 102.8	0.6764	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 88445	(3.78, N/A) (N/A, 0.02, N/A)	789.9	N/A	0.9201 [ 1.0000 ]	92.0% { 105.0% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 142908	(6.23, N/A) (N/A, 0.03, N/A)	875.2	N/A	1.1573 [ 1.0000 ]	115.7% { 123.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 127464	(7.97, N/A) (N/A, 0.03, N/A)	760.8	N/A	1.0752 [ 1.0000 ]	107.5% { 112.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 107553	(8.71, N/A) (N/A, 0.03, N/A)	441.1	N/A	1.1293 [ 1.0000 ]	112.9% { 124.6% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 81560	(9.39, N/A) (N/A, 0.03, N/A)	199.6	N/A	0.9900 [ 1.0000 ]	99.0% { 85.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 234568	(8.11, N/A) (N/A, 0.03, N/A)	661.0	N/A	1.0929 [ 1.0000 ]	109.3% { 114.6% }			
13C4_PFOS_IIS	(502.8 / 79.9) 189561	(9.53, N/A) (N/A, 0.02, N/A)	318.5	N/A	1.0185 [ 1.0000 ]	101.8% { 104.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 694909	(3.78, N/A) (N/A, 0.02, N/A)	1015.8	N/A	8.3805 [ 8.0000 ]	104.8% { 117.6% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 406762	(5.10, N/A) (N/A, 0.03, N/A)	963.4	N/A	3.9019 [ 4.0000 ]	97.5% { 130.7% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 289011	(6.23, N/A) (N/A, 0.04, N/A)	488.2	N/A	1.9827 [ 2.0000 ]	99.1% { 114.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 264826	(7.16, N/A) (N/A, 0.03, N/A)	818.2	N/A	2.0128 [ 2.0000 ]	100.6% { 115.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 276930	(7.97, N/A) (N/A, 0.03, N/A)	907.2	N/A	2.1360 [ 2.0000 ]	106.8% { 116.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 97449	(8.72, N/A) (N/A, 0.03, N/A)	1087.1	N/A	0.9181 [ 1.0000 ]	91.8% { 107.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 105527	(9.39, N/A) (N/A, 0.03, N/A)	260.7	N/A	0.8908 [ 1.0000 ]	89.1% { 88.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 88317	(9.76, N/A) (N/A, 0.03, N/A)	439.7	N/A	0.5554 [ 1.0000 ]	55.5% { 52.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 212366	(9.92, N/A) (N/A, 0.01, N/A)	699.9	N/A	1.1004 [ 1.0000 ]	110.0% { 112.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 59174	(10.14, N/A) (N/A, 0.00, N/A)	172.6	N/A	0.4177 [ 1.0000 ]	41.8% { 42.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 776803	(6.20, N/A) (N/A, 0.04, N/A)	965.0	N/A	2.2533 [ 2.0000 ]	112.7% { 137.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 413969	(8.11, N/A) (N/A, 0.03, N/A)	672.6	N/A	2.1096 [ 2.0000 ]	105.5% { 120.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 531605	(9.53, N/A) (N/A, 0.03, N/A)	374.7	N/A	1.8396 [ 2.0000 ]	92.0% { 93.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 98490	(5.90, N/A) (N/A, 0.04, N/A)	570.8	N/A	5.0656 [ 4.0000 ]	126.6% { 152.7% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 172440	(7.62, N/A) (N/A, 0.03, N/A)	517.3	N/A	6.6108 [ 4.0000 ]	165.3% { 201.2% }			S2,
13C2_8:2FTS_EIS	(529.0 / 81.0) 74722	(9.04, N/A) (N/A, 0.03, N/A)	189.6	N/A	3.3003 [ 4.0000 ]	82.5% { 94.4% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 474812	(10.20, N/A) (N/A, 0.02, N/A)	841.7	N/A	1.0763 [ 2.0000 ]	53.8% { 50.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 56971	(10.62, N/A) (N/A, 0.02, N/A)	199.4	N/A	0.4364 [ 2.0000 ]	21.8% { 24.6% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 59264	(10.71, N/A) (N/A, 0.01, N/A)	464.3	N/A	0.5007 [ 2.0000 ]	25.0% { 26.6% }			



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-06  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 37  
 Acquired: 2022/12/09 - 01:50

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 379372	( 9.56 , N/A ) ( N/A , 0.02 , N/A )	515.8	N/A	5.9009 [ 4.0000 ]	147.5% { 158.0% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 178250	( 9.71 , N/A ) ( N/A , 0.01 , N/A )	311.4	N/A	3.2258 [ 4.0000 ]	80.6% { 78.5% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 268787	( 10.58 , N/A ) ( N/A , 0.02 , N/A )	433.8	N/A	12.0547 [ 20.0000 ]	60.3% { 61.9% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 132994	( 10.68 , N/A ) ( N/A , 0.01 , N/A )	739.8	N/A	11.7061 [ 20.0000 ]	58.5% { 60.7% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 816555	( 6.58 , N/A ) ( N/A , 0.03 , N/A )	1027.7	N/A	8.5056 [ 8.0000 ]	106.3% { 122.4% }			



# FORM I ANALYSIS DATA SHEET

ADIT6-DU02-SOFT01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-06RE1
		File ID:	S2022-12-08B (38)
Sampled:	12/02/22 13:00	Prepared:	12/07/22 10:00
		Analyzed:	12/09/22 02:02
Solids:		Preparation:	EPA 1633
		Dilution:	10
Initial/Final:	5.05 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
6:2FTS	130	1.6	0.79	0.60	



Chemist: DAG  
Instrument: Saphira  
Type: Sciex Q3 5500

Sample I.D.: 22L0023-06RE1@10  
DF, IV: 1, 1.0µL  
Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
Path: S2022-12-08B.wiff- 38  
Acquired: 2022/12/09 - 02:02

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 31613	(3.78, 1.00) (0.00, N/A, 0.0)	40.5	N/A 0.0 0.0	0.5192	N/A			
PFPeA	(262.9 / 219.0) 37562 (262.9 / 69.0) 487	(5.10, 1.00) (0.00, N/A, 0.9)	299.0 28.4	0.0130 111.4 111.3	0.4341	N/A			
PFHxA	(313.0 / 269.0) 312064 (313.0 / 119.0) 29606	(6.22, 1.00) (0.00, N/A, -0.3)	551.4 283.7	0.0949 105.6 98.1	2.4119	N/A			
PFHpA	(363.0 / 319.0) 9629 (363.0 / 169.0) 1801	(7.16, 1.00) (0.01, N/A, 0.8)	51.1 19.0	0.1870 65.2 63.6	0.0835	N/A			
PFOA	(413.0 / 369.0) 16839 (413.0 / 169.0) 5092	(7.97, 1.00) (0.01, N/A, 0.4)	70.0 68.6	0.3024 93.5 93.9	0.1120	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) 2072 (563.0 / 169.0) N/A	(9.70, 1.00) (-0.04, N/A, #Value!)	15.7 N/A	N/A 0.0 0.0	0.0133	N/A			IR1,
PFDoA	(613.0 / 569.0) 2339 (613.0 / 169.0) N/A	(9.91, 1.00) (-0.01, N/A, #Value!)	16.7 N/A	N/A 0.0 0.0	0.0139	N/A			IR1,
PFTTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: DAG  
Instrument: Saphira  
Type: Sciex Q3 5500

Sample I.D.: 22L0023-06RE1@10  
DF, IV: 1, 1.0µL  
Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
Path: S2022-12-08B.wiff- 38  
Acquired: 2022/12/09 - 02:02

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 251 ( 298.9 / 99.0 ) 382	( 6.16 , 0.99 ) ( -0.03 , N/A , -1.3)	10.4 5.9	1.5222 224.7 224.0	0.0013	N/A			IR2,
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) 3309 ( 399.0 / 99.0 ) 972	( 8.11 , 1.00 ) ( 0.00 , N/A , -0.7)	1327.7 185.0	0.2937 85.2 83.6	0.0110	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 27368 ( 499.0 / 99.0 ) 4796	( 9.53 , 1.00 ) ( 0.00 , N/A , 0.7)	4565.5 88.5	0.1752 68.0 71.9	0.0750	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) 5643 ( 327.0 / 81.0 ) 2777	( 5.88 , 1.00 ) ( 0.00 , N/A , 0.2)	154.0 26.7	0.4921 82.4 84.2	0.0943	N/A			
6:2FTS	( 427.0 / 407.0 ) 1646650 ( 427.0 / 81.0 ) 1166566	( 7.62 , 1.00 ) ( 0.00 , N/A , 0.1)	941.5 1136.4	0.7084 98.5 101.7	32.1357	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

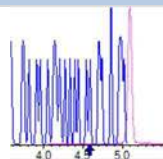
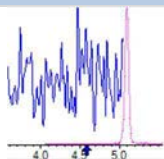
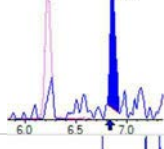
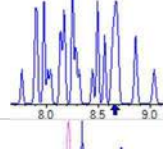
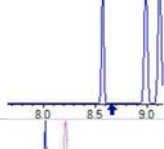
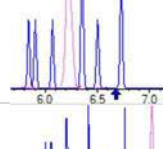
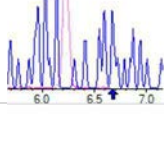
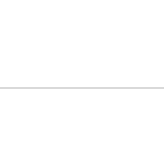
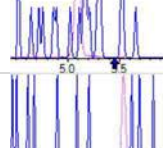

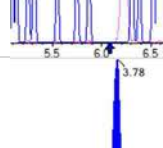
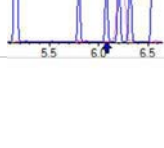
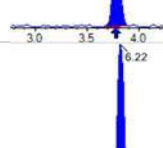
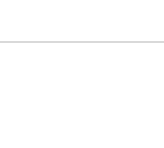
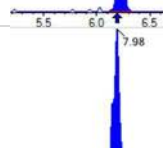
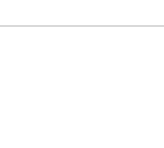
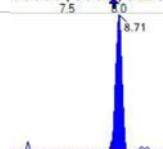
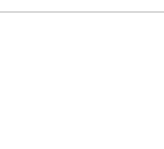
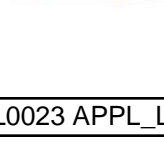
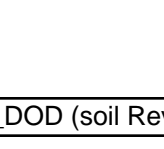


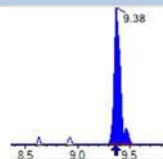
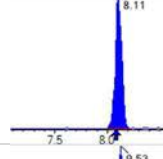
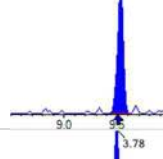
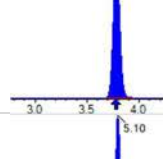
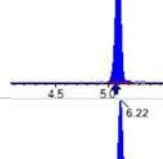
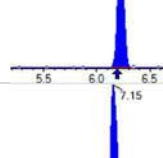
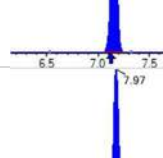
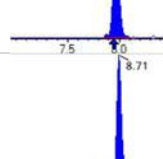
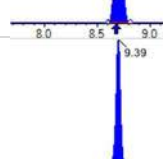
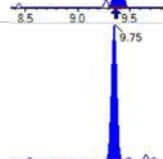
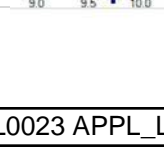
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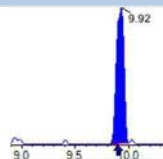
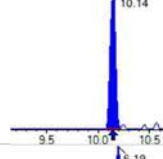
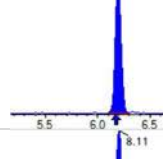
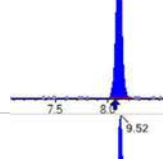
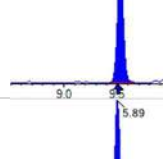
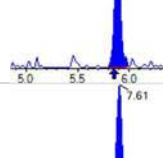
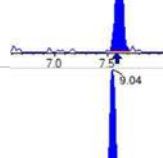
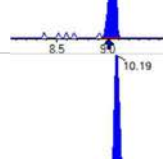
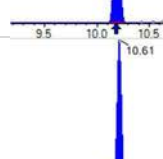
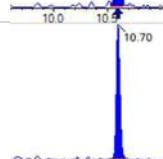
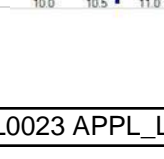
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 Acquisition Method: 1633 2022-12-07.dam

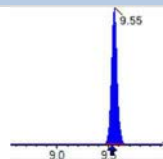
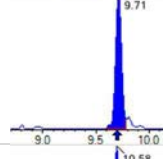
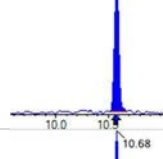
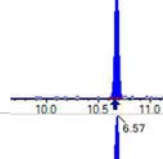
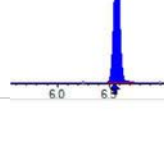
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 Path: S2022-12-08B.wif- 38  
 Acquired: 2022/12/09 - 02:02

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) N/A ( 498.0 / 478.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOFA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOFA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) 557 ( 570.0 / 483.0 ) N/A	( 9.57 , 1.00 ) ( 0.02 , N/A , #Value! )	82.6 N/A	N/A 0.0 0.0	0.0082	N/A			IR1,
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-PF3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) 2805 (341.0 / 217.0) 4102	(6.87, 1.10) (N/A, 0.04, 0.8)	77.6 24.5	1.4624 85.6 85.3	0.1020	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 9211	(3.78, N/A) (N/A, 0.02, N/A)	265.7	N/A	0.9583 [ 1.0000 ]	95.8% { 10.9% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 12484	(6.22, N/A) (N/A, 0.03, N/A)	259.4	N/A	1.0110 [ 1.0000 ]	101.1% { 10.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 10337	(7.98, N/A) (N/A, 0.03, N/A)	136.2	N/A	0.8719 [ 1.0000 ]	87.2% { 9.1% }			
13C5_PFNA_IIS	(468.0 / 423.0) 12154	(8.71, N/A) (N/A, 0.02, N/A)	301.5	N/A	1.2762 [ 1.0000 ]	127.6% { 14.1% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 9877	(9.38, N/A) (N/A, 0.02, N/A)	234.9	N/A	1.1989 [ 1.0000 ]	119.9% { 10.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 21179	(8.11, N/A) (N/A, 0.03, N/A)	318.1	N/A	0.9867 [ 1.0000 ]	98.7% { 10.3% }			
13C4_PFOS_IIS	(502.8 / 79.9) 22972	(9.53, N/A) (N/A, 0.03, N/A)	99.3	N/A	1.2342 [ 1.0000 ]	123.4% { 12.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 63969	(3.78, N/A) (N/A, 0.02, N/A)	946.7	N/A	0.7407 [ 0.8000 ]	92.6% { 10.8% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 36006	(5.10, N/A) (N/A, 0.03, N/A)	467.8	N/A	0.3954 [ 0.4000 ]	98.8% { 11.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 25674	(6.22, N/A) (N/A, 0.03, N/A)	423.4	N/A	0.2016 [ 0.2000 ]	100.8% { 10.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 22764	(7.15, N/A) (N/A, 0.03, N/A)	1558.2	N/A	0.1980 [ 0.2000 ]	99.0% { 9.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 29179	(7.97, N/A) (N/A, 0.02, N/A)	289.2	N/A	0.2775 [ 0.2000 ]	138.8% { 12.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 13620	(8.71, N/A) (N/A, 0.02, N/A)	5797.4	N/A	0.1136 [ 0.1000 ]	113.6% { 14.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 13867	(9.39, N/A) (N/A, 0.03, N/A)	715.1	N/A	0.0967 [ 0.1000 ]	96.7% { 11.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 17677	(9.75, N/A) (N/A, 0.01, N/A)	277.9	N/A	0.0918 [ 0.1000 ]	91.8% { 10.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 18291	(9.92, N/A) (N/A, 0.01, N/A)	147.4	N/A	0.0783 [0.1000]	78.3% {9.7%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 14011	(10.14, N/A) (N/A, 0.00, N/A)	200.9	N/A	0.0817 [0.1000]	81.7% {9.9%}			
13C3_PFBs_EIS	(302.0 / 80.0) 63670	(6.19, N/A) (N/A, 0.02, N/A)	355.1	N/A	0.2046 [0.2000]	102.3% {11.3%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 35813	(8.11, N/A) (N/A, 0.03, N/A)	337.0	N/A	0.2021 [0.2000]	101.1% {10.4%}			
13C8_PFOS_EIS	(507.0 / 80.0) 65029	(9.52, N/A) (N/A, 0.02, N/A)	266.6	N/A	0.1857 [0.2000]	92.8% {11.5%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 6852	(5.89, N/A) (N/A, 0.03, N/A)	71.8	N/A	0.3903 [0.4000]	97.6% {10.6%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 12921	(7.61, N/A) (N/A, 0.03, N/A)	153.7	N/A	0.5486 [0.4000]	137.2% {15.1%}			
13C2_8:2FTS_EIS	(529.0 / 81.0) 13476	(9.04, N/A) (N/A, 0.03, N/A)	173.0	N/A	0.6592 [0.4000]	164.8% {17.0%}			S2,
13C8_PFOsa_EIS	(506.0 / 78.0) 88803	(10.19, N/A) (N/A, 0.01, N/A)	372.3	N/A	0.1661 [0.2000]	83.1% {9.4%}			
D3_NMeFOsa_EIS	(515.0 / 169.0) 9221	(10.61, N/A) (N/A, 0.01, N/A)	124.6	N/A	0.0583 [0.2000]	29.1% {4.0%}			
D5_NeIFOSA_EIS	(531.1 / 169.0) 8109	(10.70, N/A) (N/A, 0.01, N/A)	147.9	N/A	0.0565 [0.2000]	28.3% {3.6%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 31070	( 9.55, N/A ) ( N/A, 0.02, N/A )	5481.8	N/A	0.3988 [ 0.4000 ]	99.7% { 12.9% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 32188	( 9.71, N/A ) ( N/A, 0.01, N/A )	187.0	N/A	0.4807 [ 0.4000 ]	120.2% { 14.2% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 28128	( 10.58, N/A ) ( N/A, 0.01, N/A )	163.7	N/A	1.0410 [ 2.0000 ]	52.0% { 6.5% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 16097	( 10.68, N/A ) ( N/A, 0.01, N/A )	288.4	N/A	1.1691 [ 2.0000 ]	58.5% { 7.4% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 70834	( 6.57, N/A ) ( N/A, 0.03, N/A )	606.9	N/A	0.8446 [ 0.8000 ]	105.6% { 10.6% }			



**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU04A-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-07
		File ID:	S2022-12-08B (39)
Sampled:	12/02/22 10:55	Prepared:	12/07/22 10:00
		Analyzed:	12/09/22 02:15
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	5.11 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
PFBA	1.5	0.29	0.20	0.15	
PFPEA	5.6	0.078	0.039	0.021	
PFHXA	2.4	0.039	0.020	0.015	
PFHPA	1.5	0.039	0.020	0.015	
PFOA	0.060	0.039	0.029	0.021	
PFNA	0.054	0.039	0.029	0.021	
PFDA	0.11	0.039	0.029	0.021	
PFUnA	0.15	0.039	0.020	0.020	
PFDOA	0.096	0.039	0.029	0.023	
PFTRDA	0.075	0.039	0.020	0.016	
PFTEDA	0.028 J	0.039	0.029	0.025	
PFBS	0.020 U	0.039	0.020	0.016	
PFPEs	0.020 U	0.039	0.020	0.012	
PFHXS	0.11	0.039	0.020	0.015	
PFHPS	0.017 J	0.039	0.020	0.011	
PFOS	5.4	0.039	0.020	0.0095	
PFNS	0.094	0.039	0.020	0.014	
PFDS	0.16	0.039	0.020	0.013	
PFDOS	0.14	0.039	0.020	0.013	IR1
4:2FTS	0.078 U	0.16	0.078	0.044	
6:2FTS	3.7	0.16	0.078	0.060	
8:2FTS	0.078 U	0.16	0.078	0.050	
PFOSA	0.028 J	0.039	0.020	0.012	
NMeFOSA	0.078 U	0.16	0.078	0.065	
NEtFOSA	0.035 J	0.16	0.078	0.026	
NMeFOSAA	0.020 U	0.039	0.020	0.0098	
NEtFOSAA	0.020 U	0.039	0.020	0.017	
NMeFOSE	0.078 U	0.16	0.078	0.053	
NEtFOSE	0.078 U	0.16	0.078	0.046	
HFPO-DA	0.039 U	0.078	0.039	0.021	

# FORM I ANALYSIS DATA SHEET

ADIT6-DU04A-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-07
		File ID:	S2022-12-08B (39)
Sampled:	12/02/22 10:55	Prepared:	12/07/22 10:00
		Analyzed:	12/09/22 02:15
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	5.11 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
ADONA	0.039 U	0.078	0.039	0.026	
PFEESA	0.039 U	0.078	0.039	0.017	
PFMPA	0.039 U	0.078	0.039	0.027	
PFMBA	0.039 U	0.078	0.039	0.032	
NFDHA	0.059 U	0.078	0.059	0.048	
9CL-PF3ONS	0.039 U	0.078	0.039	0.024	
11CL-PF3OUDS	0.039 U	0.078	0.039	0.026	
3:3FTCA	0.087 J	0.16	0.078	0.062	
5:3FTCA	1.6	0.16	0.078	0.064	
7:3FTCA	0.078 U	0.16	0.078	0.049	

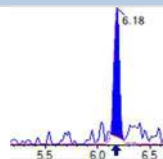
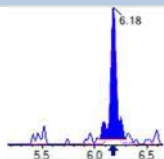
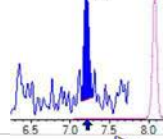
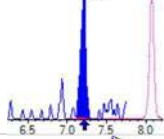
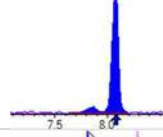
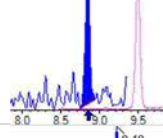
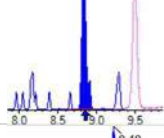
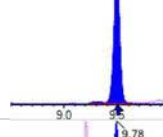
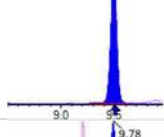
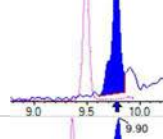
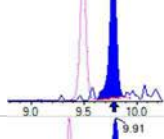
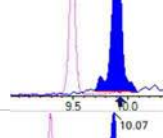
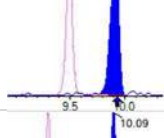
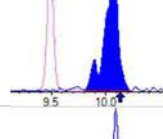
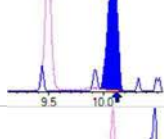
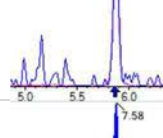
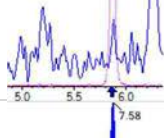
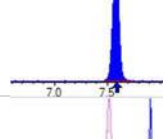
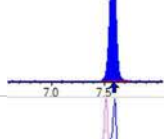
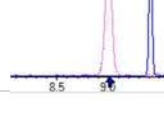
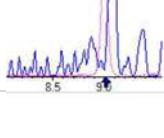


Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-07  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 39  
 Acquired: 2022/12/09 - 02:15

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 239293	(3.78, 1.00) (0.00, N/A, 0.0)	58.5	N/A 0.0 0.0	3.7290	N/A			
PFPeA	(262.9 / 219.0) 1270333 (262.9 / 69.0) 15837	(5.09, 1.00) (0.00, N/A, 0.1)	1064.6 259.4	0.0125 107.0 107.0	14.3397	N/A			
PFHxA	(313.0 / 269.0) 915418 (313.0 / 119.0) 84707	(6.20, 1.00) (0.00, N/A, 0.1)	691.2 534.0	0.0925 103.0 95.7	6.1931	N/A			
PFHpA	(363.0 / 319.0) 502260 (363.0 / 169.0) 163930	(7.12, 1.00) (0.00, N/A, -0.2)	804.4 664.4	0.3264 113.8 111.0	3.8065	N/A			
PFOA	(413.0 / 369.0) 25778 (413.0 / 169.0) 10266	(7.94, 1.00) (0.00, N/A, 0.0)	60.1 76.4	0.3983 123.1 123.7	0.1531	N/A			
PFNA	(463.0 / 419.0) 19575 (463.0 / 169.0) 3838	(8.68, 1.00) (0.00, N/A, -0.1)	65.0 25.9	0.1961 97.4 100.1	0.1384	N/A			
PFDA	(513.0 / 469.0) 42911 (513.0 / 169.0) 5151	(9.35, 1.00) (0.01, N/A, -0.1)	89.8 45.1	0.1200 135.2 116.5	0.2702	N/A			
PFUnA	(563.0 / 519.0) 65239 (563.0 / 169.0) 6041	(9.73, 1.00) (0.00, N/A, 0.2)	155.9 28.8	0.0926 86.2 99.7	0.3805	N/A			
PFDoA	(613.0 / 569.0) 36966 (613.0 / 169.0) 6016	(9.90, 1.00) (0.00, N/A, 0.1)	99.2 368.0	0.1627 136.7 145.6	0.2442	N/A			
PFTrDA	(663.0 / 619.0) 25324 (663.0 / 169.0) 6819	(10.02, 1.01) (N/A, -0.01, -0.1)	65.0 36.8	0.2693 144.6 139.9	0.1904	N/A			
PFTeDA	(713.0 / 669.0) 7829 (713.0 / 169.0) 1315	(10.13, 1.00) (0.00, N/A, 1.0)	39.1 7.1	0.1680 85.3 78.7	0.0719	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 6066 (298.9 / 99.0) 5140	(6.18, 1.00) (0.00, N/A, 0.3)	35.6 47.6	0.8472 125.1 124.7	0.0261	N/A			
PFPeS	(349.0 / 80.0) 6891 (349.0 / 99.0) 3685	(7.21, 0.89) (N/A, 0.00, -0.2)	16.8 33.4	0.5348 146.6 146.7	0.0155	N/A			
PFHxS	(399.0 / 80.0) 109172 (399.0 / 99.0) 34628	(8.08, 1.00) (0.00, N/A, -0.2)	475.3 2431.4	0.3172 92.0 90.2	0.2777	N/A			
PFHpS	(449.0 / 80.0) 13506 (449.0 / 99.0) 4247	(8.84, 0.93) (N/A, -0.01, 0.5)	24.3 36.4	0.3144 110.6 104.9	0.0436	N/A			
PFOS	(499.0 / 80.0) 5241477 (499.0 / 99.0) 1402067	(9.49, 1.00) (0.00, N/A, 0.1)	375.5 502.5	0.2675 103.9 109.8	13.6723	N/A			
PFNS	(549.0 / 80.0) 108677 (549.0 / 99.0) 15395	(9.78, 1.03) (N/A, -0.01, 0.1)	42.8 48.7	0.1417 59.3 55.5	0.2414	N/A			
PFDS	(599.0 / 80.0) 230553 (599.0 / 99.0) 38035	(9.90, 1.04) (N/A, -0.03, -0.5)	80.5 144.1	0.1650 70.9 72.5	0.4090	N/A			
PFDoS	(698.9 / 80.0) 115988 (698.9 / 99.0) 7731	(10.07, 1.06) (N/A, -0.06, -1.4)	58.7 49.2	0.0667 28.8 30.2	0.3469	N/A			IR1,
4:2FTS	(327.0 / 307.0) N/A (327.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	(427.0 / 407.0) 660837 (427.0 / 81.0) 472884	(7.58, 1.00) (0.00, N/A, 0.1)	1010.2 957.3	0.7156 99.5 102.7	9.3905	N/A			
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

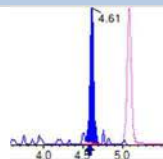
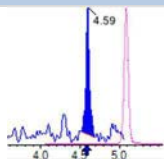
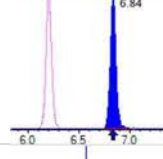
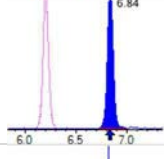
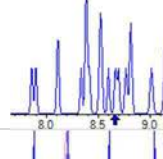
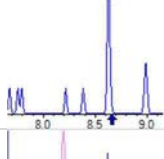
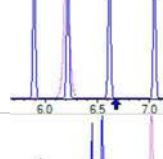
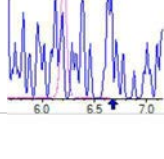
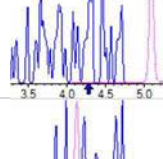
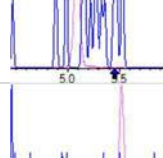
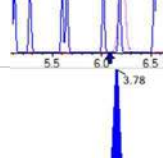
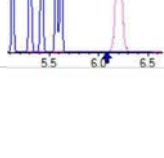
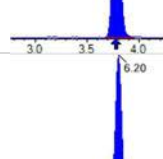
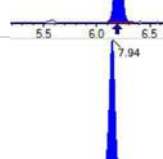
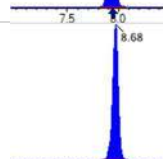
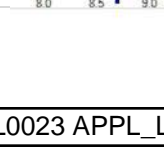


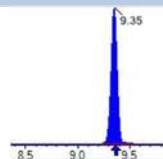
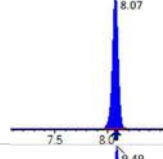
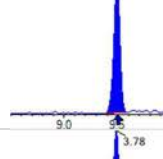
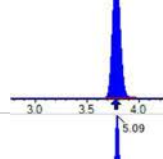
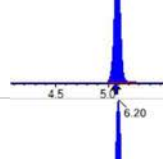
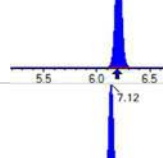
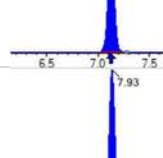
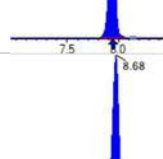
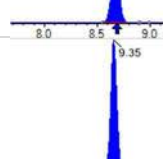
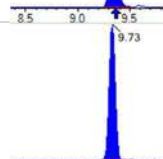
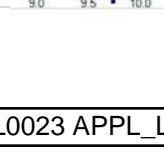
Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

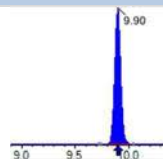
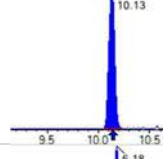
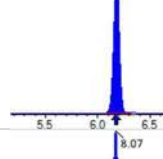
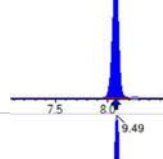
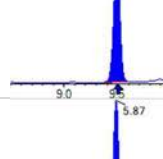
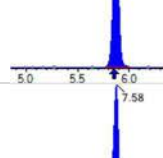
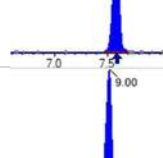
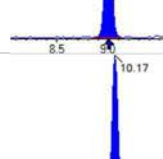
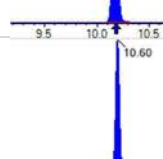
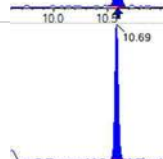
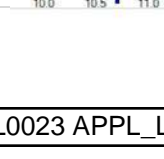
Sample I.D.: 22L0023-07  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 39  
 Acquired: 2022/12/09 - 02:15

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 20695 ( 498.0 / 478.0 ) N/A	( 10.17 , 1.00 ) ( 0.00 , N/A , #Value)	113.4 N/A	N/A 0.0 0.0	0.0708	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSA	( 526.0 / 219.0 ) 1505 ( 526.0 / 169.0 ) 962	( 10.72 , 1.00 ) ( 0.03 , N/A , 30.8 )	13.5 9.4	0.6389 58.6 57.8	0.0887	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-PF3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 971 (241.0 / 117.0) 1951	(4.61, 0.91) (N/A, 0.03, 1.0)	66.6 39.2	2.0080 115.4 119.1	0.2232	N/A			
5:3FTCA	(341.0 / 236.7) 127617 (341.0 / 217.0) 195442	(6.84, 1.10) (N/A, 0.00, -0.1)	617.5 376.6	1.5315 89.7 89.3	4.0638	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 93784	(3.78, N/A) (N/A, 0.02, N/A)	668.3	N/A	0.9756 [ 1.0000 ]	97.6% { 111.4% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 141018	(6.20, N/A) (N/A, 0.01, N/A)	478.9	N/A	1.1420 [ 1.0000 ]	114.2% { 121.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 158717	(7.94, N/A) (N/A, -0.01, N/A)	942.0	N/A	1.3388 [ 1.0000 ]	133.9% { 140.4% }			
13C5_PFNA_IIS	(468.0 / 423.0) 142307	(8.68, N/A) (N/A, -0.01, N/A)	538.7	N/A	1.4942 [ 1.0000 ]	149.4% { 164.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 127987	(9.35, N/A) (N/A, -0.01, N/A)	362.3	N/A	1.5536 [ 1.0000 ]	155.4% { 133.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 298424	(8.07, N/A) (N/A, -0.01, N/A)	819.9	N/A	1.3904 [ 1.0000 ]	139.0% { 145.8% }			
13C4_PFOS_IIS	(502.8 / 79.9) 215531	(9.49, N/A) (N/A, -0.01, N/A)	181.5	N/A	1.1580 [ 1.0000 ]	115.8% { 118.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 674226	(3.78, N/A) (N/A, 0.02, N/A)	1016.1	N/A	7.6681 [ 8.0000 ]	95.9% { 114.1% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 368618	(5.09, N/A) (N/A, 0.02, N/A)	935.8	N/A	3.5834 [ 4.0000 ]	89.6% { 118.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 293303	(6.20, N/A) (N/A, 0.01, N/A)	1137.4	N/A	2.0391 [ 2.0000 ]	102.0% { 116.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 260510	(7.12, N/A) (N/A, 0.00, N/A)	819.2	N/A	2.0065 [ 2.0000 ]	100.3% { 113.8% }			
13C8_PFOA_EIS	(421.0 / 376.0) 326570	(7.93, N/A) (N/A, -0.01, N/A)	648.7	N/A	2.0229 [ 2.0000 ]	101.1% { 137.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 146671	(8.68, N/A) (N/A, -0.01, N/A)	439.1	N/A	1.0444 [ 1.0000 ]	104.4% { 161.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 156552	(9.35, N/A) (N/A, -0.01, N/A)	315.0	N/A	0.8421 [ 1.0000 ]	84.2% { 131.1% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 194781	(9.73, N/A) (N/A, -0.01, N/A)	400.7	N/A	0.7805 [ 1.0000 ]	78.1% { 116.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 164525	(9.90, N/A) (N/A, -0.01, N/A)	353.1	N/A	0.5432 [ 1.0000 ]	54.3% { 87.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 110536	(10.13, N/A) (N/A, -0.01, N/A)	258.7	N/A	0.4972 [ 1.0000 ]	49.7% { 78.5% }			
13C3_PFBs_EIS	(302.0 / 80.0) 762075	(6.18, N/A) (N/A, 0.01, N/A)	916.5	N/A	1.7376 [ 2.0000 ]	86.9% { 135.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 468981	(8.07, N/A) (N/A, 0.00, N/A)	719.1	N/A	1.8785 [ 2.0000 ]	93.9% { 136.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 682950	(9.49, N/A) (N/A, -0.01, N/A)	253.4	N/A	2.0786 [ 2.0000 ]	103.9% { 120.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 120893	(5.87, N/A) (N/A, 0.02, N/A)	569.4	N/A	4.8874 [ 4.0000 ]	122.2% { 187.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 177457	(7.58, N/A) (N/A, 0.00, N/A)	585.9	N/A	5.3474 [ 4.0000 ]	133.7% { 207.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 169355	(9.00, N/A) (N/A, 0.00, N/A)	299.9	N/A	5.8795 [ 4.0000 ]	147.0% { 213.8% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 526493	(10.17, N/A) (N/A, -0.01, N/A)	691.0	N/A	1.0496 [ 2.0000 ]	52.5% { 55.6% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 40659	(10.60, N/A) (N/A, 0.00, N/A)	251.4	N/A	0.2739 [ 2.0000 ]	13.7% { 17.6% }			S1,
D5_NEiFOSA_EIS	(531.1 / 169.0) 32763	(10.69, N/A) (N/A, 0.00, N/A)	255.5	N/A	0.2434 [ 2.0000 ]	12.2% { 14.7% }			S1,





Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

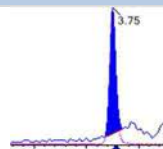
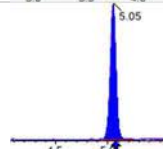
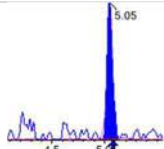
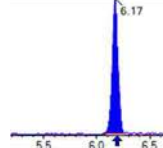
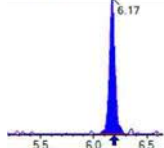
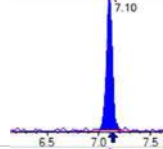
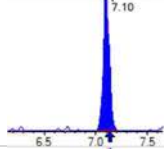
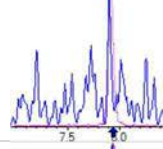
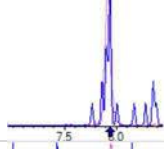
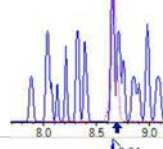
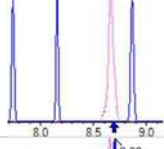
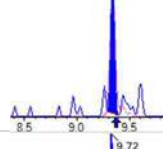
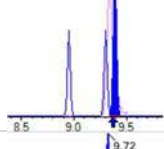
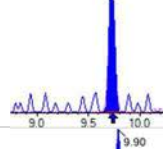
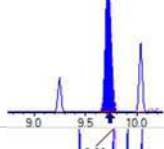
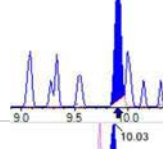
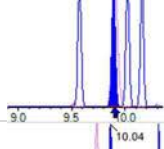
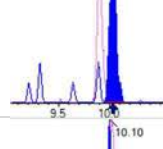
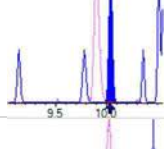
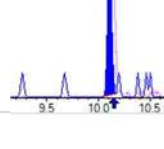
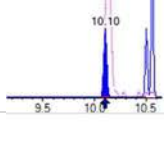
Sample I.D.: 22L0023-07  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 39  
 Acquired: 2022/12/09 - 02:15

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 499583	( 9.52, N/A ) ( N/A, -0.02, N/A )	593.8	N/A	6.8343 [ 4.0000 ]	170.9% { 208.1% }			S2,
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 403528	( 9.69, N/A ) ( N/A, -0.01, N/A )	381.1	N/A	6.4228 [ 4.0000 ]	160.6% { 177.8% }			S2,
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 165867	( 10.56, N/A ) ( N/A, -0.01, N/A )	437.1	N/A	6.5426 [ 20.0000 ]	32.7% { 38.2% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 93219	( 10.66, N/A ) ( N/A, 0.00, N/A )	601.6	N/A	7.2164 [ 20.0000 ]	36.1% { 42.6% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 757053	( 6.55, N/A ) ( N/A, 0.00, N/A )	989.4	N/A	7.9915 [ 8.0000 ]	99.9% { 113.4% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU04A-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023		
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling		
Matrix:	Solid	Laboratory ID:	22L0023-07RE1	File ID:	S2022-12-08B (40)
Sampled:	12/02/22 10:55	Prepared:	12/07/22 10:00	Analyzed:	12/09/22 02:28
Solids:		Preparation:	EPA 1633	Dilution:	10
Initial/Final:	5.11 g / 2 ml			Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753	Calibration:	2250016

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 21977	(3.75, 1.00) (0.00, N/A, 0.0)	33.2	N/A 0.0 0.0	0.3619	N/A			
PFPeA	(262.9 / 219.0) 105051 (262.9 / 69.0) 1268	(5.05, 1.00) (0.00, N/A, 0.2)	558.6 40.7	0.0121 103.6 103.5	1.3224	N/A			
PFHxA	(313.0 / 269.0) 85261 (313.0 / 119.0) 8653	(6.17, 1.00) (0.00, N/A, -0.1)	308.8 172.9	0.1015 112.9 105.0	0.5809	N/A			
PFHpA	(363.0 / 319.0) 41628 (363.0 / 169.0) 14889	(7.10, 1.00) (0.00, N/A, 0.2)	157.4 210.5	0.3577 124.7 121.7	0.3611	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) 4691 (513.0 / 169.0) 531	(9.34, 1.00) (0.00, N/A, -3.1)	28.1 489.3	0.1131 127.4 109.8	0.0237	N/A			
PFUnA	(563.0 / 519.0) 7259 (563.0 / 169.0) 1894	(9.72, 1.00) (0.00, N/A, 0.4)	26.6 171.8	0.2609 242.8 280.9	0.0421	N/A			IR2,
PFDoA	(613.0 / 569.0) 2455 (613.0 / 169.0) 299	(9.90, 1.00) (0.00, N/A, 0.8)	15.6 45.5	0.1217 102.2 108.9	0.0114	N/A			
PFTTrDA	(663.0 / 619.0) 4445 (663.0 / 169.0) 840	(10.03, 1.01) (N/A, 0.00, -0.4)	29.9 31.4	0.1891 101.5 98.3	0.0236	N/A			
PFTeDA	(713.0 / 669.0) 2074 (713.0 / 169.0) 268	(10.10, 1.00) (-0.03, N/A, 0.1)	34.2 271.0	0.1292 65.6 60.5	0.0149	N/A			



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-07RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 40  
 Acquired: 2022/12/09 - 02:28

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 746 ( 298.9 / 99.0 ) 839	( 6.16 , 1.00 ) ( 0.01 , N/A , -0.8)	13.3 13.1	1.1238 165.9 165.4	0.0035	N/A			IR2,
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) 10242 ( 399.0 / 99.0 ) 3230	( 8.06 , 1.00 ) ( 0.01 , N/A , 0.8)	711.5 19205.0	0.3154 91.5 89.7	0.0320	N/A			
PFHpS	( 449.0 / 80.0 ) 828 ( 449.0 / 99.0 ) 390	( 8.84 , 0.93 ) ( N/A , -0.01 , 20.9)	14.4 3834.3	0.4704 165.5 156.9	0.0021	N/A			IR2,
PFOS	( 499.0 / 80.0 ) 493243 ( 499.0 / 99.0 ) 131827	( 9.49 , 1.00 ) ( 0.00 , N/A , 0.1)	332.4 173.6	0.2673 103.8 109.7	1.0195	N/A			
PFNS	( 549.0 / 80.0 ) 18424 ( 549.0 / 99.0 ) 2198	( 9.80 , 1.03 ) ( N/A , 0.01 , 1.5)	23.6 13.5	0.1193 49.9 46.7	0.0324	N/A			IR1,
PFDS	( 599.0 / 80.0 ) 23035 ( 599.0 / 99.0 ) 4248	( 9.90 , 1.04 ) ( N/A , -0.03 , -2.2)	45.2 32.3	0.1844 79.3 81.1	0.0324	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) 41469 ( 427.0 / 81.0 ) 28936	( 7.56 , 1.00 ) ( -0.01 , N/A , -0.3)	227.5 177.1	0.6978 97.0 100.2	1.0176	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

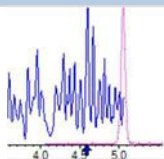
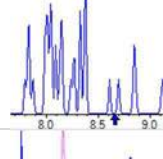
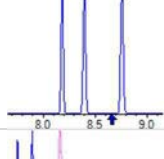
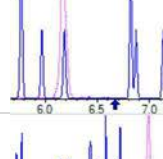
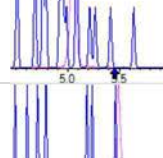
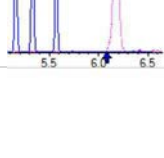
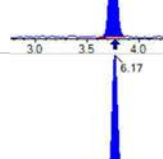
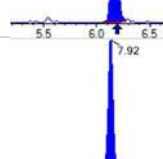
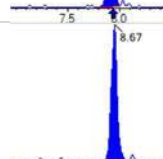
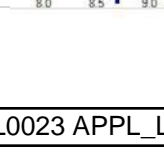


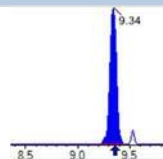
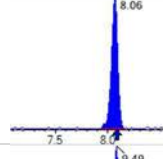
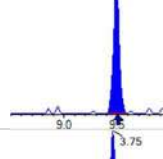
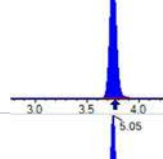
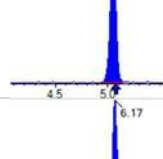
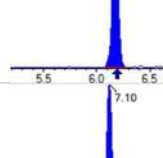
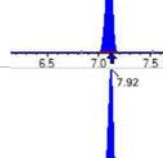
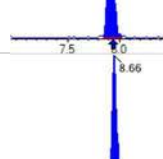
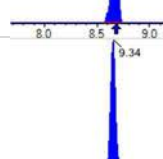
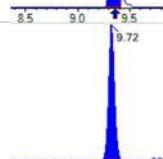
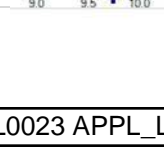
Chemist: DAG  
Instrument: Saphira  
Type: Sciex Q3 5500

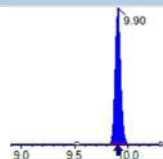
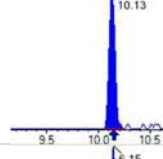
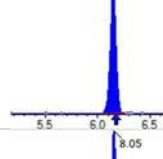
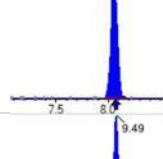
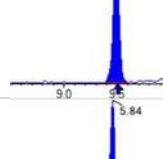

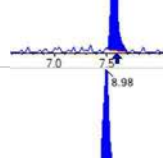
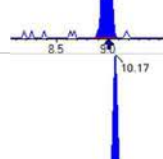
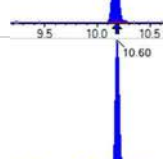
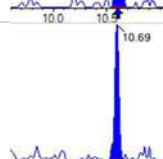
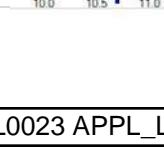
Sample I.D.: 22L0023-07RE1@10  
DF, IV: 1, 1.0µL  
Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
Path: S2022-12-08B.wiff- 40  
Acquired: 2022/12/09 - 02:28

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 3101 ( 498.0 / 478.0 ) N/A	( 10.17 , 1.00 ) ( 0.00 , N/A , #Value)	39.6 N/A	N/A 0.0 0.0	0.0066	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSA	( 526.0 / 219.0 ) 257 ( 526.0 / 169.0 ) 228	( 10.72 , 1.00 ) ( 0.03 , N/A , 8.4 )	8.5 6.3	0.8893 81.6 80.4	0.0104	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-PF3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) 9525 (341.0 / 217.0) 16083	(6.81, 1.10) (N/A, -0.03, 0.2)	139.1 81.2	1.6884 98.9 98.5	0.3055	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 8441	(3.75, N/A) (N/A, -0.02, N/A)	255.2	N/A	0.8781 [ 1.0000 ]	87.8% { 10.0% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 15369	(6.17, N/A) (N/A, -0.03, N/A)	234.0	N/A	1.2446 [ 1.0000 ]	124.5% { 13.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 12116	(7.92, N/A) (N/A, -0.03, N/A)	179.3	N/A	1.0220 [ 1.0000 ]	102.2% { 10.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 15115	(8.67, N/A) (N/A, -0.02, N/A)	291.0	N/A	1.5870 [ 1.0000 ]	158.7% { 17.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 11404	(9.34, N/A) (N/A, -0.02, N/A)	569.0	N/A	1.3843 [ 1.0000 ]	138.4% { 11.9% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 28626	(8.06, N/A) (N/A, -0.02, N/A)	301.9	N/A	1.3337 [ 1.0000 ]	133.4% { 14.0% }			
13C4_PFOS_IIS	(502.8 / 79.9) 27248	(9.49, N/A) (N/A, -0.01, N/A)	99.7	N/A	1.4640 [ 1.0000 ]	146.4% { 15.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 63804	(3.75, N/A) (N/A, -0.02, N/A)	1052.6	N/A	0.8063 [ 0.8000 ]	100.8% { 10.8% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 33055	(5.05, N/A) (N/A, -0.02, N/A)	455.3	N/A	0.2948 [ 0.4000 ]	73.7% { 10.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 29126	(6.17, N/A) (N/A, -0.03, N/A)	388.5	N/A	0.1858 [ 0.2000 ]	92.9% { 11.5% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 22761	(7.10, N/A) (N/A, -0.02, N/A)	2449.6	N/A	0.1609 [ 0.2000 ]	80.4% { 9.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 24470	(7.92, N/A) (N/A, -0.03, N/A)	284.2	N/A	0.1986 [ 0.2000 ]	99.3% { 10.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 10685	(8.66, N/A) (N/A, -0.02, N/A)	84.0	N/A	0.0716 [ 0.1000 ]	71.6% { 11.7% }			
13C6_PFDA_EIS	(519.0 / 474.0) 19497	(9.34, N/A) (N/A, -0.02, N/A)	20951.0	N/A	0.1177 [ 0.1000 ]	117.7% { 16.3% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 19565	(9.72, N/A) (N/A, -0.01, N/A)	447.1	N/A	0.0880 [ 0.1000 ]	88.0% { 11.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	( 615.0 / 570.0 ) 23313	( 9.90 , N/A ) ( N/A , -0.01 , N/A )	1072.0	N/A	0.0864 [ 0.1000 ]	86.4% { 12.3% }			
13C2_PFTeDA_EIS	( 715.0 / 670.0 ) 14075	( 10.13 , N/A ) ( N/A , -0.01 , N/A )	88.2	N/A	0.0710 [ 0.1000 ]	71.0% { 10.0% }			
13C3_PFBs_EIS	( 302.0 / 80.0 ) 69980	( 6.15 , N/A ) ( N/A , -0.02 , N/A )	445.1	N/A	0.1663 [ 0.2000 ]	83.2% { 12.4% }			
13C3_PFHxS_EIS	( 402.0 / 80.0 ) 38203	( 8.05 , N/A ) ( N/A , -0.02 , N/A )	436.7	N/A	0.1595 [ 0.2000 ]	79.8% { 11.1% }			
13C8_PFOS_EIS	( 507.0 / 80.0 ) 86188	( 9.49 , N/A ) ( N/A , -0.02 , N/A )	183.0	N/A	0.2075 [ 0.2000 ]	103.7% { 15.2% }			
13C2_4:2FTS_EIS	( 329.0 / 81.0 ) 7320	( 5.84 , N/A ) ( N/A , -0.02 , N/A )	100.6	N/A	0.3085 [ 0.4000 ]	77.1% { 11.3% }			
13C2_6:2FTS_EIS	( 429.0 / 81.0 ) 10276	( 7.57 , N/A ) ( N/A , -0.02 , N/A )	111.7	N/A	0.3228 [ 0.4000 ]	80.7% { 12.0% }			
13C2_8:2FTS_EIS	( 529.0 / 81.0 ) 12369	( 8.98 , N/A ) ( N/A , -0.03 , N/A )	92.4	N/A	0.4477 [ 0.4000 ]	111.9% { 15.6% }			
13C8_PFOsa_EIS	( 506.0 / 78.0 ) 84116	( 10.17 , N/A ) ( N/A , -0.01 , N/A )	518.1	N/A	0.1326 [ 0.2000 ]	66.3% { 8.9% }			
D3_NMeFOSA_EIS	( 515.0 / 169.0 ) 4195	( 10.60 , N/A ) ( N/A , -0.01 , N/A )	64.2	N/A	0.0224 [ 0.2000 ]	11.2% { 1.8% }			S1,
D5_NEiFOSA_EIS	( 531.1 / 169.0 ) 4771	( 10.69 , N/A ) ( N/A , 0.00 , N/A )	63.1	N/A	0.0280 [ 0.2000 ]	14.0% { 2.1% }			S1,





Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-07RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 40  
 Acquired: 2022/12/09 - 02:28

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 41708	( 9.51 , N/A ) ( N/A , -0.03 , N/A )	198.9	N/A	0.4513 [ 0.4000 ]	112.8% { 17.4% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 48312	( 9.68 , N/A ) ( N/A , -0.02 , N/A )	217.4	N/A	0.6082 [ 0.4000 ]	152.1% { 21.3% }			S2,
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 24301	( 10.56 , N/A ) ( N/A , -0.01 , N/A )	128.7	N/A	0.7582 [ 2.0000 ]	37.9% { 5.6% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 14340	( 10.66 , N/A ) ( N/A , 0.00 , N/A )	202.8	N/A	0.8781 [ 2.0000 ]	43.9% { 6.5% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 60230	( 6.52 , N/A ) ( N/A , -0.03 , N/A )	507.6	N/A	0.5834 [ 0.8000 ]	72.9% { 9.0% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU01-SON01MI-22DEC

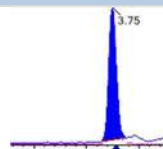
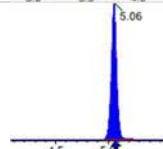
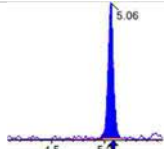
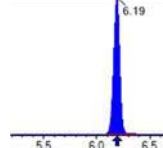
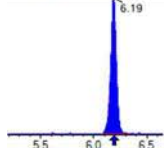
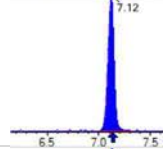
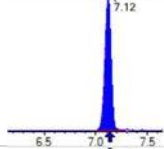
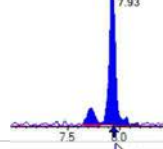
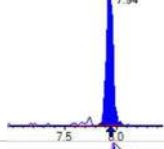
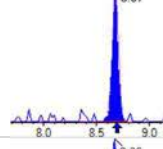
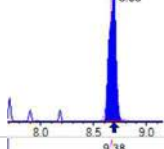
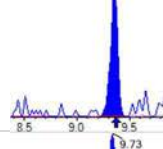
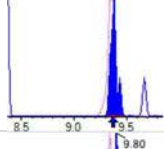
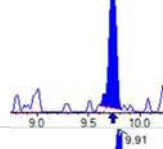
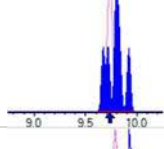
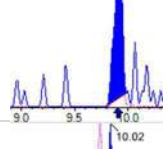
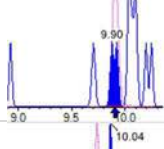
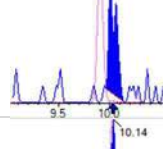
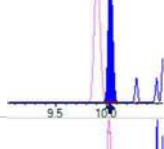
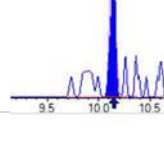
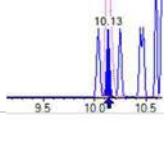
Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-08
		File ID:	S2022-12-08B (41)
Sampled:	12/02/22 13:00	Prepared:	12/07/22 10:00
		Analyzed:	12/09/22 02:40
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	5 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

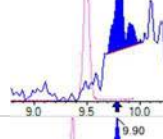
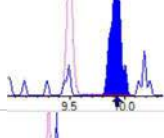
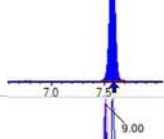
COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
PFBA	0.97	0.30	0.20	0.15	
PFPEA	2.7	0.080	0.040	0.022	
PFHXA	2.7	0.040	0.020	0.015	
PFHPA	0.68	0.040	0.020	0.015	
PFOA	0.16	0.040	0.030	0.021	
PFNA	0.038 J	0.040	0.030	0.022	IR2,
PFDA	0.031 J	0.040	0.030	0.022	
PFUnA	0.026 J	0.040	0.020	0.020	IR2,
PFDOA	0.030 U	0.040	0.030	0.023	
PFTRDA	0.020 U	0.040	0.020	0.016	IR2,
PFTEDA	0.030 U	0.040	0.030	0.025	IR1,
PFBS	0.020 U	0.040	0.020	0.016	
PFPEs	0.020 U	0.040	0.020	0.012	
PFHXS	0.081	0.040	0.020	0.015	
PFHPS	0.020 U	0.040	0.020	0.011	IR2,
PFOS	1.5	0.040	0.020	0.0097	
PFNS	0.015 J	0.040	0.020	0.015	
PFDS	0.023 J	0.040	0.020	0.014	
PFDOS	0.017 J	0.040	0.020	0.013	IR1,
4:2FTS	0.28	0.16	0.080	0.045	
6:2FTS	47	0.16	0.080	0.061	
8:2FTS	0.080 U	0.16	0.080	0.051	
PFOSA	0.020 U	0.040	0.020	0.012	
NMeFOSA	0.080 U	0.16	0.080	0.066	
NEtFOSA	0.080 U	0.16	0.080	0.027	
NMeFOSAA	0.020 U	0.040	0.020	0.010	
NEtFOSAA	0.020 U	0.040	0.020	0.018	IR2,
NMeFOSE	0.080 U	0.16	0.080	0.054	
NEtFOSE	0.080 U	0.16	0.080	0.047	
HFPO-DA	0.040 U	0.080	0.040	0.022	

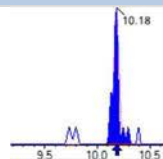
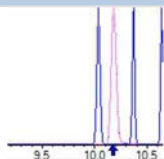
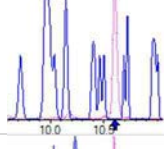
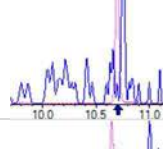
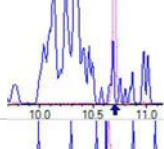
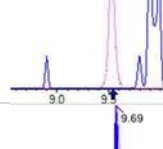
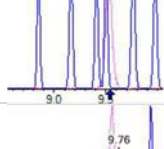
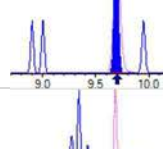
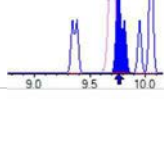
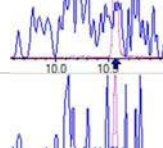
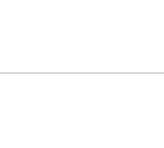
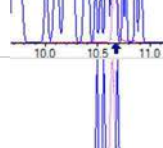
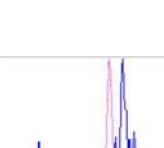
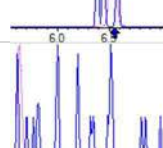
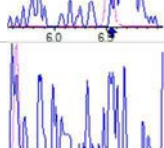
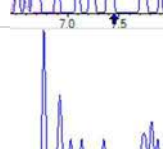
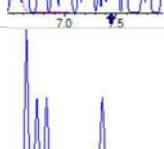
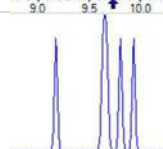
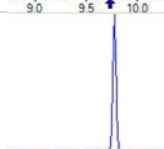
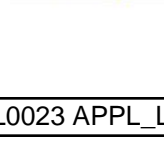
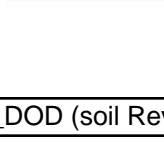
**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU01-SON01MI-22DEC

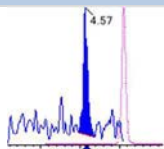
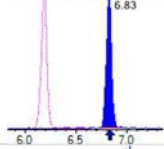
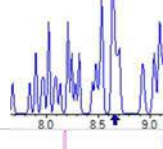
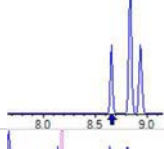
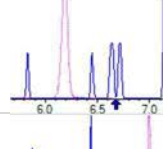
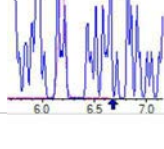
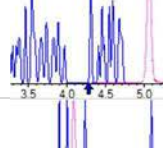
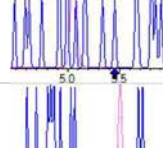
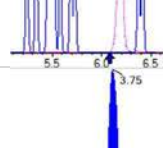
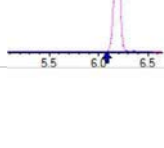
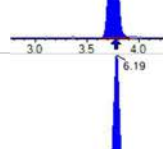
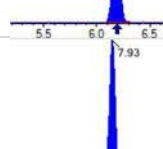
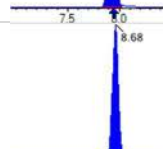
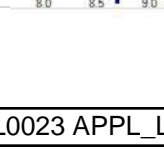
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Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-08
		File ID:	S2022-12-08B (41)
Sampled:	12/02/22 13:00	Prepared:	12/07/22 10:00
		Analyzed:	12/09/22 02:40
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	5 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

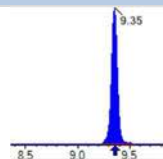
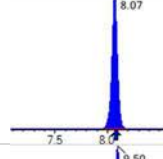
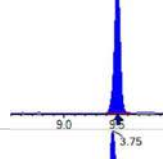
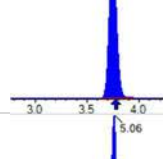
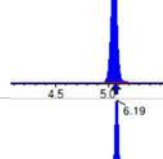
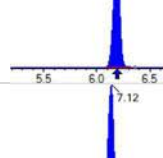
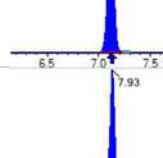
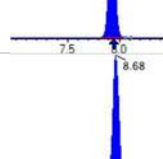
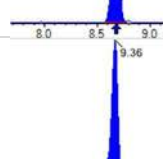
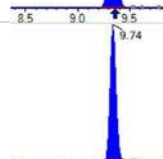
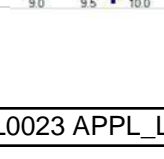
COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
ADONA	0.040 U	0.080	0.040	0.026	
PFEESA	0.040 U	0.080	0.040	0.017	
PFMPA	0.040 U	0.080	0.040	0.028	
PFMBA	0.040 U	0.080	0.040	0.032	
NFDHA	0.060 U	0.080	0.060	0.049	
9CL-PF3ONS	0.040 U	0.080	0.040	0.024	
11CL-PF3OUDS	0.040 U	0.080	0.040	0.027	
3:3FTCA	0.080 U	0.16	0.080	0.064	IR2,
5:3FTCA	0.61	0.16	0.080	0.065	
7:3FTCA	0.080 U	0.16	0.080	0.050	

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 84448	(3.75, 1.00) (0.00, N/A, 0.0)	49.6	N/A 0.0 0.0	2.4143	N/A			
PFPeA	(262.9 / 219.0) 621328 (262.9 / 69.0) 6952	(5.06, 1.00) (0.00, N/A, 0.0)	860.7 137.4	0.0112 96.1 96.0	6.8158	N/A			
PFHxA	(313.0 / 269.0) 1009005 (313.0 / 119.0) 90261	(6.19, 1.00) (0.00, N/A, 0.1)	1035.4 490.4	0.0895 99.5 92.5	6.7087	N/A			
PFHpA	(363.0 / 319.0) 233778 (363.0 / 169.0) 78443	(7.12, 1.00) (0.00, N/A, 0.1)	429.7 503.3	0.3355 117.0 114.2	1.7121	N/A			
PFOA	(413.0 / 369.0) 62971 (413.0 / 169.0) 15819	(7.93, 1.00) (0.00, N/A, -0.3)	236.0 170.6	0.2512 77.6 78.0	0.4063	N/A			
PFNA	(463.0 / 419.0) 11596 (463.0 / 169.0) 4727	(8.67, 1.00) (0.00, N/A, -0.4)	72.5 50.0	0.4076 202.5 208.2	0.0961	N/A			IR2,
PFDA	(513.0 / 469.0) 12949 (513.0 / 169.0) 1605	(9.36, 1.00) (0.00, N/A, -1.1)	34.0 136.0	0.1239 139.6 120.3	0.0763	N/A			
PFUnA	(563.0 / 519.0) 11906 (563.0 / 169.0) 1870	(9.73, 1.00) (0.00, N/A, -4.2)	33.9 98.9	0.1571 146.2 169.1	0.0661	N/A			IR2,
PFDoA	(613.0 / 569.0) 6037 (613.0 / 169.0) 599	(9.91, 1.00) (0.00, N/A, 0.8)	17.3 5.2	0.0992 83.3 88.8	0.0284	N/A			
PFTrDA	(663.0 / 619.0) 4436 (663.0 / 169.0) 2236	(10.02, 1.01) (N/A, -0.01, -0.7)	19.5 138.0	0.5041 270.7 262.0	0.0237	N/A			IR2,
PFTeDA	(713.0 / 669.0) 2921 (713.0 / 169.0) 263	(10.14, 1.00) (0.01, N/A, 0.7)	18.7 10.9	0.0899 45.7 42.1	0.0243	N/A			IR1,

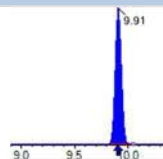
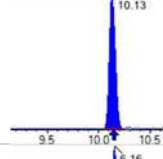
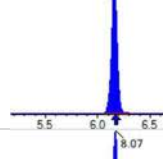
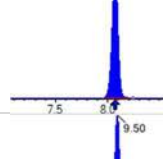
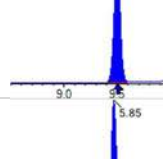
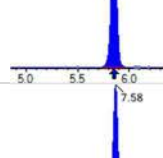
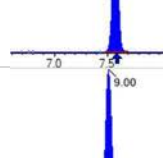
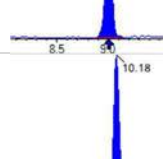
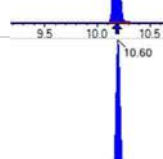
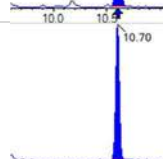
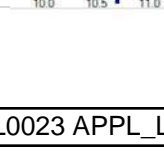
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 7407 (298.9 / 99.0) 4008	(6.16, 1.00) (0.00, N/A, -0.4)	47.5 30.0	0.5411 79.9 79.6	0.0319	N/A			
PFPeS	(349.0 / 80.0) 7756 (349.0 / 99.0) 2113	(7.19, 0.89) (N/A, -0.02, -0.4)	26.7 15.8	0.2724 74.7 74.7	0.0178	N/A			
PFHxS	(399.0 / 80.0) 77967 (399.0 / 99.0) 28727	(8.07, 1.00) (0.00, N/A, 0.0)	365.5 2215.6	0.3684 106.9 104.8	0.2014	N/A			
PFHpS	(449.0 / 80.0) 6433 (449.0 / 99.0) 2788	(8.83, 0.93) (N/A, -0.02, -0.1)	13.8 234.9	0.4334 152.5 144.6	0.0183	N/A			IR2,
PFOS	(499.0 / 80.0) 1657829 (499.0 / 99.0) 424498	(9.50, 1.00) (0.00, N/A, 0.1)	296.5 382.6	0.2561 99.4 105.1	3.8006	N/A			
PFNS	(549.0 / 80.0) 19354 (549.0 / 99.0) 3139	(9.81, 1.03) (N/A, 0.02, 2.8)	11.7 21.5	0.1622 67.8 63.5	0.0378	N/A			
PFDS	(599.0 / 80.0) 36599 (599.0 / 99.0) 7137	(9.90, 1.04) (N/A, -0.03, -1.1)	22.5 29.9	0.1950 83.8 85.8	0.0571	N/A			
PFDoS	(698.9 / 80.0) 16051 (698.9 / 99.0) 793	(10.05, 1.06) (N/A, -0.07, -2.3)	21.7 9.3	0.0494 21.3 22.4	0.0422	N/A			IR1,
4:2FTS	(327.0 / 307.0) 66984 (327.0 / 81.0) 37404	(5.85, 1.00) (0.00, N/A, -0.1)	647.7 170.4	0.5584 93.5 95.5	0.7087	N/A			
6:2FTS	(427.0 / 407.0) 8685535 (427.0 / 81.0) 5969784	(7.58, 1.00) (0.00, N/A, 0.0)	1340.5 1392.3	0.6873 95.6 98.7	117.4396	N/A			E,
8:2FTS	(527.0 / 507.0) 2579 (527.0 / 81.0) 1149	(9.01, 1.00) (0.01, N/A, 0.9)	804.8 9.1	0.4455 71.5 67.3	0.0501	N/A			

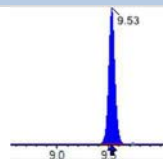
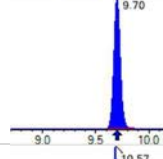
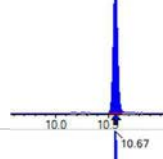
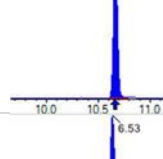
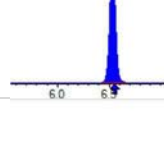
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 3840 ( 498.0 / 478.0 ) N/A	( 10.18 , 1.00 ) ( 0.00 , N/A , #Value)	48.7 N/A	N/A 0.0 0.0	0.0104	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSAA	( 584.0 / 419.0 ) 945 ( 584.0 / 526.0 ) 946	( 9.69 , 1.00 ) ( -0.01 , N/A , -4.3 )	107752.6 67.2	1.0007 164.9 150.8	0.0113	N/A			IR2,
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-PF3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 411 (241.0 / 117.0) 1140	(4.57, 0.90) (N/A, -0.01, 0.4)	29.0 25.3	2.7706 159.2 164.4	0.0919	N/A			IR2,
5:3FTCA	(341.0 / 236.7) 48528 (341.0 / 217.0) 75856	(6.82, 1.10) (N/A, -0.01, -0.1)	460.4 380.3	1.5631 91.5 91.2	1.5187	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 87915	(3.75, N/A) (N/A, -0.02, N/A)	712.5	N/A	0.9146 [ 1.0000 ]	91.5% { 104.4% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 135139	(6.19, N/A) (N/A, -0.01, N/A)	742.2	N/A	1.0944 [ 1.0000 ]	109.4% { 116.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 146072	(7.93, N/A) (N/A, -0.01, N/A)	565.6	N/A	1.2322 [ 1.0000 ]	123.2% { 129.2% }			
13C5_PFNxA_IIS	(468.0 / 423.0) 134785	(8.68, N/A) (N/A, -0.01, N/A)	349.1	N/A	1.4152 [ 1.0000 ]	141.5% { 156.1% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 134336	(9.35, N/A) (N/A, -0.01, N/A)	1349.5	N/A	1.6306 [ 1.0000 ]	163.1% { 140.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 278550	(8.07, N/A) (N/A, -0.01, N/A)	1076.3	N/A	1.2978 [ 1.0000 ]	129.8% { 136.1% }			
13C4_PFOS_IIS	(502.8 / 79.9) 280437	(9.50, N/A) (N/A, 0.00, N/A)	380.1	N/A	1.5067 [ 1.0000 ]	150.7% { 153.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 367502	(3.75, N/A) (N/A, -0.02, N/A)	964.2	N/A	4.4587 [ 8.0000 ]	55.7% { 62.2% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 379321	(5.06, N/A) (N/A, -0.01, N/A)	1001.9	N/A	3.8479 [ 4.0000 ]	96.2% { 121.9% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 298445	(6.19, N/A) (N/A, -0.01, N/A)	825.5	N/A	2.1651 [ 2.0000 ]	108.3% { 118.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 269592	(7.12, N/A) (N/A, -0.01, N/A)	782.5	N/A	2.1668 [ 2.0000 ]	108.3% { 117.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 300686	(7.93, N/A) (N/A, -0.01, N/A)	429.0	N/A	2.0238 [ 2.0000 ]	101.2% { 126.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 125191	(8.68, N/A) (N/A, -0.01, N/A)	514.2	N/A	0.9412 [ 1.0000 ]	94.1% { 137.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 167188	(9.36, N/A) (N/A, 0.00, N/A)	251.9	N/A	0.8568 [ 1.0000 ]	85.7% { 140.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 204493	(9.74, N/A) (N/A, 0.00, N/A)	429.6	N/A	0.7807 [ 1.0000 ]	78.1% { 122.0% }			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 231326	(9.91, N/A) (N/A, 0.00, N/A)	815.2	N/A	0.7277 [ 1.0000 ]	72.8% { 122.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 122057	(10.13, N/A) (N/A, -0.01, N/A)	385.4	N/A	0.5231 [ 1.0000 ]	52.3% { 86.6% }			
13C3_PFBs_EIS	(302.0 / 80.0) 760929	(6.16, N/A) (N/A, -0.01, N/A)	890.9	N/A	1.8588 [ 2.0000 ]	92.9% { 134.8% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 461712	(8.07, N/A) (N/A, -0.01, N/A)	907.1	N/A	1.9814 [ 2.0000 ]	99.1% { 134.5% }			
13C8_PFOS_EIS	(507.0 / 80.0) 777073	(9.50, N/A) (N/A, 0.00, N/A)	332.6	N/A	1.8177 [ 2.0000 ]	90.9% { 137.3% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 108231	(5.85, N/A) (N/A, 0.00, N/A)	496.6	N/A	4.6877 [ 4.0000 ]	117.2% { 167.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 186496	(7.58, N/A) (N/A, -0.01, N/A)	693.7	N/A	6.0207 [ 4.0000 ]	150.5% { 217.6% }			S2,
13C2_8:2FTS_EIS	(529.0 / 81.0) 131019	(9.00, N/A) (N/A, 0.00, N/A)	234.6	N/A	4.8731 [ 4.0000 ]	121.8% { 165.4% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 662049	(10.18, N/A) (N/A, 0.00, N/A)	756.6	N/A	1.0144 [ 2.0000 ]	50.7% { 69.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 62908	(10.60, N/A) (N/A, 0.00, N/A)	247.0	N/A	0.3257 [ 2.0000 ]	16.3% { 27.2% }			S1,
D5_NEiFOSA_EIS	(531.1 / 169.0) 56945	(10.70, N/A) (N/A, 0.00, N/A)	375.7	N/A	0.3252 [ 2.0000 ]	16.3% { 25.6% }			S1,

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 490690	( 9.53, N/A ) ( N/A, -0.01, N/A )	500.1	N/A	5.1591 [ 4.0000 ]	129.0% { 204.4% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 364118	( 9.70, N/A ) ( N/A, 0.00, N/A )	669.5	N/A	4.4542 [ 4.0000 ]	111.4% { 160.4% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 242435	( 10.57, N/A ) ( N/A, 0.00, N/A )	490.7	N/A	7.3495 [ 20.0000 ]	36.7% { 55.8% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 127168	( 10.67, N/A ) ( N/A, 0.00, N/A )	687.4	N/A	7.5661 [ 20.0000 ]	37.8% { 58.1% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 815356	( 6.53, N/A ) ( N/A, -0.01, N/A )	1022.3	N/A	8.9814 [ 8.0000 ]	112.3% { 122.2% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU01-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023		
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling		
Matrix:	Solid	Laboratory ID:	22L0023-08RE1	File ID:	S2022-12-08B (42)
Sampled:	12/02/22 13:00	Prepared:	12/07/22 10:00	Analyzed:	12/09/22 02:53
Solids:		Preparation:	EPA 1633	Dilution:	10
Initial/Final:	5 g / 2 ml			Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753	Calibration:	2250016



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-08RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wif- 42  
 Acquired: 2022/12/09 - 02:53

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 7484	(3.75, 1.00) (0.00, N/A, 0.0)	19.9	N/A 0.0 0.0	0.2204	N/A			
PFPeA	(262.9 / 219.0) 54118 (262.9 / 69.0) 593	(5.06, 1.00) (0.00, N/A, 0.0)	366.1 31.3	0.0110 94.1 94.0	0.6707	N/A			
PFHxA	(313.0 / 269.0) 91633 (313.0 / 119.0) 6950	(6.19, 1.00) (0.00, N/A, 0.3)	274.2 112.3	0.0759 84.4 78.5	0.6830	N/A			
PFHpA	(363.0 / 319.0) 23549 (363.0 / 169.0) 5509	(7.12, 1.00) (0.00, N/A, -0.5)	140.4 76.9	0.2339 81.5 79.6	0.2097	N/A			
PFOA	(413.0 / 369.0) 5690 (413.0 / 169.0) 1544	(7.94, 1.00) (0.00, N/A, 0.7)	18.9 80.8	0.2714 83.9 84.3	0.0421	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) 1719 (513.0 / 169.0) 265	(9.37, 1.00) (0.00, N/A, -0.6)	9.6 53468.8	0.1545 174.0 149.9	0.0109	N/A			IR2,
PFUnA	(563.0 / 519.0) 1503 (563.0 / 169.0) N/A	(9.75, 1.00) (0.00, N/A, #Value!)	11.5 N/A	N/A 0.0 0.0	0.0095	N/A			IR1,
PFDoA	(613.0 / 569.0) 593 (613.0 / 169.0) N/A	(9.93, 1.00) (0.02, N/A, #Value!)	5.5 N/A	N/A 0.0 0.0	0.0027	N/A			IR1,
PFTrDA	(663.0 / 619.0) 1962 (663.0 / 169.0) N/A	(10.02, 1.01) (N/A, -0.01, #Value!)	13.7 N/A	N/A 0.0 0.0	0.0102	N/A			IR1,
PFTeDA	(713.0 / 669.0) 267 (713.0 / 169.0) N/A	(10.13, 1.00) (-0.02, N/A, #Value!)	333.9 N/A	N/A 0.0 0.0	0.0021	N/A			IR1,



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-08RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 42  
 Acquired: 2022/12/09 - 02:53

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) N/A ( 298.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) 6648 ( 399.0 / 99.0 ) 1311	( 8.07 , 1.00 ) ( -0.01 , N/A , 0.0 )	601.2 207.9	0.1971 57.2 56.1	0.0180	N/A			
PFHpS	( 449.0 / 80.0 ) 449 ( 449.0 / 99.0 ) 229	( 8.82 , 0.93 ) ( N/A , -0.03 , 0.3 )	7.1 344.3	0.5087 179.0 169.7	0.0014	N/A			IR2,
PFOS	( 499.0 / 80.0 ) 173401 ( 499.0 / 99.0 ) 41028	( 9.51 , 1.00 ) ( 0.00 , N/A , 0.0 )	1106.8 172.7	0.2366 91.9 97.1	0.4294	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) 7006 ( 599.0 / 99.0 ) 596	( 9.85 , 1.04 ) ( N/A , -0.08 , -5.2 )	13.5 21.1	0.0851 36.6 37.4	0.0118	N/A			IR1,
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) 3884 ( 327.0 / 81.0 ) 2817	( 5.85 , 1.00 ) ( 0.00 , N/A , 0.1 )	128.8 34.8	0.7252 121.4 124.0	0.0652	N/A			
6:2FTS	( 427.0 / 407.0 ) 426552 ( 427.0 / 81.0 ) 347688	( 7.59 , 1.00 ) ( 0.00 , N/A , 0.0 )	799.6 630.1	0.8151 113.3 117.0	10.5545	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

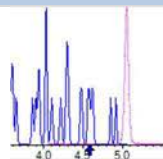
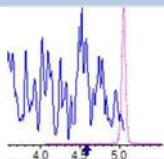
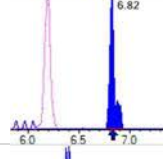
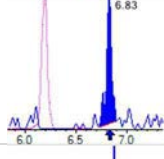
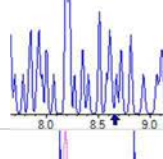
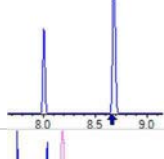
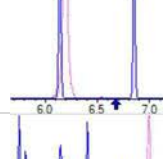
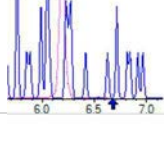
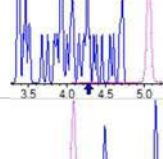
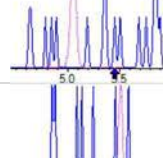
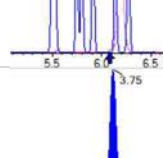
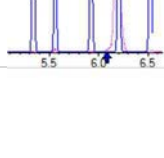
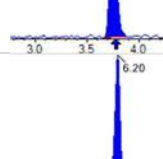
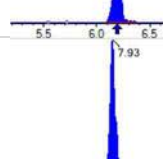
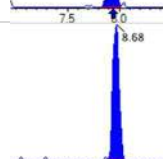
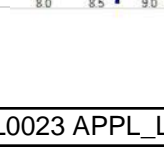


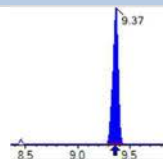
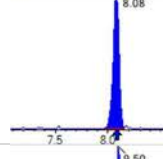
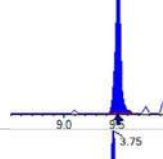
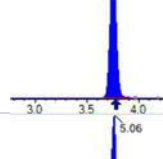
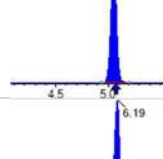
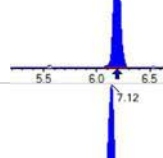
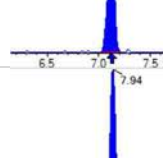
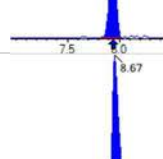
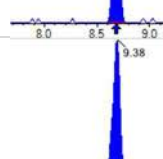
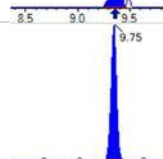
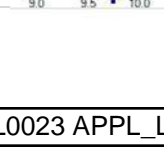
Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-08RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-07.dam

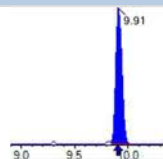
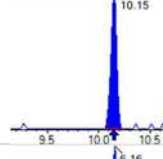
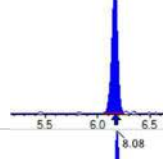
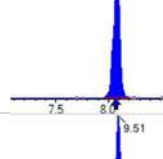
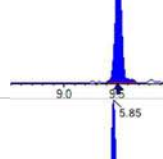
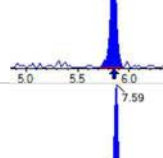
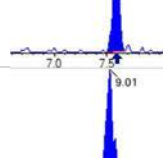
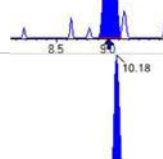
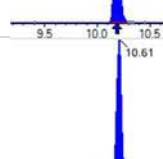
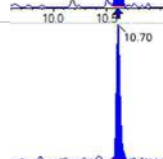
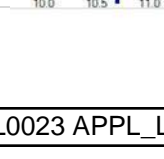
Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wif- 42  
 Acquired: 2022/12/09 - 02:53

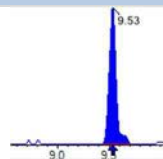
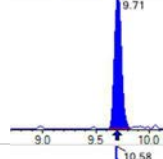
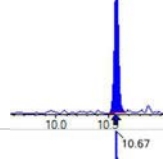
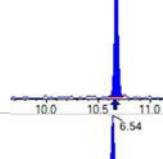
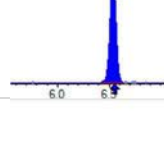
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) N/A ( 498.0 / 478.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOFA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOFA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) 3316 (341.0 / 217.0) 5407	(6.82, 1.10) (N/A, -0.01, -0.2)	184.9 35.9	1.6307 95.5 95.1	0.1163	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 8004	(3.75, N/A) (N/A, -0.02, N/A)	215.8	N/A	0.8326 [ 1.0000 ]	83.3% { 9.5% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 14550	(6.20, N/A) (N/A, 0.00, N/A)	299.4	N/A	1.1783 [ 1.0000 ]	117.8% { 12.5% }			
13C4_PFOA_IIS	(417.0 / 372.0) 14562	(7.93, N/A) (N/A, -0.01, N/A)	238.2	N/A	1.2283 [ 1.0000 ]	122.8% { 12.9% }			
13C5_PFNA_IIS	(468.0 / 423.0) 12398	(8.68, N/A) (N/A, -0.01, N/A)	354.3	N/A	1.3018 [ 1.0000 ]	130.2% { 14.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 12639	(9.37, N/A) (N/A, 0.01, N/A)	31601.2	N/A	1.5341 [ 1.0000 ]	153.4% { 13.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 23922	(8.08, N/A) (N/A, 0.00, N/A)	368.3	N/A	1.1146 [ 1.0000 ]	111.5% { 11.7% }			
13C4_PFOS_IIS	(502.8 / 79.9) 18103	(9.50, N/A) (N/A, 0.00, N/A)	100.8	N/A	0.9727 [ 1.0000 ]	97.3% { 9.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 35676	(3.75, N/A) (N/A, -0.01, N/A)	715.7	N/A	0.4755 [ 0.8000 ]	59.4% { 6.0% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 33573	(5.06, N/A) (N/A, -0.01, N/A)	657.4	N/A	0.3163 [ 0.4000 ]	79.1% { 10.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 26623	(6.19, N/A) (N/A, 0.00, N/A)	589.6	N/A	0.1794 [ 0.2000 ]	89.7% { 10.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 22172	(7.12, N/A) (N/A, -0.01, N/A)	286.5	N/A	0.1655 [ 0.2000 ]	82.8% { 9.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 26210	(7.94, N/A) (N/A, -0.01, N/A)	244.2	N/A	0.1770 [ 0.2000 ]	88.5% { 11.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 11505	(8.67, N/A) (N/A, -0.01, N/A)	185.0	N/A	0.0940 [ 0.1000 ]	94.0% { 12.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 15578	(9.38, N/A) (N/A, 0.01, N/A)	3758.0	N/A	0.0849 [ 0.1000 ]	84.9% { 13.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 17998	(9.75, N/A) (N/A, 0.01, N/A)	302.7	N/A	0.0730 [ 0.1000 ]	73.0% { 10.7% }			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 23819	(9.91, N/A) (N/A, 0.00, N/A)	429.1	N/A	0.0796 [ 0.1000 ]	79.6% { 12.6% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 12914	(10.15, N/A) (N/A, 0.01, N/A)	99.6	N/A	0.0588 [ 0.1000 ]	58.8% { 9.2% }			
13C3_PFBs_EIS	(302.0 / 80.0) 68420	(6.16, N/A) (N/A, -0.01, N/A)	310.6	N/A	0.1946 [ 0.2000 ]	97.3% { 12.1% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 44168	(8.08, N/A) (N/A, 0.00, N/A)	365.3	N/A	0.2207 [ 0.2000 ]	110.3% { 12.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 71932	(9.51, N/A) (N/A, 0.01, N/A)	215.5	N/A	0.2607 [ 0.2000 ]	130.3% { 12.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 6822	(5.85, N/A) (N/A, -0.01, N/A)	96.1	N/A	0.3441 [ 0.4000 ]	86.0% { 10.6% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 10191	(7.59, N/A) (N/A, 0.00, N/A)	137.1	N/A	0.3831 [ 0.4000 ]	95.8% { 11.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 9953	(9.01, N/A) (N/A, 0.00, N/A)	67.2	N/A	0.4311 [ 0.4000 ]	107.8% { 12.6% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 80194	(10.18, N/A) (N/A, 0.00, N/A)	491.1	N/A	0.1903 [ 0.2000 ]	95.2% { 8.5% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 10363	(10.61, N/A) (N/A, 0.01, N/A)	131.9	N/A	0.0831 [ 0.2000 ]	41.6% { 4.5% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 7651	(10.70, N/A) (N/A, 0.01, N/A)	145.2	N/A	0.0677 [ 0.2000 ]	33.8% { 3.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 35934	( 9.53 , N/A ) ( N/A , 0.00 , N/A )	174.9	N/A	0.5853 [ 0.4000 ]	146.3% { 15.0% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 38906	( 9.71 , N/A ) ( N/A , 0.00 , N/A )	144.4	N/A	0.7373 [ 0.4000 ]	184.3% { 17.1% }			S2,
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 26507	( 10.58 , N/A ) ( N/A , 0.01 , N/A )	158.5	N/A	1.2448 [ 2.0000 ]	62.2% { 6.1% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 13040	( 10.67 , N/A ) ( N/A , 0.01 , N/A )	202.5	N/A	1.2018 [ 2.0000 ]	60.1% { 6.0% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 70789	( 6.54 , N/A ) ( N/A , -0.01 , N/A )	551.2	N/A	0.7243 [ 0.8000 ]	90.5% { 10.6% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU04B-SON01MI-22DEC

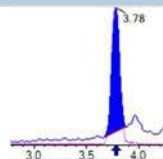
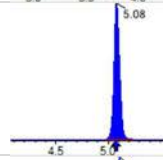
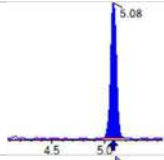
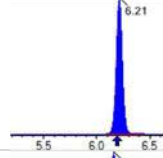
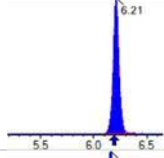
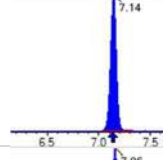
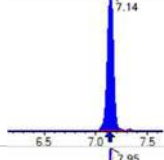
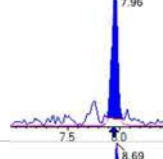
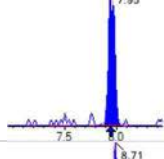
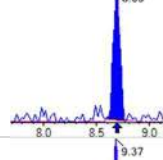
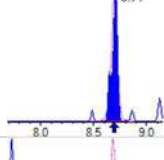
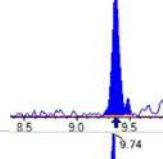
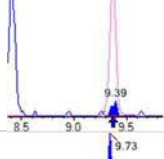
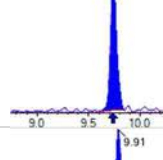
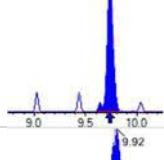
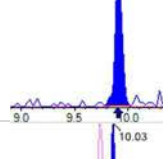
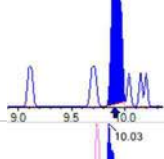
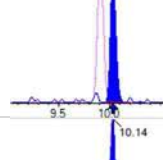
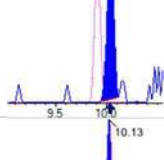
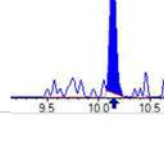
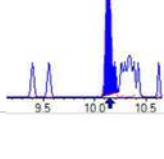
Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-09
		File ID:	S2022-12-08B (43)
Sampled:	12/02/22 11:05	Prepared:	12/07/22 10:00
		Analyzed:	12/09/22 03:06
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	5.03 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
PFBA	1.4	0.30	0.20	0.15	
PFPEA	5.4	0.080	0.040	0.021	
PFHXA	2.0	0.040	0.020	0.015	
PFHPA	1.2	0.040	0.020	0.015	
PFOA	0.051	0.040	0.030	0.021	
PFNA	0.046	0.040	0.030	0.022	
PFDA	0.070	0.040	0.030	0.022	IR1
PFUnA	0.18	0.040	0.020	0.020	
PFDOA	0.069	0.040	0.030	0.023	
PFTRDA	0.069	0.040	0.020	0.016	
PFTEDA	0.037 J	0.040	0.030	0.025	
PFBS	0.020 U	0.040	0.020	0.016	IR2,
PFPEs	0.020 U	0.040	0.020	0.012	IR1,
PFHXS	0.085	0.040	0.020	0.015	
PFHPS	0.020 U	0.040	0.020	0.011	IR2,
PFOS	3.4	0.040	0.020	0.0097	
PFNS	0.051	0.040	0.020	0.014	
PFDS	0.065	0.040	0.020	0.013	
PFDOS	0.11	0.040	0.020	0.013	IR1
4:2FTS	0.080 U	0.16	0.080	0.045	
6:2FTS	3.6	0.16	0.080	0.061	
8:2FTS	0.080 U	0.16	0.080	0.051	
PFOSA	0.014 J	0.040	0.020	0.012	
NMeFOSA	0.080 U	0.16	0.080	0.066	
NEtFOSA	0.080 U	0.16	0.080	0.027	
NMeFOSAA	0.020 U	0.040	0.020	0.010	
NEtFOSAA	0.020 U	0.040	0.020	0.018	
NMeFOSE	0.080 U	0.16	0.080	0.053	
NEtFOSE	0.080 U	0.16	0.080	0.047	
HFPO-DA	0.040 U	0.080	0.040	0.022	

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU04B-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-09
		File ID:	S2022-12-08B (43)
Sampled:	12/02/22 11:05	Prepared:	12/07/22 10:00
		Analyzed:	12/09/22 03:06
Solids:		Preparation:	EPA 1633
		Dilution:	1
Initial/Final:	5.03 g / 2 ml	Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
ADONA	0.040 U	0.080	0.040	0.026	
PFEESA	0.040 U	0.080	0.040	0.017	
PFMPA	0.040 U	0.080	0.040	0.028	
PFMBA	0.040 U	0.080	0.040	0.032	
NFDHA	0.060 U	0.080	0.060	0.049	
9CL-PF3ONS	0.040 U	0.080	0.040	0.024	
11CL-PF3OUDS	0.040 U	0.080	0.040	0.026	
3:3FTCA	0.080 U	0.16	0.080	0.063	
5:3FTCA	1.0	0.16	0.080	0.065	
7:3FTCA	0.080 U	0.16	0.080	0.049	

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 25709	(3.78, 1.00) (0.00, N/A, 0.0)	36.8	N/A 0.0 0.0	3.6294	N/A			
PFPeA	(262.9 / 219.0) 1194235 (262.9 / 69.0) 14834	(5.08, 1.00) (0.00, N/A, -0.1)	822.3 295.5	0.0124 106.7 106.6	13.4997	N/A			
PFHxA	(313.0 / 269.0) 767562 (313.0 / 119.0) 78774	(6.21, 1.00) (0.00, N/A, 0.2)	661.4 715.5	0.1026 114.2 106.2	5.1165	N/A			
PFHpA	(363.0 / 319.0) 457707 (363.0 / 169.0) 148323	(7.14, 1.00) (0.00, N/A, 0.0)	669.2 646.7	0.3241 113.0 110.2	3.0378	N/A			
PFOA	(413.0 / 369.0) 20644 (413.0 / 169.0) 5399	(7.96, 1.00) (0.01, N/A, 0.2)	59.4 89.9	0.2615 80.8 81.2	0.1284	N/A			
PFNA	(463.0 / 419.0) 14668 (463.0 / 169.0) 3893	(8.69, 1.00) (-0.01, N/A, -1.1)	49.1 41.3	0.2654 131.9 135.6	0.1153	N/A			
PFDA	(513.0 / 469.0) 28341 (513.0 / 169.0) 1330	(9.37, 1.00) (0.00, N/A, -1.3)	62.8 13.0	0.0469 52.9 45.5	0.1758	N/A			IR1,
PFUnA	(563.0 / 519.0) 66003 (563.0 / 169.0) 7231	(9.74, 1.00) (0.00, N/A, 0.4)	100.4 107.9	0.1096 101.9 117.9	0.4534	N/A			
PFDoA	(613.0 / 569.0) 26335 (613.0 / 169.0) 3154	(9.91, 1.00) (0.00, N/A, -0.4)	66.1 21.0	0.1198 100.6 107.2	0.1728	N/A			
PFTTrDA	(663.0 / 619.0) 23152 (663.0 / 169.0) 4792	(10.03, 1.01) (N/A, 0.00, -0.2)	96.7 32.8	0.2070 111.1 107.6	0.1730	N/A			
PFTeDA	(713.0 / 669.0) 7954 (713.0 / 169.0) 1762	(10.14, 1.00) (0.00, N/A, 0.5)	34.0 21.4	0.2215 112.5 103.8	0.0942	N/A			



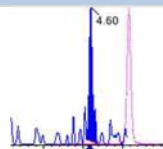
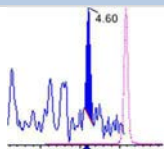
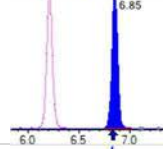
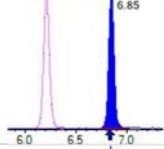
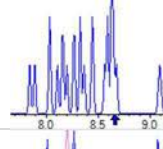
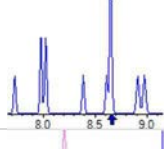
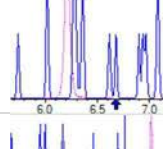
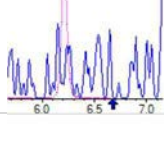
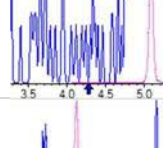
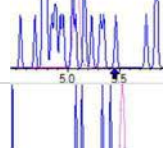
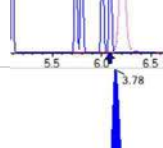
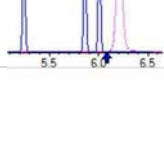
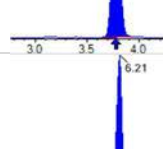
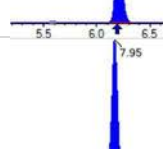
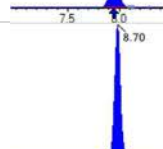
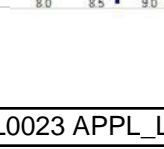
Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-09  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

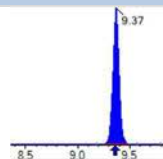
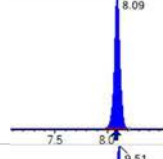
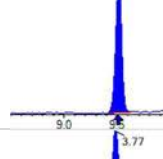
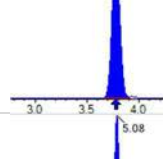
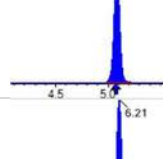
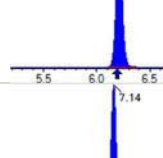
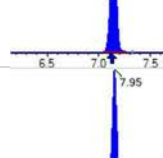
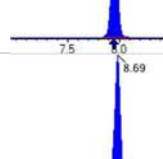
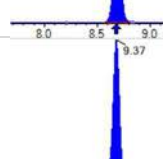
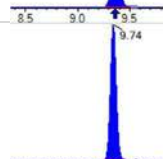
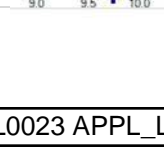
Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 43  
 Acquired: 2022/12/09 - 03:06

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 5584 ( 298.9 / 99.0 ) 6252	( 6.19 , 1.00 ) ( 0.01 , N/A , 0.0 )	18.4 50.1	1.1197 165.3 164.8	0.0239	N/A			IR2,
PFPeS	( 349.0 / 80.0 ) 9651 ( 349.0 / 99.0 ) 1721	( 7.23 , 0.89 ) ( N/A , 0.02 , 0.7 )	31.7 13.7	0.1783 48.9 48.9	0.0239	N/A			IR1,
PFHxS	( 399.0 / 80.0 ) 77010 ( 399.0 / 99.0 ) 30304	( 8.09 , 1.00 ) ( 0.00 , N/A , 0.0 )	358.9 2107.7	0.3935 114.1 111.9	0.2147	N/A			
PFHpS	( 449.0 / 80.0 ) 4576 ( 449.0 / 99.0 ) 2698	( 8.88 , 0.93 ) ( N/A , 0.03 , 1.2 )	9.6 31.8	0.5896 207.4 196.7	0.0146	N/A			IR2,
PFOS	( 499.0 / 80.0 ) 3331168 ( 499.0 / 99.0 ) 861851	( 9.51 , 1.00 ) ( 0.00 , N/A , 0.0 )	357.7 407.0	0.2587 100.5 106.2	8.5967	N/A			
PFNS	( 549.0 / 80.0 ) 57881 ( 549.0 / 99.0 ) 10247	( 9.79 , 1.03 ) ( N/A , 0.00 , 0.3 )	25.8 20.2	0.1770 74.1 69.3	0.1272	N/A			
PFDS	( 599.0 / 80.0 ) 93436 ( 599.0 / 99.0 ) 23110	( 9.92 , 1.04 ) ( N/A , -0.02 , -0.7 )	14.9 115.0	0.2473 106.3 108.8	0.1640	N/A			
PFDoS	( 698.9 / 80.0 ) 90128 ( 698.9 / 99.0 ) 5262	( 10.05 , 1.06 ) ( N/A , -0.07 , -3.0 )	41.9 27.7	0.0584 25.2 26.4	0.2667	N/A			IR1,
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) 664907 ( 427.0 / 81.0 ) 433454	( 7.60 , 1.00 ) ( 0.00 , N/A , 0.2 )	961.8 745.0	0.6519 90.6 93.6	9.0767	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 10009 ( 498.0 / 478.0 ) N/A	( 10.18 , 1.00 ) ( 0.00 , N/A , #Value)	109.7 N/A	N/A 0.0 0.0	0.0361	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) 810 ( 570.0 / 483.0 ) 557	( 9.55 , 1.00 ) ( 0.01 , N/A , -1.3 )	578.7 4272.4	0.6871 148.1 138.1	0.0076	N/A			
NEIFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-PF3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 443 (241.0 / 117.0) 698	(4.60, 0.90) (N/A, 0.01, -0.6)	24.7 14.7	1.5762 90.6 93.5	0.1020	N/A			
5:3FTCA	(341.0 / 236.7) 82340 (341.0 / 217.0) 133703	(6.85, 1.10) (N/A, 0.02, 0.3)	478.4 378.9	1.6238 95.1 94.7	2.5834	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 77961	(3.78, N/A) (N/A, 0.01, N/A)	622.8	N/A	0.8110 [ 1.0000 ]	81.1% { 92.6% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 149530	(6.21, N/A) (N/A, 0.01, N/A)	581.2	N/A	1.2109 [ 1.0000 ]	121.1% { 128.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 154358	(7.95, N/A) (N/A, 0.01, N/A)	638.0	N/A	1.3021 [ 1.0000 ]	130.2% { 136.5% }			
13C5_PFNA_IIS	(468.0 / 423.0) 142847	(8.70, N/A) (N/A, 0.01, N/A)	600.2	N/A	1.4999 [ 1.0000 ]	150.0% { 165.4% }			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 123993	(9.37, N/A) (N/A, 0.01, N/A)	341.0	N/A	1.5051 [ 1.0000 ]	150.5% { 129.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 304643	(8.09, N/A) (N/A, 0.01, N/A)	838.2	N/A	1.4194 [ 1.0000 ]	141.9% { 148.8% }			
13C4_PFOS_IIS	(502.8 / 79.9) 226483	(9.51, N/A) (N/A, 0.01, N/A)	245.4	N/A	1.2168 [ 1.0000 ]	121.7% { 124.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 74424	(3.77, N/A) (N/A, 0.01, N/A)	1051.6	N/A	1.0182 [ 8.0000 ]	12.7% { 12.6% }			S1,
13C5_PFPeA_EIS	(267.9 / 223.0) 368101	(5.08, N/A) (N/A, 0.01, N/A)	974.2	N/A	3.3747 [ 4.0000 ]	84.4% { 118.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 297681	(6.21, N/A) (N/A, 0.01, N/A)	855.6	N/A	1.9518 [ 2.0000 ]	97.6% { 118.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 297476	(7.14, N/A) (N/A, 0.02, N/A)	1063.6	N/A	2.1608 [ 2.0000 ]	108.0% { 129.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 311987	(7.95, N/A) (N/A, 0.01, N/A)	787.1	N/A	1.9872 [ 2.0000 ]	99.4% { 131.1% }			
13C9_PFNA_EIS	(472.0 / 427.0) 131947	(8.69, N/A) (N/A, 0.01, N/A)	616.0	N/A	0.9360 [ 1.0000 ]	93.6% { 144.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 158927	(9.37, N/A) (N/A, 0.01, N/A)	382.8	N/A	0.8824 [ 1.0000 ]	88.2% { 133.1% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 165373	(9.74, N/A) (N/A, 0.00, N/A)	250.9	N/A	0.6840 [ 1.0000 ]	68.4% { 98.6% }			



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-09  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 43  
 Acquired: 2022/12/09 - 03:06

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 165593	(9.91, N/A) (N/A, 0.00, N/A)	515.1	N/A	0.5644 [ 1.0000 ]	56.4% { 87.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 85687	(10.13, N/A) (N/A, -0.01, N/A)	265.2	N/A	0.3978 [ 1.0000 ]	39.8% { 60.8% }			
13C3_PFBs_EIS	(302.0 / 80.0) 764523	(6.18, N/A) (N/A, 0.02, N/A)	986.3	N/A	1.7076 [ 2.0000 ]	85.4% { 135.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 427858	(8.09, N/A) (N/A, 0.01, N/A)	817.3	N/A	1.6788 [ 2.0000 ]	83.9% { 124.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 690307	(9.51, N/A) (N/A, 0.01, N/A)	336.2	N/A	1.9994 [ 2.0000 ]	100.0% { 122.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 141398	(5.88, N/A) (N/A, 0.03, N/A)	514.2	N/A	5.5997 [ 4.0000 ]	140.0% { 219.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 184722	(7.60, N/A) (N/A, 0.01, N/A)	540.6	N/A	5.4527 [ 4.0000 ]	136.3% { 215.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 229752	(9.02, N/A) (N/A, 0.01, N/A)	304.7	N/A	7.8135 [ 4.0000 ]	195.3% { 290.1% }			S2,
13C8_PFOsa_EIS	(506.0 / 78.0) 499910	(10.18, N/A) (N/A, 0.00, N/A)	820.4	N/A	0.9485 [ 2.0000 ]	47.4% { 52.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 63442	(10.61, N/A) (N/A, 0.00, N/A)	356.3	N/A	0.4068 [ 2.0000 ]	20.3% { 27.4% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 48288	(10.70, N/A) (N/A, 0.00, N/A)	302.7	N/A	0.3414 [ 2.0000 ]	17.1% { 21.7% }			S1,



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

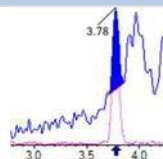
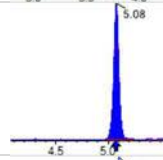
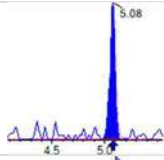
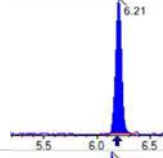
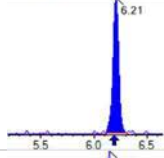
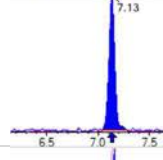
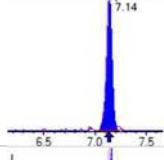
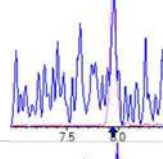
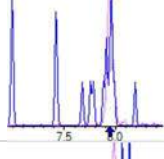
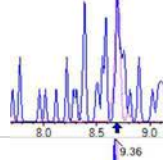
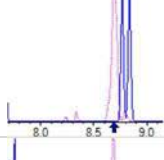
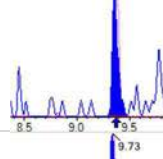
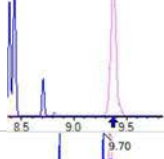
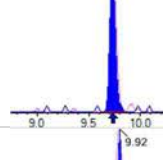
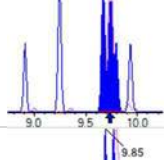
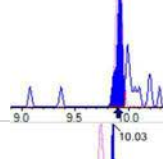
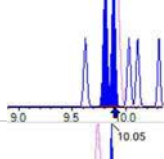
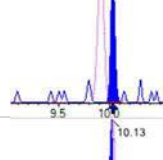
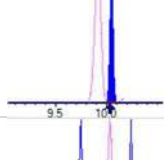
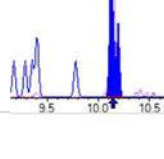
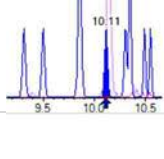
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 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 43  
 Acquired: 2022/12/09 - 03:06

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 488383	( 9.54, N/A ) ( N/A, 0.00, N/A )	431.6	N/A	6.3580 [ 4.0000 ]	159.0% { 203.4% }			S2,
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 399137	( 9.70, N/A ) ( N/A, 0.00, N/A )	547.5	N/A	6.0457 [ 4.0000 ]	151.1% { 175.9% }			S2,
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 222093	( 10.57, N/A ) ( N/A, 0.00, N/A )	527.4	N/A	8.3368 [ 20.0000 ]	41.7% { 51.1% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 111974	( 10.67, N/A ) ( N/A, 0.00, N/A )	579.9	N/A	8.2491 [ 20.0000 ]	41.2% { 51.1% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 750379	( 6.56, N/A ) ( N/A, 0.01, N/A )	972.0	N/A	7.4701 [ 8.0000 ]	93.4% { 112.4% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU04B-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023		
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling		
Matrix:	Solid	Laboratory ID:	22L0023-09RE1	File ID:	S2022-12-08B (44)
Sampled:	12/02/22 11:05	Prepared:	12/07/22 10:00	Analyzed:	12/09/22 03:19
Solids:		Preparation:	EPA 1633	Dilution:	10
Initial/Final:	5.03 g / 2 ml			Instrument:	Saphira
Batch:	BBL0100	Sequence:	SB03753	Calibration:	2250016

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 2239	(3.78, 1.00) (0.00, N/A, 0.0)	11.2	N/A 0.0 0.0	0.3652	N/A			
PFPeA	(262.9 / 219.0) 106837 (262.9 / 69.0) 1408	(5.08, 1.00) (0.00, N/A, 0.1)	558.1 49.0	0.0132 113.2 113.1	1.3262	N/A			
PFHxA	(313.0 / 269.0) 80908 (313.0 / 119.0) 8264	(6.21, 1.00) (0.00, N/A, -0.1)	308.0 174.9	0.1021 113.6 105.6	0.5527	N/A			
PFHpA	(363.0 / 319.0) 44808 (363.0 / 169.0) 15359	(7.13, 1.00) (0.00, N/A, -0.4)	195.3 237.1	0.3428 119.5 116.6	0.3189	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) 4013 (513.0 / 169.0) N/A	(9.36, 1.00) (-0.02, N/A, #Value!)	26.2 N/A	N/A 0.0 0.0	0.0221	N/A			IR1,
PFUnA	(563.0 / 519.0) 11683 (563.0 / 169.0) 1566	(9.73, 1.00) (-0.01, N/A, 1.7)	85.7 16.5	0.1340 124.7 144.2	0.0690	N/A			
PFDoA	(613.0 / 569.0) 2998 (613.0 / 169.0) 1230	(9.92, 1.00) (0.01, N/A, 4.2)	31.0 19.7	0.4103 344.6 367.2	0.0132	N/A			IR2,
PFTrDA	(663.0 / 619.0) 4469 (663.0 / 169.0) 279	(10.03, 1.01) (N/A, 0.00, -1.0)	38.9 55462.2	0.0623 33.5 32.4	0.0223	N/A			IR1,
PFTeDA	(713.0 / 669.0) 1843 (713.0 / 169.0) 268	(10.13, 1.00) (-0.01, N/A, 0.9)	20.1 5.3	0.1453 73.8 68.1	0.0138	N/A			



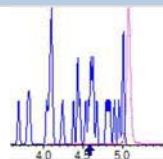
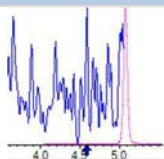
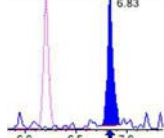
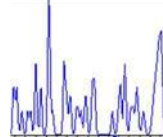
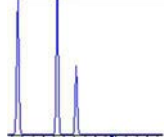
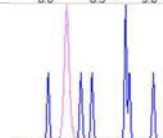
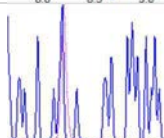
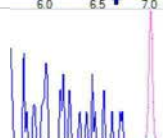
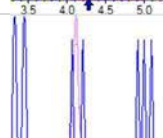
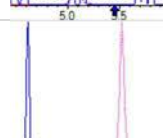
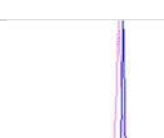
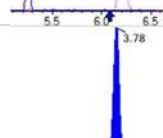
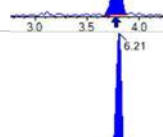
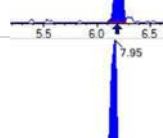
Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-09RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-07.dam

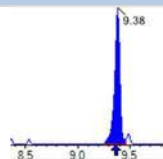
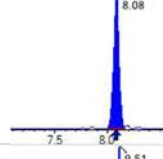
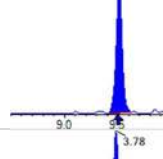
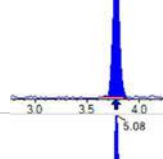
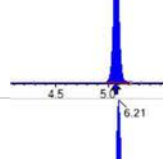
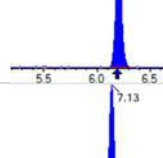
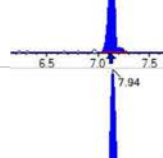
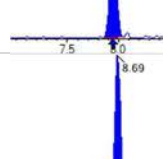
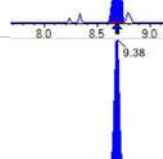
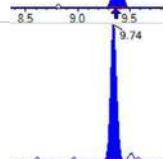
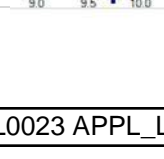
Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 44  
 Acquired: 2022/12/09 - 03:19

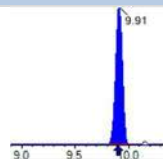
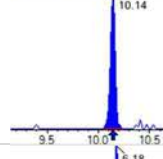
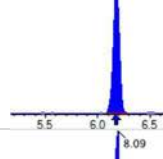
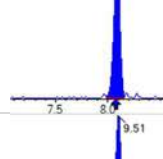
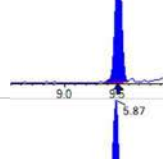
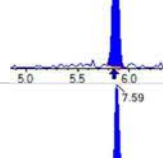
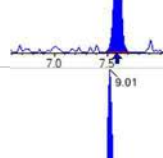
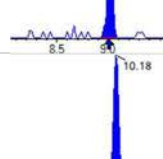
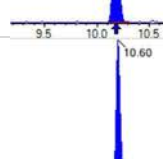
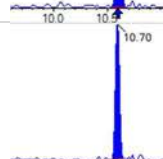
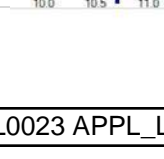
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) N/A ( 298.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) 681 ( 349.0 / 99.0 ) 318	( 7.20 , 0.89 ) ( N/A , -0.01 , 3.9 )	12.4 14.0	0.4670 128.0 128.1	0.0020	N/A			
PFHxS	( 399.0 / 80.0 ) 7992 ( 399.0 / 99.0 ) 3493	( 8.08 , 1.00 ) ( -0.01 , N/A , 0.0 )	202.4 20043.2	0.4370 126.7 124.3	0.0261	N/A			
PFHpS	( 449.0 / 80.0 ) 1434 ( 449.0 / 99.0 ) 975	( 8.85 , 0.93 ) ( N/A , 0.00 , -1.2 )	53.6 926.6	0.6795 239.1 226.7	0.0046	N/A			IR2,
PFOS	( 499.0 / 80.0 ) 369849 ( 499.0 / 99.0 ) 83323	( 9.51 , 1.00 ) ( 0.00 , N/A , 0.0 )	301.3 248.9	0.2253 87.5 92.4	0.9531	N/A			
PFNS	( 549.0 / 80.0 ) 8012 ( 549.0 / 99.0 ) 2525	( 9.79 , 1.03 ) ( N/A , 0.01 , 0.7 )	15.5 55.8	0.3152 131.9 123.4	0.0176	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) 37209 ( 427.0 / 81.0 ) 30825	( 7.59 , 1.00 ) ( 0.00 , N/A , -0.1 )	294.5 166.3	0.8284 115.2 118.9	0.8297	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 1413 ( 498.0 / 478.0 ) N/A	( 10.18 , 1.00 ) ( 0.00 , N/A , #Value)	21.6 N/A	N/A 0.0 0.0	0.0030	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) 5013 (341.0 / 217.0) 10684	(6.84, 1.10) (N/A, 0.00, 0.1)	69.9 59.6	2.1312 124.8 124.3	0.1612	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 7366	(3.78, N/A) (N/A, 0.01, N/A)	189.7	N/A	0.7663 [ 1.0000 ]	76.6% { 8.7% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 14394	(6.21, N/A) (N/A, 0.01, N/A)	204.3	N/A	1.1656 [ 1.0000 ]	116.6% { 12.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 12881	(7.95, N/A) (N/A, 0.01, N/A)	360.7	N/A	1.0866 [ 1.0000 ]	108.7% { 11.4% }			
13C5_PFNA_IIS	(468.0 / 423.0) 11303	(8.70, N/A) (N/A, 0.01, N/A)	140.7	N/A	1.1868 [ 1.0000 ]	118.7% { 13.1% }			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 11727	(9.38, N/A) (N/A, 0.02, N/A)	168.3	N/A	1.4235 [ 1.0000 ]	142.4% { 12.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 25616	(8.08, N/A) (N/A, 0.00, N/A)	261.3	N/A	1.1935 [ 1.0000 ]	119.4% { 12.5% }			
13C4_PFOS_IIS	(502.8 / 79.9) 28690	(9.51, N/A) (N/A, 0.01, N/A)	154.4	N/A	1.5414 [ 1.0000 ]	154.1% { 15.7% }			
13C4_PFBA_EIS	(217.0 / 172.0) 6440	(3.78, N/A) (N/A, 0.01, N/A)	219.6	N/A	0.0933 [ 0.8000 ]	11.7% { 1.1% }			S1,
13C5_PFPeA_EIS	(267.9 / 223.0) 33520	(5.08, N/A) (N/A, 0.01, N/A)	674.8	N/A	0.3192 [ 0.4000 ]	79.8% { 10.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 29049	(6.21, N/A) (N/A, 0.01, N/A)	480.0	N/A	0.1979 [ 0.2000 ]	98.9% { 11.5% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 27737	(7.13, N/A) (N/A, 0.00, N/A)	274.4	N/A	0.2093 [ 0.2000 ]	104.7% { 12.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 25060	(7.94, N/A) (N/A, 0.00, N/A)	246.3	N/A	0.1913 [ 0.2000 ]	95.6% { 10.5% }			
13C9_PFNA_EIS	(472.0 / 427.0) 10400	(8.69, N/A) (N/A, 0.01, N/A)	219.2	N/A	0.0932 [ 0.1000 ]	93.2% { 11.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 17909	(9.38, N/A) (N/A, 0.01, N/A)	5596.4	N/A	0.1051 [ 0.1000 ]	105.1% { 15.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 19241	(9.74, N/A) (N/A, 0.00, N/A)	136.6	N/A	0.0841 [ 0.1000 ]	84.1% { 11.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 24779	(9.91, N/A) (N/A, 0.00, N/A)	3140.1	N/A	0.0893 [0.1000]	89.3% {13.1%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 13501	(10.14, N/A) (N/A, 0.00, N/A)	117.9	N/A	0.0663 [0.1000]	66.3% {9.6%}			
13C3_PFBs_EIS	(302.0 / 80.0) 65113	(6.18, N/A) (N/A, 0.01, N/A)	428.4	N/A	0.1730 [0.2000]	86.5% {11.5%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 36521	(8.09, N/A) (N/A, 0.01, N/A)	234.5	N/A	0.1704 [0.2000]	85.2% {10.6%}			
13C8_PFOS_EIS	(507.0 / 80.0) 69132	(9.51, N/A) (N/A, 0.01, N/A)	201.2	N/A	0.1581 [0.2000]	79.0% {12.2%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 7026	(5.87, N/A) (N/A, 0.01, N/A)	116.1	N/A	0.3309 [0.4000]	82.7% {10.9%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 11308	(7.59, N/A) (N/A, 0.01, N/A)	98.4	N/A	0.3970 [0.4000]	99.2% {13.2%}			
13C2_8:2FTS_EIS	(529.0 / 81.0) 8830	(9.01, N/A) (N/A, 0.01, N/A)	79.7	N/A	0.3571 [0.4000]	89.3% {11.2%}			
13C8_PFOsa_EIS	(506.0 / 78.0) 84356	(10.18, N/A) (N/A, 0.00, N/A)	369.7	N/A	0.1263 [0.2000]	63.2% {8.9%}			
D3_NMeFOSA_EIS	(515.0 / 169.0) 8830	(10.60, N/A) (N/A, 0.00, N/A)	125.9	N/A	0.0447 [0.2000]	22.3% {3.8%}			
D5_NEiFOSA_EIS	(531.1 / 169.0) 8292	(10.70, N/A) (N/A, 0.00, N/A)	132.9	N/A	0.0463 [0.2000]	23.1% {3.7%}			



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-09RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 44  
 Acquired: 2022/12/09 - 03:19

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 49677	( 9.53, N/A ) ( N/A, 0.00, N/A )	1590.8	N/A	0.5105 [ 0.4000 ]	127.6% { 20.7% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 48056	( 9.70, N/A ) ( N/A, 0.00, N/A )	233.1	N/A	0.5746 [ 0.4000 ]	143.7% { 21.2% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 27670	( 10.57, N/A ) ( N/A, 0.01, N/A )	156.3	N/A	0.8199 [ 2.0000 ]	41.0% { 6.4% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 14370	( 10.67, N/A ) ( N/A, 0.00, N/A )	225.0	N/A	0.8357 [ 2.0000 ]	41.8% { 6.6% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 78657	( 6.55, N/A ) ( N/A, 0.01, N/A )	464.1	N/A	0.8135 [ 0.8000 ]	101.7% { 11.8% }			

# QUALITY CONTROL

## SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>ADIT6-IDW-SON01MI-22DEC (22L0023-01) ug/kg Dry</b>		Lab File ID: S2022-12-08B (27)		Analyzed: 12/08/22 23:43
13C4-PFBA	3.18	98.6	20 - 150	
13C5-PFPEA	1.59	89.6	20 - 150	
13C5-PFHXA	0.795	103	20 - 150	
13C4-PFHPA	0.795	106	20 - 150	
13C8-PFOA	0.795	89.6	20 - 150	
13C9-PFNA	0.398	109	20 - 150	
13C6-PFDA	0.398	89.3	20 - 150	
13C7-PFUnA	0.398	45.4	20 - 150	
13C2-PFDOA	0.398	63.3	20 - 150	
13C2-PFTEDA	0.398	38.5	20 - 150	
13C3-PFBS	0.795	95.3	20 - 150	
13C3-PFHXS	0.795	95.5	20 - 150	
13C8-PFOS	0.795	111	20 - 150	
13C2-4:2FTS	1.59	133	20 - 150	
13C2-6:2FTS	1.59	154	20 - 150	*
13C2-8:2FTS	1.59	76.7	20 - 150	
13C8-PFOSA	0.795	45.1	20 - 150	
D5-NETFOSA	0.795	18.5	20 - 150	*
D3-NMEFOSA	0.795	16.0	20 - 150	*
D3-NMEFOSAA	1.59	196	20 - 150	*
D5-NETFOSAA	1.59	79.0	20 - 150	
D7-NMEFOSE	7.95	39.2	20 - 150	
D9-NETFOSSE	7.95	38.3	20 - 150	
13C3-HFPO-DA	3.18	103	20 - 150	
<b>ADIT6-IDW-SON01MI-22DEC (22L0023-01RE1) ug/kg Dry</b>		Lab File ID: S2022-12-08B (28)		Analyzed: 12/08/22 23:55
13C2-6:2FTS	1.59	153	20 - 150	*
D3-NMEFOSA	0.795	18.7	20 - 150	*
D3-NMEFOSAA	1.59	156	20 - 150	*

## SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>ADIT6-IDW-SOFD01MI-22DEC (22L0023-02) ug/kg Dry</b>		Lab File ID: S2022-12-08B (29)		Analyzed: 12/09/22 00:08
13C4-PFBA	3.16	105	20 - 150	
13C5-PFPEA	1.58	93.4	20 - 150	
13C5-PFHXA	0.791	101	20 - 150	
13C4-PFHFA	0.791	101	20 - 150	
13C8-PFOA	0.791	101	20 - 150	
13C9-PFNA	0.395	116	20 - 150	
13C6-PFDA	0.395	89.4	20 - 150	
13C7-PFUnA	0.395	46.5	20 - 150	
13C2-PFDOA	0.395	83.1	20 - 150	
13C2-PFTEDA	0.395	43.8	20 - 150	
13C3-PFBS	0.791	108	20 - 150	
13C3-PFHXS	0.791	97.4	20 - 150	
13C8-PFOS	0.791	99.7	20 - 150	
13C2-4:2FTS	1.58	128	20 - 150	
13C2-6:2FTS	1.58	159	20 - 150	*
13C2-8:2FTS	1.58	81.0	20 - 150	
13C8-PFOSA	0.791	46.6	20 - 150	
D5-NETFOSA	0.791	15.6	20 - 150	*
D3-NMEFOSA	0.791	14.6	20 - 150	*
D3-NMEFOSAA	1.58	172	20 - 150	*
D5-NETFOSAA	1.58	79.4	20 - 150	
D7-NMEFOSE	7.91	35.7	20 - 150	
D9-NETFOSSE	7.91	36.3	20 - 150	
13C3-HFPO-DA	3.16	100	20 - 150	
<b>ADIT6-IDW-SOFD01MI-22DEC (22L0023-02RE1) ug/kg D</b>		Lab File ID: S2022-12-08B (30)		Analyzed: 12/09/22 00:21
13C2-6:2FTS	1.58	212	20 - 150	*
D5-NETFOSA	0.791	18.3	20 - 150	*
D3-NMEFOSA	0.791	14.9	20 - 150	*
D3-NMEFOSAA	1.58	111	20 - 150	

## SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>ADIT6-IDW-SOFT01MI-22DEC (22L0023-03) ug/kg Dry</b>		Lab File ID: S2022-12-08B (31)		Analyzed: 12/09/22 00:33
13C4-PFBA	3.11	99.1	20 - 150	
13C5-PFPEA	1.56	81.9	20 - 150	
13C5-PFHXA	0.778	111	20 - 150	
13C4-PFHFA	0.778	91.7	20 - 150	
13C8-PFOA	0.778	92.2	20 - 150	
13C9-PFNA	0.389	100	20 - 150	
13C6-PFDA	0.389	83.8	20 - 150	
13C7-PFUnA	0.389	35.4	20 - 150	
13C2-PFDOA	0.389	69.5	20 - 150	
13C2-PFTEDA	0.389	38.8	20 - 150	
13C3-PFBS	0.778	95.7	20 - 150	
13C3-PFHXS	0.778	90.9	20 - 150	
13C8-PFOS	0.778	104	20 - 150	
13C2-4:2FTS	1.56	151	20 - 150	*
13C2-6:2FTS	1.56	161	20 - 150	*
13C2-8:2FTS	1.56	76.5	20 - 150	
13C8-PFOSA	0.778	42.7	20 - 150	
D5-NETFOSA	0.778	14.8	20 - 150	*
D3-NMEFOSA	0.778	14.4	20 - 150	*
D3-NMEFOSAA	1.56	188	20 - 150	*
D5-NETFOSAA	1.56	87.5	20 - 150	
D7-NMEFOSE	7.78	35.1	20 - 150	
D9-NETFOSSE	7.78	37.9	20 - 150	
13C3-HFPO-DA	3.11	92.6	20 - 150	
<b>ADIT6-IDW-SOFT01MI-22DEC (22L0023-03RE1) ug/kg D</b>		Lab File ID: S2022-12-08B (32)		Analyzed: 12/09/22 00:46
13C2-4:2FTS	1.56	102	20 - 150	
13C2-6:2FTS	1.56	190	20 - 150	*
D5-NETFOSA	0.778	15.7	20 - 150	*
D3-NMEFOSA	0.778	11.9	20 - 150	*
D3-NMEFOSAA	1.56	112	20 - 150	

## SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>ADIT6-DU02-SON01MI-22DEC (22L0023-04) ug/kg Dry</b>		Lab File ID: S2022-12-08B (33)		Analyzed: 12/09/22 00:59
13C4-PFBA	3.13	105	20 - 150	
13C5-PFPEA	1.57	96.8	20 - 150	
13C5-PFHXA	0.783	108	20 - 150	
13C4-PFHFA	0.783	118	20 - 150	
13C8-PFOA	0.783	85.3	20 - 150	
13C9-PFNA	0.391	93.8	20 - 150	
13C6-PFDA	0.391	85.6	20 - 150	
13C7-PFUnA	0.391	45.0	20 - 150	
13C2-PFDOA	0.391	141	20 - 150	
13C2-PFTEDA	0.391	43.5	20 - 150	
13C3-PFBS	0.783	111	20 - 150	
13C3-PFHXS	0.783	100	20 - 150	
13C8-PFOS	0.783	114	20 - 150	
13C2-4:2FTS	1.57	155	20 - 150	*
13C2-6:2FTS	1.57	170	20 - 150	*
13C2-8:2FTS	1.57	50.9	20 - 150	
13C8-PFOSA	0.783	50.2	20 - 150	
D5-NETFOSA	0.783	23.1	20 - 150	
D3-NMEFOSA	0.783	20.4	20 - 150	
D3-NMEFOSAA	1.57	186	20 - 150	*
D5-NETFOSAA	1.57	67.4	20 - 150	
D7-NMEFOSE	7.83	60.1	20 - 150	
D9-NETFOSSE	7.83	62.6	20 - 150	
13C3-HFPO-DA	3.13	103	20 - 150	
<b>ADIT6-DU02-SON01MI-22DEC (22L0023-04RE1) ug/kg D</b>		Lab File ID: S2022-12-08B (34)		Analyzed: 12/09/22 01:12
13C2-4:2FTS	1.57	97.2	20 - 150	
13C2-6:2FTS	1.57	163	20 - 150	*
D3-NMEFOSAA	1.57	131	20 - 150	



## SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>ADIT6-DU02-SOFD01MI-22DEC (22L0023-05) ug/kg Dry</b>				
			Lab File ID: S2022-12-08B (35)	Analyzed: 12/09/22 01:24
13C4-PFBA	3.16	95.6	20 - 150	
13C5-PFPEA	1.58	97.4	20 - 150	
13C5-PFHXA	0.789	100	20 - 150	
13C4-PFHPA	0.789	120	20 - 150	
13C8-PFOA	0.789	112	20 - 150	
13C9-PFNA	0.394	104	20 - 150	
13C6-PFDA	0.394	84.2	20 - 150	
13C7-PFUnA	0.394	41.0	20 - 150	
13C2-PFDOA	0.394	132	20 - 150	
13C2-PFTEDA	0.394	40.8	20 - 150	
13C3-PFBS	0.789	128	20 - 150	
13C3-PFHXS	0.789	102	20 - 150	
13C8-PFOS	0.789	123	20 - 150	
13C2-4:2FTS	1.58	169	20 - 150	*
13C2-6:2FTS	1.58	189	20 - 150	*
13C2-8:2FTS	1.58	37.5	20 - 150	
13C8-PFOSA	0.789	57.0	20 - 150	
D5-NETFOSA	0.789	36.0	20 - 150	
D3-NMEFOSA	0.789	32.7	20 - 150	
D3-NMEFOSAA	1.58	228	20 - 150	*
D5-NETFOSAA	1.58	64.4	20 - 150	
D7-NMEFOSE	7.89	87.9	20 - 150	
D9-NETFOSSE	7.89	87.8	20 - 150	
13C3-HFPO-DA	3.16	105	20 - 150	
<b>ADIT6-DU02-SOFD01MI-22DEC (22L0023-05RE1) ug/kg</b>				
			Lab File ID: S2022-12-08B (36)	Analyzed: 12/09/22 01:37
13C2-4:2FTS	1.58	85.7	20 - 150	
13C2-6:2FTS	1.58	227	20 - 150	*
D3-NMEFOSAA	1.58	105	20 - 150	

## SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>ADIT6-DU02-SOFT01MI-22DEC (22L0023-06 ) ug/kg Dry</b> Lab File ID: S2022-12-08B (37)				Analyzed: 12/09/22 01:50
13C4-PFBA	3.17	105	20 - 150	
13C5-PFPEA	1.58	97.5	20 - 150	
13C5-PFHXA	0.792	99.1	20 - 150	
13C4-PFHPA	0.792	101	20 - 150	
13C8-PFOA	0.792	107	20 - 150	
13C9-PFNA	0.396	91.8	20 - 150	
13C6-PFDA	0.396	89.1	20 - 150	
13C7-PFUnA	0.396	55.5	20 - 150	
13C2-PFDOA	0.396	110	20 - 150	
13C2-PFTEDA	0.396	41.8	20 - 150	
13C3-PFBS	0.792	113	20 - 150	
13C3-PFHXS	0.792	105	20 - 150	
13C8-PFOS	0.792	92.0	20 - 150	
13C2-4:2FTS	1.58	127	20 - 150	
13C2-6:2FTS	1.58	165	20 - 150	*
13C2-8:2FTS	1.58	82.5	20 - 150	
13C8-PFOSA	0.792	53.8	20 - 150	
D5-NETFOSA	0.792	25.0	20 - 150	
D3-NMEFOSA	0.792	21.8	20 - 150	
D3-NMEFOSAA	1.58	148	20 - 150	
D5-NETFOSAA	1.58	80.6	20 - 150	
D7-NMEFOSE	7.92	60.3	20 - 150	
D9-NETFOSSE	7.92	58.5	20 - 150	
13C3-HFPO-DA	3.17	106	20 - 150	
<b>ADIT6-DU02-SOFT01MI-22DEC (22L0023-06RE1 ) ug/kg I</b> Lab File ID: S2022-12-08B (38)				Analyzed: 12/09/22 02:02
13C2-6:2FTS	1.58	137	20 - 150	

## SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>ADIT6-DU04A-SON01MI-22DEC (22L0023-07) ug/kg Dry</b>				
Lab File ID: S2022-12-08B (39)			Analyzed: 12/09/22 02:15	
13C4-PFBA	3.13	95.9	20 - 150	
13C5-PFPEA	1.57	89.6	20 - 150	
13C5-PFHXA	0.783	102	20 - 150	
13C4-PFHPA	0.783	100	20 - 150	
13C8-PFOA	0.783	101	20 - 150	
13C9-PFNA	0.391	104	20 - 150	
13C6-PFDA	0.391	84.2	20 - 150	
13C7-PFUnA	0.391	78.1	20 - 150	
13C2-PFDOA	0.391	54.3	20 - 150	
13C2-PFTEDA	0.391	49.7	20 - 150	
13C3-PFBS	0.783	86.9	20 - 150	
13C3-PFHXS	0.783	93.9	20 - 150	
13C8-PFOS	0.783	104	20 - 150	
13C2-4:2FTS	1.57	122	20 - 150	
13C2-6:2FTS	1.57	134	20 - 150	
13C2-8:2FTS	1.57	147	20 - 150	
13C8-PFOSA	0.783	52.5	20 - 150	
D5-NETFOSA	0.783	12.2	20 - 150	*
D3-NMEFOSA	0.783	13.7	20 - 150	*
D3-NMEFOSAA	1.57	171	20 - 150	*
D5-NETFOSAA	1.57	161	20 - 150	*
D7-NMEFOSE	7.83	32.7	20 - 150	
D9-NETFOSE	7.83	36.1	20 - 150	
13C3-HFPO-DA	3.13	99.9	20 - 150	
<b>ADIT6-DU04A-SON01MI-22DEC (22L0023-07RE1) ug/kg</b>				
Lab File ID: S2022-12-08B (40)			Analyzed: 12/09/22 02:28	
D5-NETFOSA	0.783	14.0	20 - 150	*
D3-NMEFOSA	0.783	11.2	20 - 150	*
D3-NMEFOSAA	1.57	113	20 - 150	
D5-NETFOSAA	1.57	152	20 - 150	*

## SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>ADIT6-DU01-SON01MI-22DEC (22L0023-08) ug/kg Dry</b>		Lab File ID: S2022-12-08B (41)		Analyzed: 12/09/22 02:40
13C4-PFBA	3.20	55.7	20 - 150	
13C5-PFPEA	1.60	96.2	20 - 150	
13C5-PFHXA	0.800	108	20 - 150	
13C4-PFHPA	0.800	108	20 - 150	
13C8-PFOA	0.800	101	20 - 150	
13C9-PFNA	0.400	94.1	20 - 150	
13C6-PFDA	0.400	85.7	20 - 150	
13C7-PFUnA	0.400	78.1	20 - 150	
13C2-PFDOA	0.400	72.8	20 - 150	
13C2-PFTEDA	0.400	52.3	20 - 150	
13C3-PFBS	0.800	92.9	20 - 150	
13C3-PFHXS	0.800	99.1	20 - 150	
13C8-PFOS	0.800	90.9	20 - 150	
13C2-4:2FTS	1.60	117	20 - 150	
13C2-6:2FTS	1.60	151	20 - 150	*
13C2-8:2FTS	1.60	122	20 - 150	
13C8-PFOSA	0.800	50.7	20 - 150	
D5-NETFOSA	0.800	16.3	20 - 150	*
D3-NMEFOSA	0.800	16.3	20 - 150	*
D3-NMEFOSAA	1.60	129	20 - 150	
D5-NETFOSAA	1.60	111	20 - 150	
D7-NMEFOSE	8.00	36.7	20 - 150	
D9-NETFOSSE	8.00	37.8	20 - 150	
13C3-HFPO-DA	3.20	112	20 - 150	
<b>ADIT6-DU01-SON01MI-22DEC (22L0023-08RE1) ug/kg D</b>		Lab File ID: S2022-12-08B (42)		Analyzed: 12/09/22 02:53
13C2-6:2FTS	1.60	95.8	20 - 150	
D5-NETFOSA	0.800	33.8	20 - 150	
D3-NMEFOSA	0.800	41.6	20 - 150	

## SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>ADIT6-DU04B-SON01MI-22DEC (22L0023-09) ug/kg Dry</b>				Lab File ID: S2022-12-08B (43)
				Analyzed: 12/09/22 03:06
13C4-PFBA	3.18	12.7	20 - 150	*
13C5-PFPEA	1.59	84.4	20 - 150	
13C5-PFHXA	0.795	97.6	20 - 150	
13C4-PFHFA	0.795	108	20 - 150	
13C8-PFOA	0.795	99.4	20 - 150	
13C9-PFNA	0.398	93.6	20 - 150	
13C6-PFDA	0.398	88.2	20 - 150	
13C7-PFUnA	0.398	68.4	20 - 150	
13C2-PFDOA	0.398	56.4	20 - 150	
13C2-PFTEDA	0.398	39.8	20 - 150	
13C3-PFBS	0.795	85.4	20 - 150	
13C3-PFHXS	0.795	83.9	20 - 150	
13C8-PFOS	0.795	100	20 - 150	
13C2-4:2FTS	1.59	140	20 - 150	
13C2-6:2FTS	1.59	136	20 - 150	
13C2-8:2FTS	1.59	195	20 - 150	*
13C8-PFOSA	0.795	47.4	20 - 150	
D5-NETFOSA	0.795	17.1	20 - 150	*
D3-NMEFOSA	0.795	20.3	20 - 150	
D3-NMEFOSAA	1.59	159	20 - 150	*
D5-NETFOSAA	1.59	151	20 - 150	*
D7-NMEFOSE	7.95	41.7	20 - 150	
D9-NETFOSSE	7.95	41.2	20 - 150	
13C3-HFPO-DA	3.18	93.4	20 - 150	
<b>ADIT6-DU04B-SON01MI-22DEC (22L0023-09RE1) ug/kg</b>				Lab File ID: S2022-12-08B (44)
				Analyzed: 12/09/22 03:19
13C4-PFBA	3.18	11.7	20 - 150	*
13C2-8:2FTS	1.59	89.3	20 - 150	
D5-NETFOSA	0.795	23.1	20 - 150	
D3-NMEFOSAA	1.59	128	20 - 150	
D5-NETFOSAA	1.59	144	20 - 150	

## SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>Blank (BBL0100-BLK1) ug/kg Dry</b>				
	Lab File ID: S2022-12-08B (17)			Analyzed: 12/08/22 21:35
13C4-PFBA	3.20	100	20 - 150	
13C5-PFPEA	1.60	99.9	20 - 150	
13C5-PFHXA	0.800	104	20 - 150	
13C4-PFHPA	0.800	101	20 - 150	
13C8-PFOA	0.800	95.0	20 - 150	
13C9-PFNA	0.400	106	20 - 150	
13C6-PFDA	0.400	110	20 - 150	
13C7-PFUnA	0.400	130	20 - 150	
13C2-PFDOA	0.400	101	20 - 150	
13C2-PFTEDA	0.400	83.3	20 - 150	
13C3-PFBS	0.800	99.5	20 - 150	
13C3-PFHXS	0.800	93.9	20 - 150	
13C8-PFOS	0.800	102	20 - 150	
13C2-4:2FTS	1.60	106	20 - 150	
13C2-6:2FTS	1.60	81.5	20 - 150	
13C2-8:2FTS	1.60	81.1	20 - 150	
13C8-PFOSA	0.800	88.6	20 - 150	
D5-NETFOSA	0.800	11.8	20 - 150	*
D3-NMEFOSA	0.800	14.9	20 - 150	*
D3-NMEFOSAA	1.60	91.6	20 - 150	
D5-NETFOSAA	1.60	98.8	20 - 150	
D7-NMEFOSE	8.00	44.4	20 - 150	
D9-NETFOSE	8.00	41.5	20 - 150	
13C3-HFPO-DA	3.20	99.1	20 - 150	

## SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>LCS (BBL0100-BS1) ug/kg Dry</b>				
		Lab File ID: S2022-12-08B (18)		Analyzed: 12/08/22 21:48
13C4-PFBA	3.20	102	20 - 150	
13C5-PFPEA	1.60	86.2	20 - 150	
13C5-PFHXA	0.800	99.6	20 - 150	
13C4-PFHFA	0.800	95.8	20 - 150	
13C8-PFOA	0.800	92.9	20 - 150	
13C9-PFNA	0.400	114	20 - 150	
13C6-PFDA	0.400	81.3	20 - 150	
13C7-PFUnA	0.400	96.6	20 - 150	
13C2-PFDOA	0.400	80.9	20 - 150	
13C2-PFTEDA	0.400	67.5	20 - 150	
13C3-PFBS	0.800	110	20 - 150	
13C3-PFHXS	0.800	105	20 - 150	
13C8-PFOS	0.800	105	20 - 150	
13C2-4:2FTS	1.60	123	20 - 150	
13C2-6:2FTS	1.60	100	20 - 150	
13C2-8:2FTS	1.60	111	20 - 150	
13C8-PFOSA	0.800	102	20 - 150	
D5-NETFOSA	0.800	2.96	20 - 150	*
D3-NMEFOSA	0.800	6.16	20 - 150	*
D3-NMEFOSAA	1.60	97.6	20 - 150	
D5-NETFOSAA	1.60	119	20 - 150	
D7-NMEFOSE	8.00	36.7	20 - 150	
D9-NETFOSSE	8.00	34.0	20 - 150	
13C3-HFPO-DA	3.20	96.8	20 - 150	

## SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>LCS Dup (BBL0100-BSD1) . ug/kg Dry</b>				
		Lab File ID: S2022-12-08B (19)		Analyzed: 12/08/22 22:01
13C4-PFBA	3.20	104	20 - 150	
13C5-PFPEA	1.60	95.6	20 - 150	
13C5-PFHXA	0.800	104	20 - 150	
13C4-PFHPA	0.800	101	20 - 150	
13C8-PFOA	0.800	101	20 - 150	
13C9-PFNA	0.400	95.7	20 - 150	
13C6-PFDA	0.400	86.5	20 - 150	
13C7-PFUnA	0.400	105	20 - 150	
13C2-PFDOA	0.400	89.8	20 - 150	
13C2-PFTEDA	0.400	75.0	20 - 150	
13C3-PFBS	0.800	92.8	20 - 150	
13C3-PFHXS	0.800	98.3	20 - 150	
13C8-PFOS	0.800	110	20 - 150	
13C2-4:2FTS	1.60	103	20 - 150	
13C2-6:2FTS	1.60	94.5	20 - 150	
13C2-8:2FTS	1.60	91.0	20 - 150	
13C8-PFOSA	0.800	98.6	20 - 150	
D5-NETFOSA	0.800	0.903	20 - 150	*
D3-NMEFOSA	0.800	3.13	20 - 150	*
D3-NMEFOSAA	1.60	109	20 - 150	
D5-NETFOSAA	1.60	107	20 - 150	
D7-NMEFOSE	8.00	29.7	20 - 150	
D9-NETFOSE	8.00	27.6	20 - 150	
13C3-HFPO-DA	3.20	93.1	20 - 150	



## SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>Duplicate (BBL0100-DUP1) . ug/kg Dry</b>	Lab File ID: S2022-12-08B (23)		Analyzed: 12/08/22 22:52	
13C4-PFBA	3.11	104	20 - 150	
13C5-PFPEA	1.56	85.0	20 - 150	
13C5-PFHXA	0.778	99.7	20 - 150	
13C4-PFHFA	0.778	97.2	20 - 150	
13C8-PFOA	0.778	102	20 - 150	
13C9-PFNA	0.389	95.4	20 - 150	
13C6-PFDA	0.389	84.8	20 - 150	
13C7-PFUnA	0.389	53.9	20 - 150	
13C2-PFDOA	0.389	100	20 - 150	
13C2-PFTEDA	0.389	30.4	20 - 150	
13C3-PFBS	0.778	99.5	20 - 150	
13C3-PFHXS	0.778	91.6	20 - 150	
13C8-PFOS	0.778	104	20 - 150	
13C2-4:2FTS	1.56	103	20 - 150	
13C2-6:2FTS	1.56	150	20 - 150	
13C2-8:2FTS	1.56	65.6	20 - 150	
13C8-PFOSA	0.778	48.9	20 - 150	
D5-NETFOSA	0.778	28.2	20 - 150	
D3-NMEFOSA	0.778	23.9	20 - 150	
D3-NMEFOSAA	1.56	136	20 - 150	
D5-NETFOSAA	1.56	70.3	20 - 150	
D7-NMEFOSE	7.78	54.2	20 - 150	
D9-NETFOSSE	7.78	57.5	20 - 150	
13C3-HFPO-DA	3.11	93.3	20 - 150	

## SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>Duplicate (BBL0100-DUP2) . ug/kg Dry</b>		Lab File ID: S2022-12-08B (24)		Analyzed: 12/08/22 23:04
13C4-PFBA	3.14	102	20 - 150	
13C5-PFPEA	1.57	91.3	20 - 150	
13C5-PFHXA	0.786	105	20 - 150	
13C4-PFHPA	0.786	102	20 - 150	
13C8-PFOA	0.786	99.3	20 - 150	
13C9-PFNA	0.393	93.6	20 - 150	
13C6-PFDA	0.393	74.7	20 - 150	
13C7-PFUnA	0.393	57.8	20 - 150	
13C2-PFDOA	0.393	87.1	20 - 150	
13C2-PFTEDA	0.393	33.6	20 - 150	
13C3-PFBS	0.786	102	20 - 150	
13C3-PFHXS	0.786	106	20 - 150	
13C8-PFOS	0.786	93.9	20 - 150	
13C2-4:2FTS	1.57	116	20 - 150	
13C2-6:2FTS	1.57	171	20 - 150	*
13C2-8:2FTS	1.57	57.0	20 - 150	
13C8-PFOSA	0.786	45.9	20 - 150	
D5-NETFOSA	0.786	26.6	20 - 150	
D3-NMEFOSA	0.786	24.3	20 - 150	
D3-NMEFOSAA	1.57	129	20 - 150	
D5-NETFOSAA	1.57	70.6	20 - 150	
D7-NMEFOSE	7.86	59.5	20 - 150	
D9-NETFOSSE	7.86	58.9	20 - 150	
13C3-HFPO-DA	3.14	105	20 - 150	

## SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>MRL Check (BBL0100-MRL1) . ug/kg Dry</b>	Lab File ID: S2022-12-08B (20)			Analyzed: 12/08/22 22:13
13C4-PFBA	3.20	110	20 - 150	
13C5-PFPEA	1.60	97.6	20 - 150	
13C5-PFHXA	0.800	120	20 - 150	
13C4-PFHFA	0.800	106	20 - 150	
13C8-PFOA	0.800	100	20 - 150	
13C9-PFNA	0.400	116	20 - 150	
13C6-PFDA	0.400	113	20 - 150	
13C7-PFUnA	0.400	111	20 - 150	
13C2-PFDOA	0.400	94.9	20 - 150	
13C2-PFTEDA	0.400	86.9	20 - 150	
13C3-PFBS	0.800	115	20 - 150	
13C3-PFHXS	0.800	104	20 - 150	
13C8-PFOS	0.800	106	20 - 150	
13C2-4:2FTS	1.60	115	20 - 150	
13C2-6:2FTS	1.60	103	20 - 150	
13C2-8:2FTS	1.60	96.8	20 - 150	
13C8-PFOSA	0.800	85.7	20 - 150	
D5-NETFOSA	0.800	0.853	20 - 150	*
D3-NMEFOSA	0.800	2.31	20 - 150	*
D3-NMEFOSAA	1.60	89.3	20 - 150	
D5-NETFOSAA	1.60	92.7	20 - 150	
D7-NMEFOSE	8.00	29.4	20 - 150	
D9-NETFOSE	8.00	26.3	20 - 150	
13C3-HFPO-DA	3.20	112	20 - 150	

## SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>Matrix Spike (BBL0100-MS1) . ug/kg Dry</b>		Lab File ID: S2022-12-08B (21)		Analyzed: 12/08/22 22:26
13C4-PFBA	3.17	104	20 - 150	
13C5-PFPEA	1.59	104	20 - 150	
13C5-PFHXA	0.794	103	20 - 150	
13C4-PFHPA	0.794	102	20 - 150	
13C8-PFOA	0.794	89.6	20 - 150	
13C9-PFNA	0.397	104	20 - 150	
13C6-PFDA	0.397	85.3	20 - 150	
13C7-PFUnA	0.397	53.9	20 - 150	
13C2-PFDOA	0.397	86.9	20 - 150	
13C2-PFTEDA	0.397	42.8	20 - 150	
13C3-PFBS	0.794	92.7	20 - 150	
13C3-PFHXS	0.794	87.8	20 - 150	
13C8-PFOS	0.794	109	20 - 150	
13C2-4:2FTS	1.59	110	20 - 150	
13C2-6:2FTS	1.59	143	20 - 150	
13C2-8:2FTS	1.59	88.2	20 - 150	
13C8-PFOSA	0.794	60.0	20 - 150	
D5-NETFOSA	0.794	35.5	20 - 200	
D3-NMEFOSA	0.794	34.6	20 - 200	
D3-NMEFOSAA	1.59	144	20 - 150	
D5-NETFOSAA	1.59	91.3	20 - 150	
D7-NMEFOSE	7.94	66.4	20 - 200	
D9-NETFOSE	7.94	69.4	20 - 200	
13C3-HFPO-DA	3.17	90.5	20 - 150	

## SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>Matrix Spike Dup (BBL0100-MSD1) ug/kg Dry</b>	Lab File ID: S2022-12-08B (22)		Analyzed: 12/08/22 22:39	
13C4-PFBA	3.17	94.0	20 - 150	
13C5-PFPEA	1.58	87.3	20 - 150	
13C5-PFHXA	0.792	93.5	20 - 150	
13C4-PFHPA	0.792	101	20 - 150	
13C8-PFOA	0.792	86.6	20 - 150	
13C9-PFNA	0.396	97.8	20 - 150	
13C6-PFDA	0.396	71.6	20 - 150	
13C7-PFUnA	0.396	41.3	20 - 150	
13C2-PFDOA	0.396	72.4	20 - 150	
13C2-PFTEDA	0.396	30.7	20 - 150	
13C3-PFBS	0.792	91.7	20 - 150	
13C3-PFHXS	0.792	91.8	20 - 150	
13C8-PFOS	0.792	111	20 - 150	
13C2-4:2FTS	1.58	102	20 - 150	
13C2-6:2FTS	1.58	127	20 - 150	
13C2-8:2FTS	1.58	56.4	20 - 150	
13C8-PFOSA	0.792	56.4	20 - 150	
D5-NETFOSA	0.792	34.0	20 - 200	
D3-NMEFOSA	0.792	26.7	20 - 200	
D3-NMEFOSAA	1.58	153	20 - 150	*
D5-NETFOSAA	1.58	79.4	20 - 150	
D7-NMEFOSE	7.92	66.7	20 - 200	
D9-NETFOSE	7.92	69.0	20 - 200	
13C3-HFPO-DA	3.17	93.4	20 - 150	

**METHOD BLANK SUMMARY**

## EPA 1633

Laboratory: APPL, LLC

Work Order: 22L0023

Client: AECOM

Project: Red Hill AFFF Assessment Sampling

Blank ID: BBL0100-BLK1

Batch: BBL0100

Prepared: 12/07/2022 10:00

<b>Client Sample ID</b>	<b>Laboratory Sample ID</b>	<b>Lab File ID</b>	<b>Time Analyzed</b>
LCS	BBL0100-BS1	S2022-12-08B (18)	21:48
LCS Dup	BBL0100-BSD1	S2022-12-08B (19)	22:01
MRL Check	BBL0100-MRL1	S2022-12-08B (20)	22:13
Matrix Spike	BBL0100-MS1	S2022-12-08B (21)	22:26
Matrix Spike Dup	BBL0100-MSD1	S2022-12-08B (22)	22:39
Duplicate	BBL0100-DUP1	S2022-12-08B (23)	22:52
Duplicate	BBL0100-DUP2	S2022-12-08B (24)	23:04
ADIT6-IDW-SON01MI-22DEC	22L0023-01	S2022-12-08B (27)	23:43
DF 10	22L0023-01RE1	S2022-12-08B (28)	23:55
ADIT6-IDW-SOFD01MI-22DEC	22L0023-02	S2022-12-08B (29)	00:08
DF 10	22L0023-02RE1	S2022-12-08B (30)	00:21
ADIT6-IDW-SOFT01MI-22DEC	22L0023-03	S2022-12-08B (31)	00:33
DF 10	22L0023-03RE1	S2022-12-08B (32)	00:46
ADIT6-DU02-SON01MI-22DEC	22L0023-04	S2022-12-08B (33)	00:59
DF 10	22L0023-04RE1	S2022-12-08B (34)	01:12
ADIT6-DU02-SOFD01MI-22DEC	22L0023-05	S2022-12-08B (35)	01:24
DF 10	22L0023-05RE1	S2022-12-08B (36)	01:37
ADIT6-DU02-SOFT01MI-22DEC	22L0023-06	S2022-12-08B (37)	01:50
DF 10	22L0023-06RE1	S2022-12-08B (38)	02:02
ADIT6-DU04A-SON01MI-22DEC	22L0023-07	S2022-12-08B (39)	02:15
DF 10	22L0023-07RE1	S2022-12-08B (40)	02:28
ADIT6-DU01-SON01MI-22DEC	22L0023-08	S2022-12-08B (41)	02:40
DF 10	22L0023-08RE1	S2022-12-08B (42)	02:53
ADIT6-DU04B-SON01MI-22DEC	22L0023-09	S2022-12-08B (43)	03:06
DF 10	22L0023-09RE1	S2022-12-08B (44)	03:19

# ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0100-BLK1
Sampled:		File ID:	S2022-12-08B (17)
		Prepared:	12/07/22 10:00
Solids:		Analyzed:	12/08/22 21:35
		Preparation:	EPA 1633
Batch:	BBL0100	Dilution:	1
		Calibration:	2250016
Column:	1	Instrument:	Saphira
		Sequence:	SB03753

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
PFBA	0.20 U	0.30	0.20	0.15	U
PFPEA	0.040 U	0.080	0.040	0.022	U
PFHXA	0.020 U	0.040	0.020	0.015	U
PFHPA	0.020 U	0.040	0.020	0.015	U
PFOA	0.030 U	0.040	0.030	0.021	U
PFNA	0.030 U	0.040	0.030	0.022	U
PFDA	0.030 U	0.040	0.030	0.022	U
PFUnA	0.020 U	0.040	0.020	0.020	U
PFDOA	0.030 U	0.040	0.030	0.023	U
PFTRDA	0.020 U	0.040	0.020	0.016	U
PFTEDA	0.030 U	0.040	0.030	0.025	U
PFBS	0.020 U	0.040	0.020	0.016	U
PFPEs	0.020 U	0.040	0.020	0.012	U
PFHXS	0.020 U	0.040	0.020	0.015	U
PFHPS	0.020 U	0.040	0.020	0.011	U
PFOS	0.528	0.040	0.020	0.0097	B
PFNS	0.020 U	0.040	0.020	0.015	U
PFDS	0.020 U	0.040	0.020	0.014	U
PFDOS	0.020 U	0.040	0.020	0.013	U
4:2FTS	0.080 U	0.16	0.080	0.045	U
6:2FTS	0.144 J	0.16	0.080	0.061	B, J
8:2FTS	0.080 U	0.16	0.080	0.051	IR2, U
PFOSA	0.020 U	0.040	0.020	0.012	U
NMeFOSA	0.080 U	0.16	0.080	0.066	U
NEtFOSA	0.080 U	0.16	0.080	0.027	U
NMeFOSAA	0.020 U	0.040	0.020	0.010	U
NEtFOSAA	0.020 U	0.040	0.020	0.018	U
NMeFOSE	0.080 U	0.16	0.080	0.054	U
NEtFOSE	0.080 U	0.16	0.080	0.047	U
HFPO-DA	0.040	0.080	0.040	0.020	U

**ANALYSIS DATA SHEET**

Blank

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0100-BLK1
Sampled:		Prepared:	12/07/22 10:00
Solids:		Preparation:	EPA 1633
Batch:	BBL0100	Sequence:	SB03753
Column:	1	Calibration:	2250016
			Instrument: Saphira
			File ID: S2022-12-08B (17)
			Analyzed: 12/08/22 21:35
			Dilution: 1

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
ADONA	0.040 U	0.080	0.040	0.026	U
PFEESA	0.040 U	0.080	0.040	0.017	U
PFMPA	0.040 U	0.080	0.040	0.028	U
PFMBA	0.040 U	0.080	0.040	0.032	U
NFDHA	0.060 U	0.080	0.060	0.049	U
9CL-PF3ONS	0.040 U	0.080	0.040	0.024	U
11CL-PF3OUDS	0.040 U	0.080	0.040	0.027	U
3:3FTCA	0.080 U	0.16	0.080	0.064	U
5:3FTCA	0.080 U	0.16	0.080	0.065	U
7:3FTCA	0.080 U	0.16	0.080	0.050	U



**LCS / LCS DUPLICATE RECOVERY**

## EPA 1633

Laboratory: APPL, LLC

Work Order: 22L0023

Client: AECOM

Project: Red Hill AFFF Assessment Sampling

Matrix: Solid

Preparation: EPA 1633

Batch: BBL0100

Laboratory ID: BBL0100-BS1

Column:

ANALYTE	SPIKE ADDED (ug/kg Dry)	LCS CONCENTRATION (ug/kg Dry)	LCS % REC.	QC LIMITS REC.
PFBA	1.60	1.55	96.8	40 - 150
PFPEA	0.800	0.787	98.3	40 - 150
PFHXA	0.400	0.382	95.5	40 - 150
PFHPA	0.400	0.376	93.9	40 - 150
PFOA	0.400	0.401	100	40 - 150
PFNA	0.400	0.392	98.1	40 - 150
PFDA	0.400	0.403	101	40 - 150
PFUnA	0.400	0.429	107	40 - 150
PFDOA	0.400	0.400	100	40 - 150
PFTRDA	0.400	0.330	82.5	40 - 150
PFTEDA	0.400	0.401	100	40 - 150
PFBS	0.354	0.324	91.5	40 - 150
PFPEs	0.376	0.380	101	40 - 150
PFHXS	0.366	0.361	98.7	40 - 150
PFHPS	0.382	0.346	90.5	40 - 150
PFOS	0.372	0.363	97.5	40 - 150
PFNS	0.384	0.387	101	40 - 150
PFDS	0.386	0.341	88.3	40 - 150
PFDOS	0.388	0.300	77.3	40 - 150
4:2FTS	1.50	1.39	92.5	40 - 150
6:2FTS	1.52	1.52	100	40 - 150
8:2FTS	1.54	1.48	96.3	40 - 150
PFOSA	0.400	0.348	86.9	40 - 150
NMeFOSA	1.60	1.74	109	40 - 150
NEtFOSA	1.60	1.30	81.4	40 - 150
NMeFOSAA	0.400	0.380	95.0	40 - 150
NEtFOSAA	0.400	0.352	87.9	40 - 150
NMeFOSE	1.60	1.53	95.6	40 - 150
NEtFOSE	1.60	1.47	91.9	40 - 150
HFPO-DA	0.800	0.841	105	40 - 150
ADONA	0.756	0.752	99.4	40 - 150
PFEESA	0.712	0.650	91.3	40 - 150
PFMPA	0.800	0.738	92.2	40 - 150
PFMBA	0.800	0.850	106	40 - 150

**LCS / LCS DUPLICATE RECOVERY****EPA 1633**

Laboratory: APPL, LLC

Work Order: 22L0023

Client: AECOM

Project: Red Hill AFFF Assessment Sampling

Matrix: Solid

Preparation: EPA 1633

Batch: BBL0100

Laboratory ID: BBL0100-BS1

Column:

<b>ANALYTE</b>	<b>SPIKE ADDED (ug/kg Dry)</b>	<b>LCS CONCENTRATION (ug/kg Dry)</b>	<b>LCS % REC.</b>	<b>QC LIMITS REC.</b>
NFDHA	0.800	0.614	76.8	40 - 150
9CL-PF3ONS	0.748	0.831	111	40 - 150
11CL-PF3OUDS	0.756	0.711	94.0	40 - 150
3:3FTCA	1.60	1.45	90.4	40 - 150
5:3FTCA	1.60	1.43	89.3	40 - 150
7:3FTCA	1.60	1.37	85.5	40 - 150

<b>ANALYTE</b>	<b>SPIKE ADDED (ug/kg Dry)</b>	<b>LCSD CONCENTRATION (ug/kg Dry)</b>	<b>LCSD % REC. #</b>	<b>% RPD #</b>	<b>QC LIMITS RPD</b>	<b>REC.</b>
PFBA	1.60	1.47	91.8	5.26	30	40 - 150
PFPEA	0.800	0.786	98.2	0.0993	30	40 - 150
PFHXA	0.400	0.383	95.7	0.230	30	40 - 150
PFHPA	0.400	0.393	98.3	4.55	30	40 - 150
PFOA	0.400	0.381	95.3	4.98	30	40 - 150
PFNA	0.400	0.368	92.0	6.33	30	40 - 150
PFDA	0.400	0.383	95.8	4.88	30	40 - 150
PFUnA	0.400	0.361	90.4	17.1	30	40 - 150
PFDOA	0.400	0.359	89.7	10.8	30	40 - 150
PFTRDA	0.400	0.351	87.8	6.19	30	40 - 150
PFTEDA	0.400	0.345	86.3	14.9	30	40 - 150
PFBS	0.354	0.355	100	9.22	30	40 - 150
PFPEs	0.376	0.357	95.0	6.16	30	40 - 150
PFHXS	0.366	0.349	95.2	3.54	30	40 - 150
PFHPS	0.382	0.345	90.4	0.0995	30	40 - 150
PFOS	0.372	0.419	113	14.5	30	40 - 150
PFNS	0.384	0.415	108	6.94	30	40 - 150
PFDS	0.386	0.375	97.1	9.44	30	40 - 150
PFDOS	0.388	0.305	78.7	1.75	30	40 - 150
4:2FTS	1.50	1.39	92.5	0.00670	30	40 - 150
6:2FTS	1.52	1.66	109	8.92	30	40 - 150
8:2FTS	1.54	1.52	99.2	2.89	30	40 - 150
PFOSA	0.400	0.391	97.6	11.6	30	40 - 150
NMeFOSA	1.60	1.86	116	6.72	30	40 - 150

**LCS / LCS DUPLICATE RECOVERY**

EPA 1633

Laboratory: APPL, LLC

Work Order: 22L0023

Client: AECOM

Project: Red Hill AFFF Assessment Sampling

Matrix: Solid

Preparation: EPA 1633

Batch: BBL0100

Laboratory ID: BBL0100-BSD1

Column:

ANALYTE	SPIKE ADDED (ug/kg Dry)	LCSD CONCENTRATION (ug/kg Dry)	LCSD % REC. #	% RPD #	QC LIMITS	
					RPD	REC.
NEtFOSA	1.60	2.03	127	43.5 *	30	40 - 150
NMeFOSAA	0.400	0.395	98.6	3.76	30	40 - 150
NEtFOSAA	0.400	0.479	120	30.7 *	30	40 - 150
NMeFOSE	1.60	1.29	80.7	16.8	30	40 - 150
NEtFOSE	1.60	1.58	98.5	6.93	30	40 - 150
HFPO-DA	0.800	0.804	101	4.51	30	40 - 150
ADONA	0.756	0.828	110	9.68	30	40 - 150
PFEESA	0.712	0.698	98.0	7.06	30	40 - 150
PFMPA	0.800	0.798	99.7	7.83	30	40 - 150
PFMBA	0.800	0.812	102	4.59	30	40 - 150
NFDHA	0.800	0.662	82.7	7.42	30	40 - 150
9CL-PF3ONS	0.748	0.914	122	9.51	30	40 - 150
11CL-PF3OUDS	0.756	0.780	103	9.28	30	40 - 150
3:3FTCA	1.60	1.41	88.0	2.71	30	40 - 150
5:3FTCA	1.60	1.31	82.0	8.46	30	40 - 150
7:3FTCA	1.60	1.38	86.1	0.587	30	40 - 150

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY**

ADIT6-DU02-SOFT01MI-22DEC

Laboratory: APPL, LLC

Work Order: 22L0023

Client: AECOM

Project: Red Hill AFFF Assessment Sampling

Matrix: Solid

Analysis: EPA 1633

Batch: BBL0100

Preparation: EPA 1633

% Solids:

Laboratory ID: BBL0100-MS1

Column:

Sample Lab ID: 22L0023-06

ANALYTE	SPIKE ADDED (ug/kg Dry)	SAMPLE CONCENTRATION (ug/kg Dry)	MS CONCENTRATION (ug/kg Dry)	MS % REC.	QC LIMITS REC.
PFBA	1.59	2.28	3.92	103	40 - 150
PFPEA	0.794	1.77	2.40	78.6	40 - 150
PFHXA	0.397	8.56	8.24	-79.1 *	40 - 150
PFHPA	0.397	0.287	0.637	88.2	40 - 150
PFOA	0.397	0.442	0.839	99.9	40 - 150
PFNA	0.397	ND	0.411	104	40 - 150
PFDA	0.397	0.0681	0.545	120	40 - 150
PFUnA	0.397	ND	0.401	101	40 - 150
PFDOA	0.397	ND	0.336	84.7	40 - 150
PFTRDA	0.397	ND	0.346	87.2	40 - 150
PFTEDA	0.397	ND	0.322	81.2	40 - 150
PFBS	0.351	ND	0.340	96.9	40 - 150
PFPEs	0.373	ND	0.408	109	40 - 150
PFHXS	0.363	0.0351	0.375	93.5	40 - 150
PFHPS	0.379	ND	0.0978	25.8 *	40 - 150
PFOS	0.369	0.340	0.589	67.5	40 - 150
PFNS	0.381	ND	0.216	56.8	40 - 150
PFDS	0.383	0.0214	0.321	78.3	40 - 150
PFDOS	0.385	0.0159	0.254	61.8	40 - 150
4:2FTS	1.49	0.369	1.82	97.5	40 - 150
6:2FTS	1.51	109	106	-161 *	40 - 150
8:2FTS	1.52	ND	1.31	86.1	40 - 150
PFOSA	0.397	ND	0.360	90.7	40 - 150
NMeFOSA	1.59	ND	1.47	92.7	40 - 150
NEtFOSA	1.59	ND	1.43	90.4	40 - 150
NMeFOSAA	0.397	ND	0.364	91.6	40 - 150
NEtFOSAA	0.397	ND	0.455	115	40 - 150
NMeFOSE	1.59	ND	1.68	106	40 - 150
NEtFOSE	1.59	ND	1.43	90.3	40 - 150
HFPO-DA	0.794	ND	0.745	93.9	40 - 150
ADONA	0.750	ND	0.863	115	40 - 150

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY**

ADIT6-DU02-SOFT01MI-22DEC

Laboratory: APPL, LLC

Work Order: 22L0023

Client: AECOM

Project: Red Hill AFFF Assessment Sampling

Matrix: Solid

Analysis: EPA 1633

Batch: BBL0100

Preparation: EPA 1633

% Solids:

Laboratory ID: BBL0100-MS1

Column:

Sample Lab ID: 22L0023-06

<b>ANALYTE</b>	<b>SPIKE ADDED (ug/kg Dry)</b>	<b>SAMPLE CONCENTRATION (ug/kg Dry)</b>	<b>MS CONCENTRATION (ug/kg Dry)</b>	<b>MS % REC.</b>	<b>QC LIMITS REC.</b>
PFEESA	0.706	ND	0.684	96.9	40 - 150
PFMPA	0.794	ND	0.669	84.3	40 - 150
PFMBA	0.794	ND	0.655	82.5	40 - 150
NFDHA	0.794	ND	0.534	67.3	40 - 150
9CL-PF3ONS	0.742	ND	0.328	44.2	40 - 150
11CL-PF3OUDS	0.750	ND	0.655	87.4	40 - 150
3:3FTCA	1.59	ND	1.24	78.3	40 - 150
5:3FTCA	1.59	0.268	1.69	89.5	40 - 150
7:3FTCA	1.59	ND	1.66	105	40 - 150

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY**

ADIT6-DU02-SOFT01MI-22DEC

Laboratory: APPL, LLC  
 Client: AECOM  
 Matrix: Solid  
 Batch: BBL0100  
 % Solids:  
 Column:

Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling  
 Analysis: EPA 1633  
 Preparation: EPA 1633  
 Laboratory ID: BBL0100-MSD1  
 Sample Lab ID: 22L0023-06

ANALYTE	SPIKE ADDED (ug/kg Dry)	MSD CONCENTRATION (ug/kg Dry)	MSD % REC. #	% RPD	QC LIMITS	
					RPD	REC.
PFBA	1.58	3.98	107	1.46	30	40 - 150
PFPEA	0.792	2.46	86.7	2.57	30	40 - 150
PFHXA	0.396	8.16	-99.3 *	0.966	30	40 - 150
PFHPA	0.396	0.678	98.6	6.17	30	40 - 150
PFOA	0.396	0.822	95.8	2.04	30	40 - 150
PFNA	0.396	0.424	107	3.06	30	40 - 150
PFDA	0.396	0.506	111	7.32	30	40 - 150
PFUnA	0.396	0.426	108	6.06	30	40 - 150
PFDOA	0.396	0.407	103	19.1	30	40 - 150
PFTRDA	0.396	0.367	92.6	5.80	30	40 - 150
PFTEDA	0.396	0.374	94.4	14.8	30	40 - 150
PFBS	0.350	0.337	96.1	1.03	30	40 - 150
PFPEs	0.372	0.408	110	0.0613	30	40 - 150
PFHXS	0.362	0.397	99.8	5.76	30	40 - 150
PFHPS	0.378	0.0995	26.3 *	1.70	30	40 - 150
PFOS	0.368	0.568	61.9	3.63	30	40 - 150
PFNS	0.380	0.261	68.6	18.7	30	40 - 150
PFDS	0.382	0.400	99.0	21.7	30	40 - 150
PFDOS	0.384	0.193	46.1	27.3	30	40 - 150
4:2FTS	1.49	1.90	103	4.49	30	40 - 150
6:2FTS	1.50	131	1460 *	20.6	30	40 - 150
8:2FTS	1.52	1.65	109	23.1	30	40 - 150
PFOSA	0.396	0.382	96.3	5.84	30	40 - 150
NMeFOSA	1.58	1.70	108	14.7	30	40 - 150
NEtFOSA	1.58	1.48	93.6	3.34	30	40 - 150
NMeFOSAA	0.396	0.367	92.7	0.959	30	40 - 150
NEtFOSAA	0.396	0.513	129	11.9	30	40 - 150
NMeFOSE	1.58	1.71	108	1.88	30	40 - 150

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY**

ADIT6-DU02-SOFT01MI-22DEC

Laboratory: APPL, LLC

Work Order: 22L0023

Client: AECOM

Project: Red Hill AFFF Assessment Sampling

Matrix: Solid

Analysis: EPA 1633

Batch: BBL0100

Preparation: EPA 1633

% Solids:

Laboratory ID: BBL0100-MSD1

Column:

Sample Lab ID: 22L0023-06

ANALYTE	SPIKE ADDED (ug/kg Dry)	MSD CONCENTRATION (ug/kg Dry)	MSD % REC. #	% RPD	QC LIMITS	
					RPD	REC.
NEtFOSE	1.58	1.67	105	15.1	30	40 - 150
HFPO-DA	0.792	0.843	106	12.3	30	40 - 150
ADONA	0.749	0.793	106	8.39	30	40 - 150
PFEESA	0.705	0.639	90.6	6.93	30	40 - 150
PFMPA	0.792	0.789	99.6	16.4	30	40 - 150
PFMBA	0.792	0.829	105	23.5	30	40 - 150
NFDHA	0.792	0.725	91.5	30.3 *	30	40 - 150
9CL-PF3ONS	0.741	0.317	42.8	3.41	30	40 - 150
11CL-PF3OUDS	0.749	0.631	84.3	3.80	30	40 - 150
3:3FTCA	1.58	1.46	92.1	16.1	30	40 - 150
5:3FTCA	1.58	1.91	104	12.3	30	40 - 150
7:3FTCA	1.58	1.66	105	0.146	30	40 - 150

# CALIBRATION SUMMARY



Analyte	( Q1 / Q3 )	Internal Standard	Multiplier	AcidFactor	Function	Qualifier
PFBA	( 212.9 / 169.0 )	13C4_PFBA_EIS	4.0000	1.0000	y = 0.38071 x (std. dev. = 0.01822) (weighting: None)	%RSE=4.8
PFPeA	( 262.9 / 219.0 )	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.48065 x (std. dev. = 0.01779) (weighting: None)	%RSE=3.7
PFHxA	( 313.0 / 269.0 )	13C5_PFHxA_EIS	1.0000	1.0000	y = 0.50396 x (std. dev. = 0.02693) (weighting: None)	%RSE=5.3
PFHpA	( 363.0 / 319.0 )	13C4_PFHpA_EIS	1.0000	1.0000	y = 0.50649 x (std. dev. = 0.01605) (weighting: None)	%RSE=3.2
PFOA	( 413.0 / 369.0 )	13C8_PFOA_EIS	1.0000	1.0000	y = 0.51542 x (std. dev. = 0.03171) (weighting: None)	%RSE=6.2
PFNA	( 463.0 / 419.0 )	13C9_PFNA_EIS	1.0000	1.0000	y = 0.96408 x (std. dev. = 0.03914) (weighting: None)	%RSE=4.1
PFDA	( 513.0 / 469.0 )	13C6_PFDA_EIS	1.0000	1.0000	y = 1.01450 x (std. dev. = 0.08058) (weighting: None)	%RSE=7.9
PFOA	( 563.0 / 519.0 )	13C7_PFOA_EIS	1.0000	1.0000	y = 0.88030 x (std. dev. = 0.03872) (weighting: None)	%RSE=4.4
PFDaA	( 613.0 / 569.0 )	13C2_PFDaA_EIS	1.0000	1.0000	y = 0.92011 x (std. dev. = 0.07853) (weighting: None)	%RSE=8.5
PFTTrDA	( 663.0 / 619.0 )	13C2_PFTTrDA_EIS	1.0000	1.0000	y = 0.80822 x (std. dev. = 0.09177) (weighting: None)	%RSE=11.4
PFTTeDA	( 713.0 / 669.0 )	13C2_PFTTeDA_EIS	1.0000	1.0000	y = 0.98573 x (std. dev. = 0.09828) (weighting: None)	%RSE=10.0
PFBS	( 298.9 / 80.0 )	13C3_PFBS_EIS	1.0000	0.8847	y = 0.27007 x (std. dev. = 0.01553) (weighting: None)	%RSE=5.7
PFPeS	( 349.0 / 80.0 )	13C3_PFPeS_EIS	1.0000	0.9384	y = 0.88715 x (std. dev. = 0.04559) (weighting: None)	%RSE=5.1
PFHxS	( 399.0 / 80.0 )	13C3_PFHxS_EIS	1.0000	0.9110	y = 0.76368 x (std. dev. = 0.04383) (weighting: None)	%RSE=5.7
PFHpS	( 449.0 / 80.0 )	13C8_PFOA_EIS	1.0000	0.9514	y = 0.43113 x (std. dev. = 0.03587) (weighting: None)	%RSE=8.3
PFOS	( 499.0 / 80.0 )	13C8_PFOA_EIS	1.0000	0.9275	y = 0.52064 x (std. dev. = 0.03219) (weighting: None)	%RSE=6.2
PFNS	( 549.0 / 80.0 )	13C8_PFOA_EIS	1.0000	0.9599	y = 0.63269 x (std. dev. = 0.06479) (weighting: None)	%RSE=10.2
PFDS	( 599.0 / 80.0 )	13C8_PFOA_EIS	1.0000	0.9631	y = 0.79503 x (std. dev. = 0.07164) (weighting: None)	%RSE=9.0
PFDoS	( 698.9 / 80.0 )	13C8_PFOA_EIS	1.0000	0.9696	y = 0.47468 x (std. dev. = 0.05089) (weighting: None)	%RSE=10.7
4:2FTS	( 327.0 / 307.0 )	13C2_4:2FTS_EIS	4.0000	0.9345	y = 3.26467 x (std. dev. = 0.22338) (weighting: None)	%RSE=6.8
6:2FTS	( 427.0 / 407.0 )	13C2_6:2FTS_EIS	4.0000	0.9490	y = 1.50542 x (std. dev. = 0.12080) (weighting: None)	%RSE=8.0
8:2FTS	( 527.0 / 507.0 )	13C2_8:2FTS_EIS	4.0000	0.9583	y = 1.50490 x (std. dev. = 0.23569) (weighting: None)	%RSE=15.7
PFOSA	( 498.0 / 78.0 )	13C8_PFOA_EIS	1.0000	1.0000	y = 0.55528 x (std. dev. = 0.02645) (weighting: None)	%RSE=4.8
NMeFOSA	( 511.9 / 219.0 )	D3_NMeFOSA_EIS	4.0000	1.0000	y = 1.83821 x (std. dev. = 0.28178) (weighting: None)	%RSE=15.3
NEiFOSA	( 526.0 / 219.0 )	D5_NEiFOSA_EIS	4.0000	1.0000	y = 2.07124 x (std. dev. = 0.11528) (weighting: None)	%RSE=5.6
NMeFOSAA	( 570.0 / 419.0 )	D3_MeFOSAA_EIS	1.0000	1.0000	y = 0.21802 x (std. dev. = 0.02557) (weighting: None)	%RSE=11.7
NEiFOSAA	( 584.0 / 419.0 )	D5_EiFOSAA_EIS	1.0000	1.0000	y = 0.22942 x (std. dev. = 0.02519) (weighting: None)	%RSE=11.0
NMeFOSE	( 616.1 / 59.0 )	D7_NMeFOSE_EIS	4.0000	1.0000	y = 0.28119 x (std. dev. = 0.01599) (weighting: None)	%RSE=5.7
NEiFOSE	( 630.0 / 59.0 )	D9_NEiFOSE_EIS	4.0000	1.0000	y = 0.13695 x (std. dev. = 0.01131) (weighting: None)	%RSE=8.3
HFPO-DA	( 285.0 / 169.0 )	13C3_HFPODA_EIS	2.0000	1.0000	y = 0.16604 x (std. dev. = 0.00987) (weighting: None)	%RSE=5.9
ADONA	( 377.0 / 85.0 )	13C3_HFPODA_EIS	2.0000	0.9427	y = 0.63291 x (std. dev. = 0.03582) (weighting: None)	%RSE=5.7
9Cl-Pf3ONS	( 531.0 / 351.0 )	13C3_HFPODA_EIS	2.0000	0.9333	y = 1.72419 x (std. dev. = 0.22146) (weighting: None)	%RSE=12.8
11Cl-Pf3OUDS	( 631.0 / 451.0 )	13C3_HFPODA_EIS	2.0000	0.9432	y = 1.19895 x (std. dev. = 0.08727) (weighting: None)	%RSE=7.3
3:3FTCA	( 241.0 / 177.0 )	13C5_PFPeA_EIS	4.0000	1.0000	y = 0.04722 x (std. dev. = 0.00204) (weighting: None)	%RSE=4.3
5:3FTCA	( 341.0 / 236.7 )	13C5_PFHxA_EIS	4.0000	1.0000	y = 0.42827 x (std. dev. = 0.02999) (weighting: None)	%RSE=7.0
7:3FTCA	( 441.0 / 317.0 )	13C5_PFHxA_EIS	4.0000	1.0000	y = 0.55141 x (std. dev. = 0.03929) (weighting: None)	%RSE=7.1
PFEESA	( 315.0 / 135.0 )	13C5_PFHxA_EIS	2.0000	0.8925	y = 0.91981 x (std. dev. = 0.06473) (weighting: None)	%RSE=7.0
PFMPA	( 229.0 / 85.0 )	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.13235 x (std. dev. = 0.00850) (weighting: None)	%RSE=6.4
PFMBA	( 279.0 / 85.0 )	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.41250 x (std. dev. = 0.01997) (weighting: None)	%RSE=4.8
NFDHA	( 201.0 / 85.0 )	13C5_PFHxA_EIS	2.0000	1.0000	y = 1.46781e-5 x^2 + 0.02408 x + 0.00150 (r = 0.99646) (weighting: 1 / x^2)	%RSE=9.4
13C3_PFBA_IIS	( 216.0 / 172.0 )	13C3_PFBA_IIS	1.0000	1.0000	y = 96126.4553 x	%RSD=9.0
13C2_PFHxA_IIS	( 315.1 / 270.0 )	13C2_PFHxA_IIS	1.0000	1.0000	y = 123484.6254 x	%RSD=6.1
13C4_PFOA_IIS	( 417.0 / 372.0 )	13C4_PFOA_IIS	1.0000	1.0000	y = 118549.9955 x	%RSD=6.3
13C5_PFNA_IIS	( 468.0 / 423.0 )	13C5_PFNA_IIS	1.0000	1.0000	y = 95239.8716 x	%RSD=5.5
13C2_PFDA_IIS	( 515.1 / 470.1 )	13C2_PFDA_IIS	1.0000	1.0000	y = 82383.6105 x	%RSD=7.9
18O2_PFHxS_IIS	( 403.0 / 83.9 )	18O2_PFHxS_IIS	1.0000	1.0000	y = 214631.7525 x	%RSD=3.5
13C4_PFOA_IIS	( 502.8 / 79.9 )	13C4_PFOA_IIS	1.0000	1.0000	y = 186123.6678 x	%RSD=8.8

Analyte	( Q1 / Q3 )	Internal Standard	Multiplier	AcidFactor	Function	Qualifier
13C4_PFBa_EIS	( 217.0 / 172.0 )	13C3_PFBa_IIS	8.0000	1.0000	y = 7.5003 x	%RSD=2.5
13C5_PFPaA_EIS	( 267.9 / 223.0 )	13C2_PFHxA_IIS	4.0000	1.0000	y = 2.9178 x	%RSD=4.7
13C5_PFHxA_EIS	( 318.0 / 273.0 )	13C2_PFHxA_IIS	2.0000	1.0000	y = 2.0400 x	%RSD=4.8
13C4_PFHpA_EIS	( 367.0 / 322.0 )	13C2_PFHxA_IIS	2.0000	1.0000	y = 1.8414 x	%RSD=6.1
13C8_PFOA_EIS	( 421.0 / 376.0 )	13C4_PFOA_IIS	2.0000	1.0000	y = 2.0343 x	%RSD=7.8
13C9_PFNA_EIS	( 472.0 / 427.0 )	13C5_PFNA_IIS	1.0000	1.0000	y = 0.9869 x	%RSD=8.2
13C6_PFDA_EIS	( 519.0 / 474.0 )	13C2_PFDA_IIS	1.0000	1.0000	y = 1.4525 x	%RSD=9.0
13C7_PFUaA_EIS	( 570.0 / 525.0 )	13C2_PFDA_IIS	1.0000	1.0000	y = 1.9498 x	%RSD=11.1
13C2_PFDaA_EIS	( 615.0 / 570.0 )	13C2_PFDA_IIS	1.0000	1.0000	y = 2.3663 x	%RSD=10.1
13C2_PFTeDA_EIS	( 715.0 / 670.0 )	13C2_PFDA_IIS	1.0000	1.0000	y = 1.7371 x	%RSD=10.6
13C3_PFBs_EIS	( 302.0 / 80.0 )	18O2_PFHxS_IIS	2.0000	1.0000	y = 2.9393 x	%RSD=4.1
13C3_PFHxS_EIS	( 402.0 / 80.0 )	18O2_PFHxS_IIS	2.0000	1.0000	y = 1.6731 x	%RSD=2.7
13C8_PFOs_EIS	( 507.0 / 80.0 )	13C4_PFOs_IIS	2.0000	1.0000	y = 3.0489 x	%RSD=5.3
13C2_4:2FTS_EIS	( 329.0 / 81.0 )	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.3315 x	%RSD=3.6
13C2_6:2FTS_EIS	( 429.0 / 81.0 )	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.4448 x	%RSD=9.0
13C2_8:2FTS_EIS	( 529.0 / 81.0 )	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.3861 x	%RSD=15.6
13C8_PFOsA_EIS	( 506.0 / 78.0 )	13C4_PFOs_IIS	2.0000	1.0000	y = 4.6545 x	%RSD=8.0
D3_NMeFOsA_EIS	( 515.0 / 169.0 )	13C4_PFOs_IIS	2.0000	1.0000	y = 1.3773 x	%RSD=12.2
D5_NEtFOsA_EIS	( 531.1 / 169.0 )	13C4_PFOs_IIS	2.0000	1.0000	y = 1.2488 x	%RSD=6.8
D3_MeFOsAA_EIS	( 573.0 / 419.0 )	13C4_PFOs_IIS	4.0000	1.0000	y = 1.3566 x	%RSD=8.5
D5_EtFOsAA_EIS	( 589.0 / 419.0 )	13C4_PFOs_IIS	4.0000	1.0000	y = 1.1660 x	%RSD=7.5
D7_NMeFOsE_EIS	( 623.2 / 58.9 )	13C4_PFOs_IIS	20.0000	1.0000	y = 2.3525 x	%RSD=5.5
D9_NEtFOsE_EIS	( 639.2 / 58.9 )	13C4_PFOs_IIS	20.0000	1.0000	y = 1.1987 x	%RSD=6.9
13C3_HFPODA_EIS	( 287.0 / 169.0 )	13C2_PFHxA_IIS	8.0000	1.0000	y = 5.3742 x	%RSD=3.8

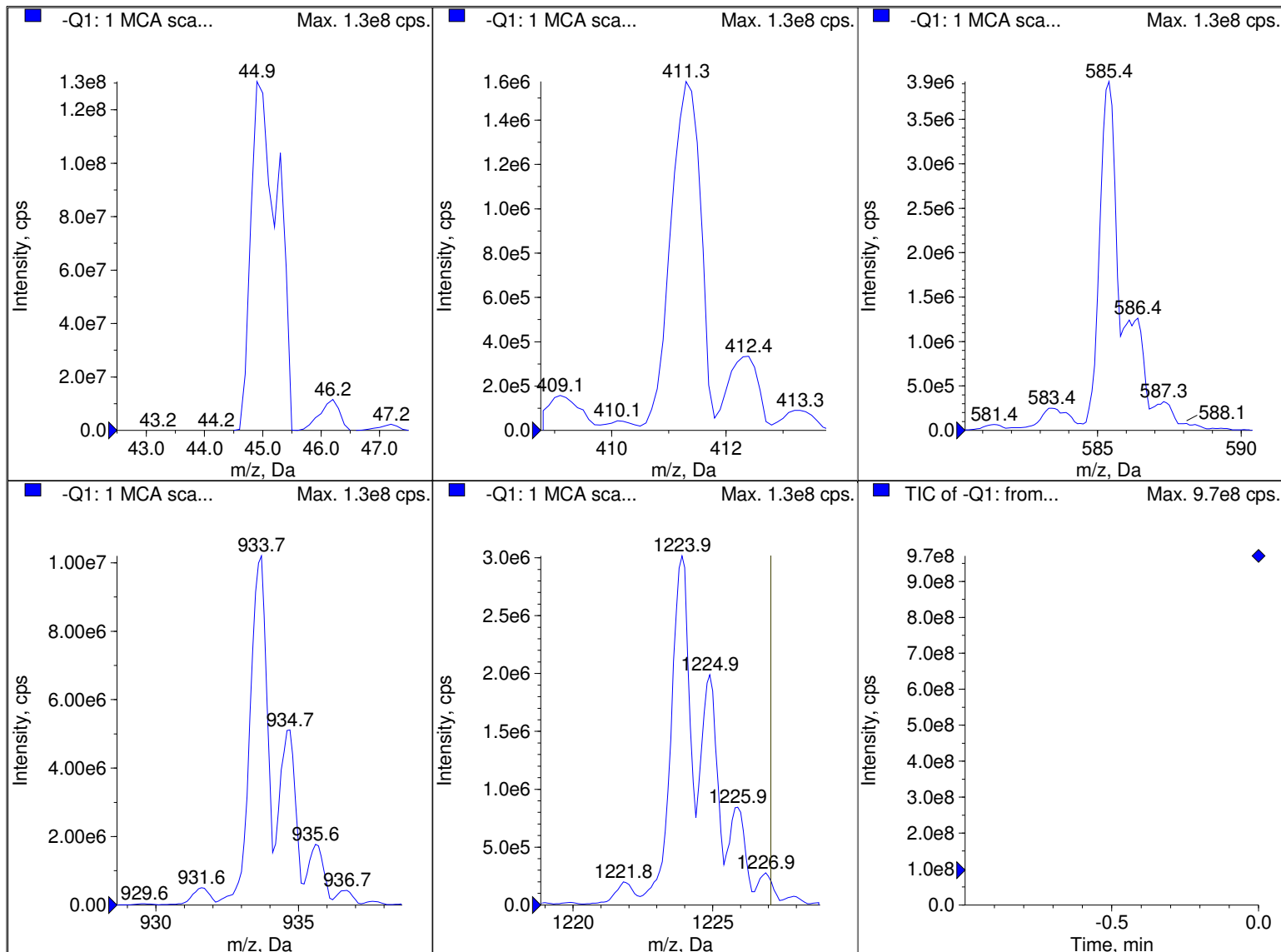
x= Concentration Analyte

$$y = \text{Area Ratio} = \frac{\text{Area Analyte}}{\text{Area Internal Standard}}$$

$$\text{Acid Factor} = \frac{\text{Molecular weight Acid}}{\text{Molecular weight Salt}}$$

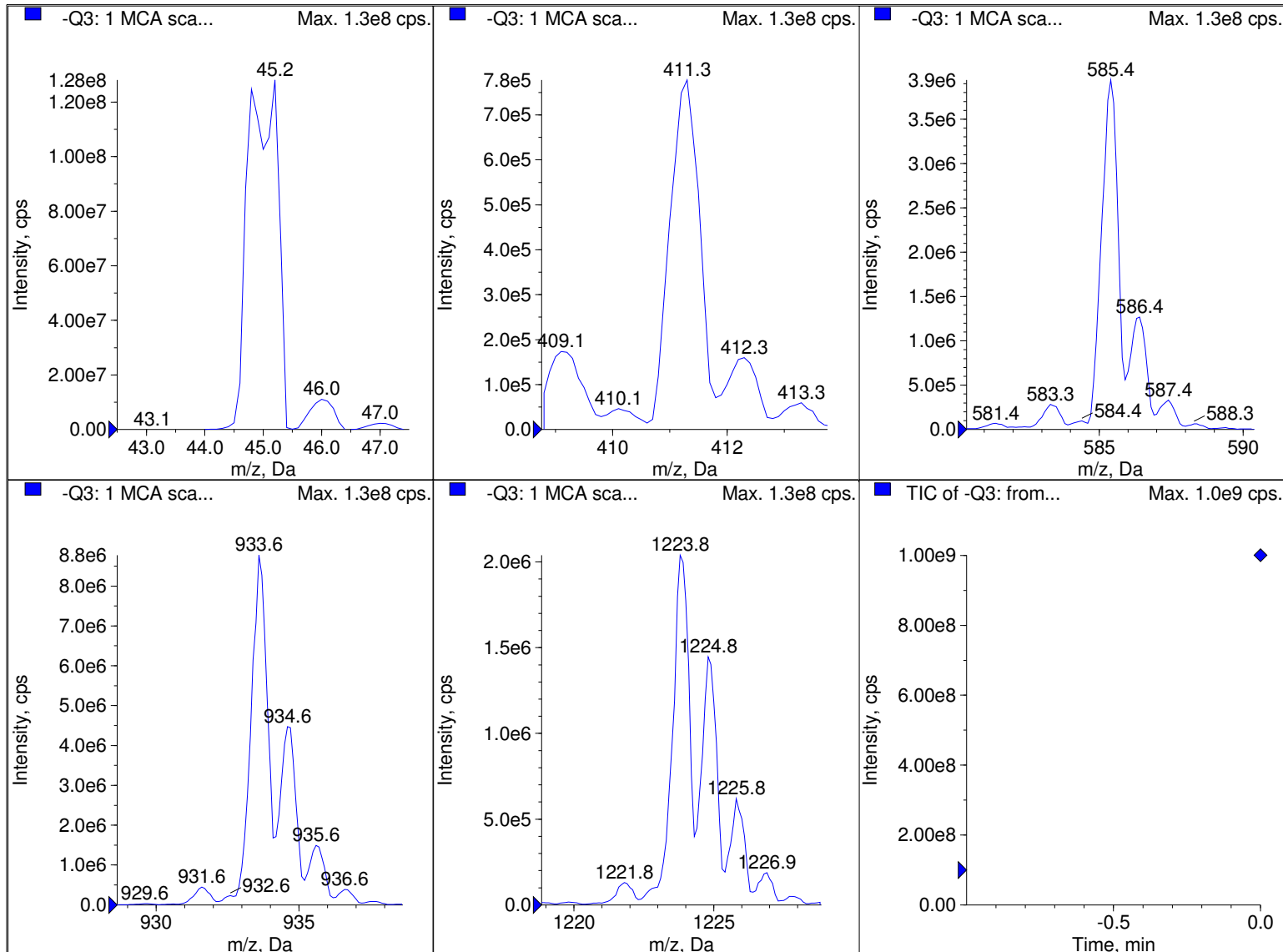
$$\text{Multiplier} = \frac{\text{Concentration of Analyte}}{\text{Concentration of PFOA}} \text{ in curve standard mix}$$

$$\text{Result} \left( \frac{\text{ng}}{\text{mL}} \right) = x * \text{Multiplier} * \text{Acid Factor}$$



Peak List for "-Q1: 1 MCA scans from Sample 1 (TuneSampleID) of MT20221111142838.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	45.0305	1.3061e8	0.6158	-0.0325
2	411.2590	411.3148	1.5745e6	0.6085	-0.0558
3	585.3850	585.3651	3.9270e6	0.6307	0.0199
4	933.6360	933.6197	1.0205e7	0.6552	0.0163
5	1223.8450	1223.8627	3.0170e6	0.6967	-0.0177
6	1572.0970	n/a	n/a	n/a	n/a
7	1863.3060	n/a	n/a	n/a	n/a
8	1979.3890	n/a	n/a	n/a	n/a

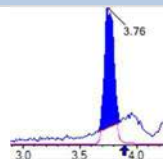
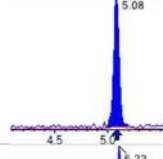
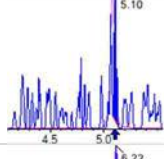
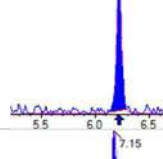
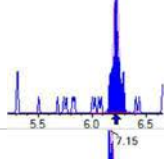
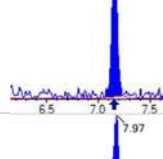
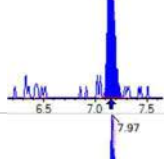
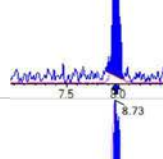
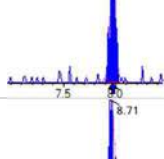
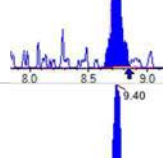
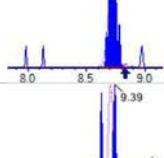
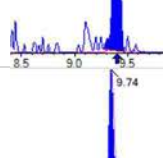
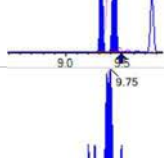
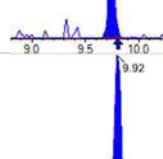
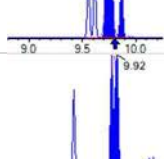
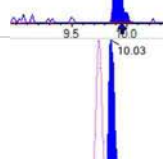
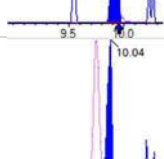
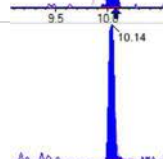
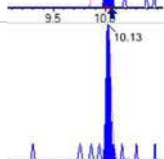
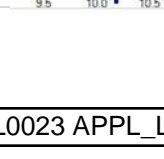
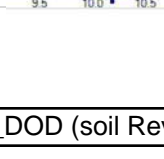


Peak List for "-Q3: 1 MCA scans from Sample 1 (TuneSampleID) of MT20221111142403.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	44.9799	1.2814e8	0.6414	0.0181
2	411.2590	411.2677	7.7810e5	0.6076	-8.6898e-3
3	585.3850	585.3784	3.9438e6	0.6511	6.5868e-3
4	933.6360	933.6279	8.7759e6	0.6302	8.0526e-3
5	1223.8450	1223.8609	2.0397e6	0.6225	-0.0159
6	1572.0970	n/a	n/a	n/a	n/a
7	1863.3060	n/a	n/a	n/a	n/a
8	1979.3890	n/a	n/a	n/a	n/a

# EPA 1633

Initial Calibration: SB03724

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-Imin, $\Delta$ RT-CVmin, $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 25781	(3.76, 1.00) (0.00, N/A, 0.0)	43.5	N/A 0.0 0.0	0.3882 [0.4000]	97.1%			
PFPeA	(262.9 / 219.0) 17847 (262.9 / 69.0) 162	(5.08, 1.00) (0.00, N/A, -1.3)	199.8 13.4	0.0091 77.8 77.8	0.2078 [0.2000]	103.9%			
PFHxA	(313.0 / 269.0) 13693 (313.0 / 119.0) 1538	(6.22, 1.00) (0.00, N/A, 0.0)	89.1 47.8	0.1123 125.0 125.0	0.1036 [0.1000]	103.6%			
PFHpA	(363.0 / 319.0) 11926 (363.0 / 169.0) 3136	(7.15, 1.00) (0.00, N/A, 0.5)	68.6 57.5	0.2629 91.6 91.6	0.1046 [0.1000]	104.6%			
PFOA	(413.0 / 369.0) 12021 (413.0 / 169.0) 4817	(7.97, 1.00) (0.00, N/A, 0.3)	50.0 113.4	0.4007 123.9 123.9	0.0965 [0.1000]	96.5%			
PFNA	(463.0 / 419.0) 8277 (463.0 / 169.0) 2329	(8.73, 1.00) (0.02, N/A, 1.3)	40.5 42.9	0.2814 139.8 139.8	0.0958 [0.1000]	95.8%			
PFDA	(513.0 / 469.0) 11062 (513.0 / 169.0) 933	(9.40, 1.00) (0.00, N/A, 0.5)	43.7 543.8	0.0843 95.0 95.0	0.0938 [0.1000]	93.8%			
PFUnA	(563.0 / 519.0) 15161 (563.0 / 169.0) 1385	(9.74, 1.00) (-0.01, N/A, -0.5)	98.1 321.6	0.0913 85.0 85.0	0.1074 [0.1000]	107.4%			
PFDoA	(613.0 / 569.0) 17290 (613.0 / 169.0) 2146	(9.92, 1.00) (0.01, N/A, 0.1)	121.5 517.4	0.1241 104.2 104.2	0.0930 [0.1000]	93.0%			
PFTTrDA	(663.0 / 619.0) 19206 (663.0 / 169.0) 4240	(10.03, 1.01) (N/A, -0.04, -0.6)	346.0 363.7	0.2208 118.5 118.5	0.1176 [0.1000]	117.6%			
PFTeDA	(713.0 / 669.0) 16468 (713.0 / 169.0) 3042	(10.14, 1.00) (0.00, N/A, 0.2)	139.9 103.2	0.1847 93.8 93.8	0.1140 [0.1000]	114.0%			

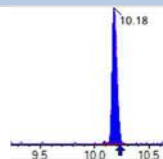
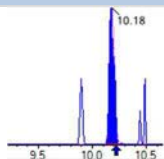
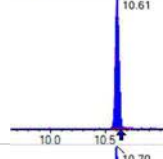
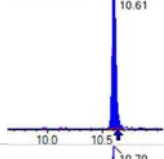
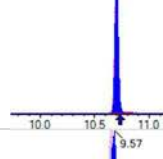
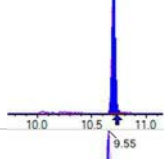
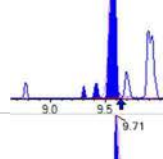
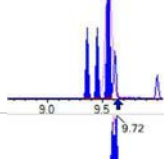
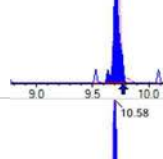
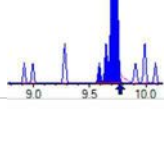
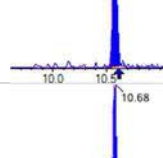
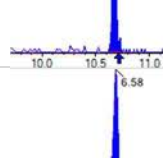
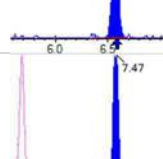
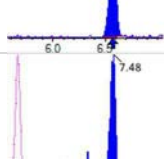
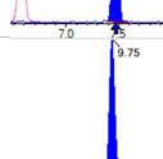
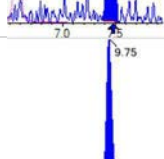
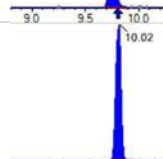
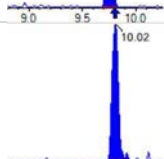
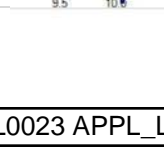
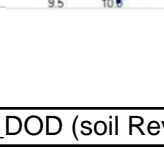


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Instrument: Saphira  
Type: Sciex Q3 5500

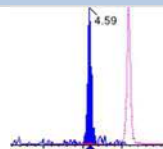
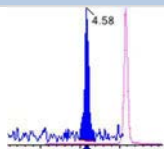
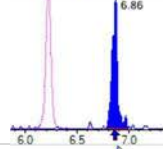
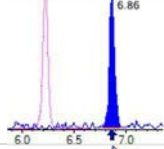
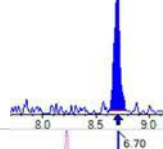
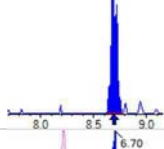
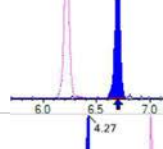
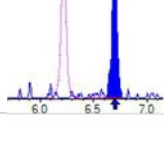
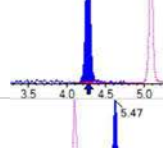
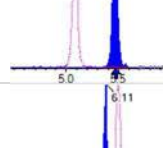
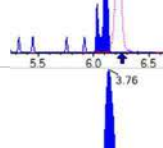
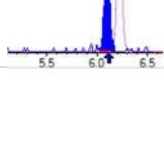
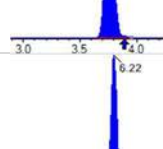
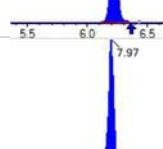
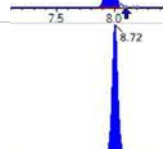
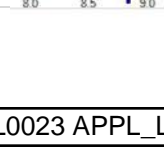
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Acquisition Method: 1633 2022-12-07.dam

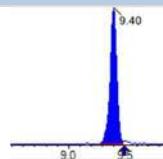
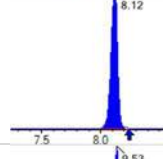
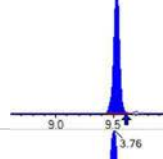
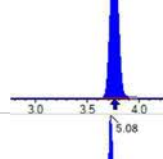
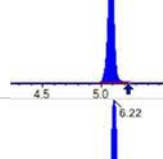
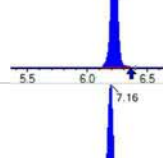
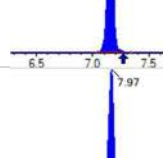
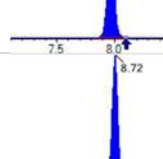
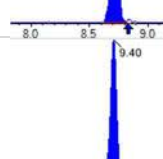
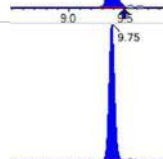
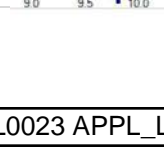
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Path: S2022-12-07A13.wiff-0  
Acquired: 2022/12/07 - 14:12

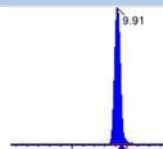
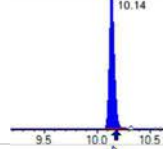
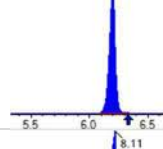
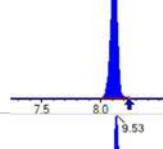
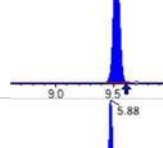
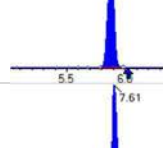
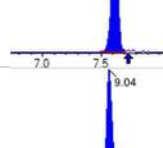
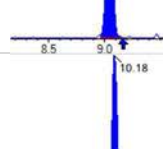
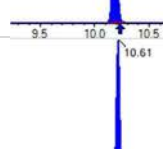
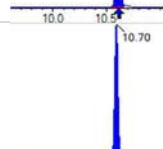
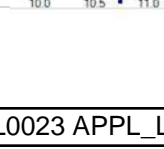
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-lmin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 17035 (298.9 / 99.0) 13089	(6.20, 1.00) (0.00, N/A, -0.1)	335.6 259.0	0.7683 113.4 113.4	0.0894 [0.0885]	101.0%			
PFPeS	(349.0 / 80.0) 31850 (349.0 / 99.0) 12090	(7.24, 0.89) (N/A, -0.13, 0.0)	461.3 277.0	0.3796 104.1 104.1	0.0952 [0.0938]	101.4%			
PFHxS	(399.0 / 80.0) 26336 (399.0 / 99.0) 7255	(8.12, 1.00) (0.00, N/A, 0.7)	2128900.3 248.1	0.2755 79.9 79.9	0.0888 [0.0911]	97.4%			
PFHpS	(449.0 / 80.0) 24076 (449.0 / 99.0) 6122	(8.89, 0.93) (N/A, -0.11, -0.2)	445.4 549.4	0.2543 89.5 89.5	0.0994 [0.0951]	104.5%			
PFOS	(499.0 / 80.0) 29327 (499.0 / 99.0) 5692	(9.53, 1.00) (0.00, N/A, -0.2)	134.2 2206.7	0.1941 75.4 75.4	0.0978 [0.0927]	105.4%			MI5 DG 2022-12-08
PFNS	(549.0 / 80.0) 37126 (549.0 / 99.0) 8625	(9.79, 1.03) (N/A, -0.04, -0.2)	220.9 259.0	0.2323 97.2 97.2	0.1054 [0.0960]	109.8%			
PFDS	(599.0 / 80.0) 46847 (599.0 / 99.0) 10501	(9.93, 1.04) (N/A, -0.04, -0.1)	275.1 3745.5	0.2242 96.4 96.4	0.1062 [0.0963]	110.3%			
PFDoS	(698.9 / 80.0) 27936 (698.9 / 99.0) 4856	(10.13, 1.06) (N/A, -0.03, 0.0)	1020.2 82.8	0.1738 75.0 75.0	0.1068 [0.0970]	110.1%			
4:2FTS	(327.0 / 307.0) 24230 (327.0 / 81.0) 11922	(5.88, 1.00) (0.00, N/A, 0.2)	690.1 131.6	0.4920 82.4 82.4	0.4130 [0.3738]	110.5%			
6:2FTS	(427.0 / 407.0) 13468 (427.0 / 81.0) 10682	(7.62, 1.00) (0.00, N/A, 0.3)	184.4 134.4	0.7931 110.3 110.3	0.3873 [0.3796]	102.0%			
8:2FTS	(527.0 / 507.0) 11255 (527.0 / 81.0) 8019	(9.03, 1.00) (-0.01, N/A, -0.8)	44432.1 124.0	0.7125 114.3 114.3	0.3550 [0.3833]	92.6%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-lmin, $\Delta$ RT-CVmin, $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 52008 (498.0 / 478.0) 1699	(10.18, 1.00) (0.00, N/A, 0.2)	292.3 699.4	0.0327 136.8 136.8	0.1066 [0.1000]	106.6%			
NMeFOSA	(511.9 / 219.0) 46631 (511.9 / 169.0) 32649	(10.61, 1.00) (0.00, N/A, 0.1)	686.5 497.1	0.7002 105.0 105.0	0.4268 [0.4000]	106.7%			
NEIFOSA	(526.0 / 219.0) 53673 (526.0 / 169.0) 54110	(10.70, 1.00) (0.00, N/A, 0.0)	899.1 692.8	1.0082 92.5 92.5	0.4268 [0.4000]	106.7%			
NMeFOSAA	(570.0 / 419.0) 6046 (570.0 / 483.0) 2476	(9.57, 1.00) (0.02, N/A, 1.4)	2036.1 627.5	0.4095 88.3 88.3	0.1189 [0.1000]	118.9%			MI5 DG 2022-12-08
NEIFOSAA	(584.0 / 419.0) 4169 (584.0 / 526.0) 4129	(9.71, 1.00) (-0.01, N/A, -0.8)	128.8 134.6	0.9905 163.2 163.2	0.0859 [0.1000]	85.9%			IR2,
NMeFOSE	(616.1 / 59.0) 11851	(10.58, 1.00) (0.01, N/A, 0.0)	145.3	N/A 0.0 0.0	0.3715 [0.4000]	92.9%			
NEtFOSE	(630.0 / 59.0) 3479	(10.68, 1.00) (0.01, N/A, 0.0)	157.5	N/A 0.0 0.0	0.4476 [0.4000]	111.9%			
HFPO-DA	(285.0 / 169.0) 12292 (285.0 / 185.0) 33479	(6.58, 1.00) (0.00, N/A, 0.1)	325.8 333.6	2.7236 98.2 98.2	0.2241 [0.2000]	112.1%			
ADONA	(377.0 / 85.0) 41500 (377.0 / 251.0) 5217	(7.47, 1.14) (N/A, -0.12, -0.3)	414.5 31.8	0.1257 100.0 100.0	0.1871 [0.1885]	99.2%			
9Cl-Pf3ONS	(531.0 / 351.0) 135088 (533.0 / 353.0) 40122	(9.75, 1.48) (N/A, -0.05, 0.0)	457.4 258.5	0.2970 89.0 89.0	0.2213 [0.1867]	118.6%			
11Cl-PF3OUDS	(631.0 / 451.0) 77677 (633.0 / 453.0) 23937	(10.02, 1.52) (N/A, -0.03, 0.2)	570.4 347.5	0.3082 95.2 95.2	0.1850 [0.1886]	98.1%			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-Imin, $\Delta$ RT-CVmin, $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 1704 (241.0 / 117.0) 2935	(4.59, 0.90) (N/A, -0.15, 0.1)	103.4 58.5	1.7223 99.0 99.0	0.4039 [0.4000]	101.0%			
5:3FTCA	(341.0 / 236.7) 10822 (341.0 / 217.0) 17602	(6.86, 1.10) (N/A, -0.13, 0.1)	190.7 106.9	1.6265 95.2 95.2	0.3854 [0.4000]	96.4%			
7:3FTCA	(441.0 / 317.0) 14394 (441.0 / 337.0) 12358	(8.70, 1.40) (N/A, -0.12, 0.4)	65.8 280.7	0.8586 104.1 104.1	0.3982 [0.4000]	99.5%			
PFEESA	(315.0 / 135.0) 22088 (315.0 / 83.0) 5907	(6.70, 1.08) (N/A, -0.13, 0.2)	516.8 89.5	0.2674 89.9 89.9	0.1634 [0.1785]	91.6%			
PFMPA	(229.0 / 85.0) 4759	(4.27, 0.84) (N/A, -0.15, 0.0)	191.0	N/A 0.0 0.0	0.2012 [0.2000]	100.6%			
PFMBA	(279.0 / 85.0) 15890	(5.47, 1.08) (N/A, -0.15, 0.0)	434.5	N/A 0.0 0.0	0.2156 [0.2000]	107.8%			
NFDHA	(201.0 / 85.0) 1028 (295.0 / 201.0) 4950	(6.11, 0.98) (N/A, -0.14, 0.1)	430.3 174.5	4.8160 68.8 68.8	0.2012 [0.2000]	100.6%			
13C3_PFBA_IIS	(216.0 / 172.0) 95952	(3.76, N/A) (N/A, -0.14, N/A)	1572.7	N/A	0.9982 [1.0000]	99.8% {93.9%}			
13C2_PFHxA_IIS	(315.1 / 270.0) 126569	(6.22, N/A) (N/A, -0.14, N/A)	1342.2	N/A	1.0250 [1.0000]	102.5% {102.2%}			
13C4_PFOA_IIS	(417.0 / 372.0) 118037	(7.97, N/A) (N/A, -0.12, N/A)	920.5	N/A	0.9957 [1.0000]	99.6% {104.8%}			
13C5_PFNA_IIS	(468.0 / 423.0) 95826	(8.72, N/A) (N/A, -0.12, N/A)	569.7	N/A	1.0062 [1.0000]	100.6% {93.3%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-Imin, $\Delta$ RT-CVmin, $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 72596	(9.40, N/A) (N/A, -0.10, N/A)	365.3	N/A	0.8812 [1.0000]	88.1% {82.0%}			
18O2_PFHxS_IIS	(403.0 / 83.9) 218149	(8.12, N/A) (N/A, -0.12, N/A)	1457.3	N/A	1.0164 [1.0000]	101.6% {98.6%}			
13C4_PFOS_IIS	(502.8 / 79.9) 200022	(9.53, N/A) (N/A, -0.08, N/A)	413.6	N/A	1.0747 [1.0000]	107.5% {98.6%}			
13C4_PFBA_EIS	(217.0 / 172.0) 697704	(3.76, N/A) (N/A, -0.14, N/A)	2352.3	N/A	7.7558 [8.0000]	96.9% {89.0%}			
13C5_PFPeA_EIS	(267.9 / 223.0) 357405	(5.08, N/A) (N/A, -0.15, N/A)	2188.4	N/A	3.8711 [4.0000]	96.8% {96.1%}			
13C5_PFHxA_EIS	(318.0 / 273.0) 262239	(6.22, N/A) (N/A, -0.14, N/A)	1263.2	N/A	2.0313 [2.0000]	101.6% {98.8%}			
13C4_PFHpA_EIS	(367.0 / 322.0) 225101	(7.16, N/A) (N/A, -0.12, N/A)	1273.6	N/A	1.9317 [2.0000]	96.6% {99.2%}			
13C8_PFOA_EIS	(421.0 / 376.0) 241672	(7.97, N/A) (N/A, -0.12, N/A)	1627.2	N/A	2.0130 [2.0000]	100.6% {95.4%}			
13C9_PFNA_EIS	(472.0 / 427.0) 89660	(8.72, N/A) (N/A, -0.11, N/A)	780.3	N/A	0.9481 [1.0000]	94.8% {97.6%}			
13C6_PFDA_EIS	(519.0 / 474.0) 116261	(9.40, N/A) (N/A, -0.09, N/A)	534.7	N/A	1.1025 [1.0000]	110.3% {94.3%}			
13C7_PFUnA_EIS	(570.0 / 525.0) 160427	(9.75, N/A) (N/A, -0.05, N/A)	749.3	N/A	1.1334 [1.0000]	113.3% {97.0%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-lmin, $\Delta$ RT-CVmin, $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDaA_EIS	(615.0 / 570.0) 202146	(9.91, N/A) (N/A, -0.04, N/A)	4956.1	N/A	1.1767 [1.0000]	117.7% {87.7%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 146600	(10.14, N/A) (N/A, -0.04, N/A)	469.6	N/A	1.1625 [1.0000]	116.3% {98.5%}			
13C3_PFBs_EIS	(302.0 / 80.0) 624277	(6.20, N/A) (N/A, -0.14, N/A)	2714.2	N/A	1.9472 [2.0000]	97.4% {96.7%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 353923	(8.11, N/A) (N/A, -0.12, N/A)	1739.4	N/A	1.9393 [2.0000]	97.0% {95.7%}			
13C8_PFOS_EIS	(507.0 / 80.0) 534357	(9.53, N/A) (N/A, -0.08, N/A)	1625.4	N/A	1.7525 [2.0000]	87.6% {86.7%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 67170	(5.88, N/A) (N/A, -0.14, N/A)	700.8	N/A	3.7148 [4.0000]	92.9% {92.9%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 87678	(7.61, N/A) (N/A, -0.12, N/A)	785.4	N/A	3.6143 [4.0000]	90.4% {92.4%}			
13C2_8:2FTS_EIS	(529.0 / 81.0) 80748	(9.04, N/A) (N/A, -0.12, N/A)	633.6	N/A	3.8349 [4.0000]	95.9% {91.2%}			
13C8_PFOsa_EIS	(506.0 / 78.0) 878867	(10.18, N/A) (N/A, -0.04, N/A)	876.3	N/A	1.8880 [2.0000]	94.4% {98.4%}			
D3_NMeFOSA_EIS	(515.0 / 169.0) 237740	(10.61, N/A) (N/A, -0.03, N/A)	1264.4	N/A	1.7259 [2.0000]	86.3% {91.4%}			
D5_NEiFOSA_EIS	(531.1 / 169.0) 242852	(10.70, N/A) (N/A, -0.03, N/A)	1732.0	N/A	1.9444 [2.0000]	97.2% {100.1%}			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03724-CAL1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-07A13.wiff-0  
 Acquired: 2022/12/07 - 14:12

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-lmin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 233192	( 9.56, N/A ) ( N/A, -0.07, N/A )	536.0	N/A	3.4374 [ 4.0000 ]	85.9% { 85.4% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 211420	( 9.72, N/A ) ( N/A, -0.05, N/A )	725.4	N/A	3.6260 [ 4.0000 ]	90.6% { 91.6% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 453827	( 10.57, N/A ) ( N/A, -0.03, N/A )	1666.2	N/A	19.2890 [ 20.0000 ]	96.4% { 99.7% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 227023	( 10.67, N/A ) ( N/A, -0.03, N/A )	2074.0	N/A	18.9374 [ 20.0000 ]	94.7% { 95.5% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 660691	( 6.57, N/A ) ( N/A, -0.13, N/A )	1464.3	N/A	7.7704 [ 8.0000 ]	97.1% { 98.4% }			

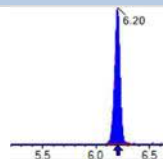
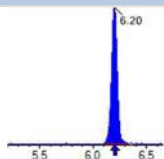
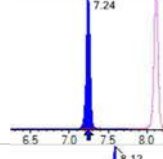
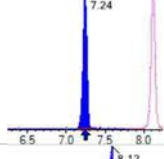
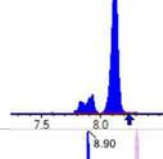
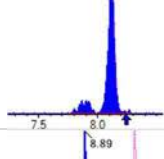
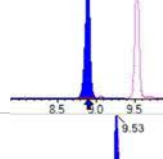
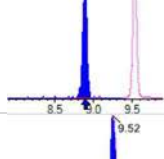
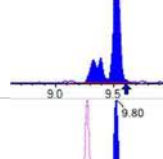
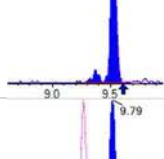
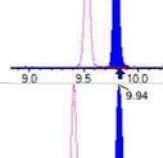
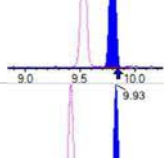
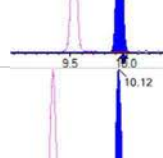
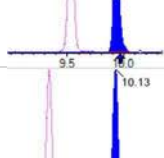
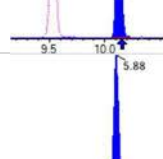
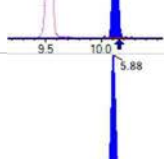
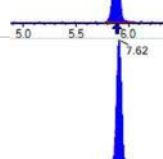
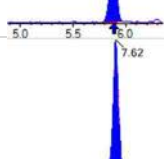
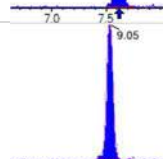
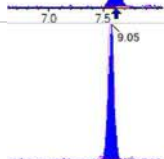
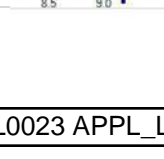
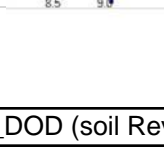


Chemist: ABK  
Instrument: Saphira  
Type: Sciex Q3 5500

Sample I.D.: SB03724-CAL2  
DF, IV: 1, 10.0µL  
Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
Path: S2022-12-07A14.wiff-0  
Acquired: 2022/12/07 - 14:24

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 140927	(3.77, 1.00) (0.00, N/A, 0.0)	92.5	N/A 0.0 0.0	1.9899 [2.0000]	99.5%			
PFPeA	(262.9 / 219.0) 84730 (262.9 / 69.0) 1101	(5.09, 1.00) (0.00, N/A, -0.3)	833.6 66.7	0.0130 111.6 111.6	0.9936 [1.0000]	99.4%			
PFHxA	(313.0 / 269.0) 65458 (313.0 / 119.0) 6906	(6.22, 1.00) (0.00, N/A, -0.1)	280.0 100.4	0.1055 117.4 117.4	0.5291 [0.5000]	105.8%			
PFHpA	(363.0 / 319.0) 55789 (363.0 / 169.0) 16372	(7.16, 1.00) (0.00, N/A, -0.1)	323.8 235.8	0.2935 102.3 102.3	0.5066 [0.5000]	101.3%			
PFOA	(413.0 / 369.0) 59309 (413.0 / 169.0) 19149	(7.98, 1.00) (0.00, N/A, 0.2)	197.9 322.1	0.3229 99.8 99.8	0.5015 [0.5000]	100.3%			
PFNA	(463.0 / 419.0) 48714 (463.0 / 169.0) 9695	(8.73, 1.00) (0.00, N/A, -0.1)	236.9 113.0	0.1990 98.9 98.9	0.5165 [0.5000]	103.3%			
PFDA	(513.0 / 469.0) 58847 (513.0 / 169.0) 3508	(9.40, 1.00) (0.00, N/A, 0.5)	241.8 93.6	0.0596 67.1 67.1	0.5074 [0.5000]	101.5%			
PFUnA	(563.0 / 519.0) 72950 (563.0 / 169.0) 8624	(9.75, 1.00) (0.00, N/A, 0.2)	339.2 28586.8	0.1182 110.0 110.0	0.4767 [0.5000]	95.3%			
PFDoA	(613.0 / 569.0) 90313 (613.0 / 169.0) 13870	(9.92, 1.00) (0.00, N/A, 0.1)	331.9 6017.8	0.1536 129.0 129.0	0.5156 [0.5000]	103.1%			
PFTTrDA	(663.0 / 619.0) 78549 (663.0 / 169.0) 16262	(10.04, 1.01) (N/A, -0.03, 0.0)	1520.3 194.4	0.2070 111.2 111.2	0.5105 [0.5000]	102.1%			
PFTeDA	(713.0 / 669.0) 72878 (713.0 / 169.0) 10612	(10.14, 1.00) (0.00, N/A, -0.1)	480.7 179.7	0.1456 74.0 74.0	0.5171 [0.5000]	103.4%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 83218 ( 298.9 / 99.0 ) 56415	( 6.20 , 1.00 ) ( 0.00 , N/A , 0.1 )	1030.2 597.2	0.6779 100.1 100.1	0.4246 [ 0.4424 ]	96.0%			
PFPeS	( 349.0 / 80.0 ) 158119 ( 349.0 / 99.0 ) 60916	( 7.24 , 0.89 ) ( N/A , -0.12 , 0.1 )	1054.9 626.4	0.3853 105.6 105.6	0.4564 [ 0.4692 ]	97.3%			
PFHxS	( 399.0 / 80.0 ) 138719 ( 399.0 / 99.0 ) 45203	( 8.12 , 1.00 ) ( 0.00 , N/A , 0.2 )	566659.5 4181735.6	0.3259 94.5 94.5	0.4516 [ 0.4555 ]	99.1%			
PFHpS	( 449.0 / 80.0 ) 119223 ( 449.0 / 99.0 ) 33420	( 8.90 , 0.93 ) ( N/A , -0.11 , 0.5 )	739.0 812.9	0.2803 98.6 98.6	0.4440 [ 0.4757 ]	93.3%			
PFOS	( 499.0 / 80.0 ) 143248 ( 499.0 / 99.0 ) 38663	( 9.53 , 1.00 ) ( 0.00 , N/A , 0.2 )	195.5 722.7	0.2700 104.9 104.9	0.4307 [ 0.4637 ]	92.9%			
PFNS	( 549.0 / 80.0 ) 164386 ( 549.0 / 99.0 ) 48284	( 9.80 , 1.03 ) ( N/A , -0.04 , 0.1 )	587.9 764.8	0.2937 122.9 122.9	0.4209 [ 0.4799 ]	87.7%			
PFDS	( 599.0 / 80.0 ) 209874 ( 599.0 / 99.0 ) 56328	( 9.94 , 1.04 ) ( N/A , -0.04 , 0.1 )	660.0 793.2	0.2684 115.4 115.4	0.4291 [ 0.4816 ]	89.1%			
PFDoS	( 698.9 / 80.0 ) 119371 ( 698.9 / 99.0 ) 33202	( 10.12 , 1.06 ) ( N/A , -0.03 , -0.1 )	646.4 1248.0	0.2781 120.1 120.1	0.4115 [ 0.4848 ]	84.9%			
4:2FTS	( 327.0 / 307.0 ) 117110 ( 327.0 / 81.0 ) 64115	( 5.88 , 1.00 ) ( 0.00 , N/A , 0.0 )	1411.5 556.5	0.5475 91.7 91.7	1.9300 [ 1.8691 ]	103.3%			
6:2FTS	( 427.0 / 407.0 ) 70152 ( 427.0 / 81.0 ) 50953	( 7.62 , 1.00 ) ( 0.00 , N/A , 0.2 )	479.4 417.4	0.7263 101.0 101.0	1.9606 [ 1.8981 ]	103.3%			
8:2FTS	( 527.0 / 507.0 ) 58956 ( 527.0 / 81.0 ) 39303	( 9.05 , 1.00 ) ( 0.00 , N/A , -0.2 )	17855.3 322.6	0.6667 106.9 106.9	2.1011 [ 1.9166 ]	109.6%			

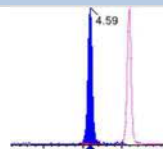
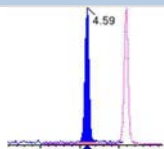
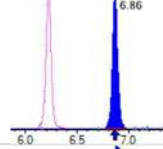
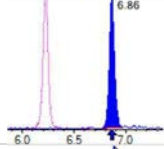
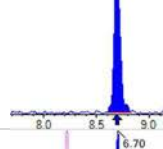
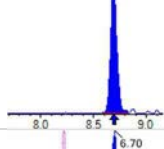
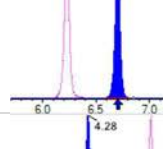
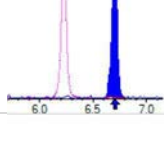
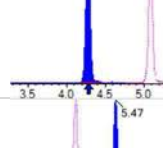
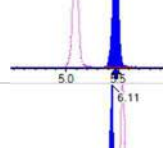
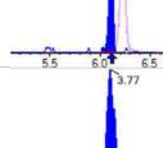
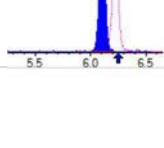
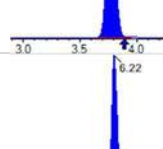
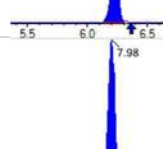
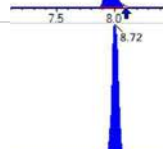
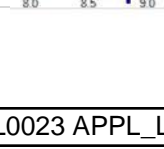


Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

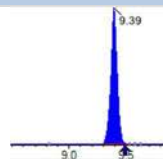
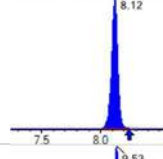
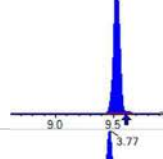
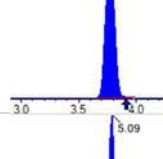
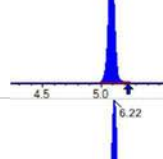
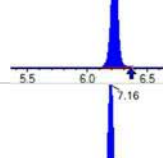
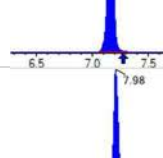
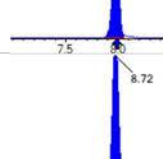
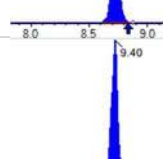
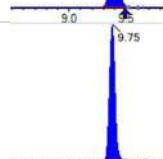
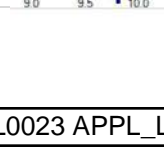
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 Acquisition Method: 1633 2022-12-07.dam

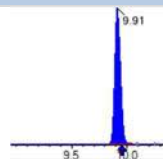
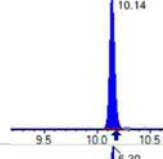
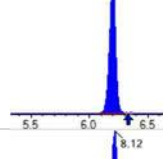
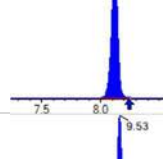
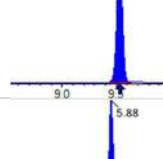
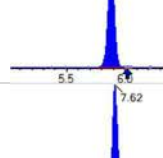
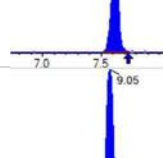
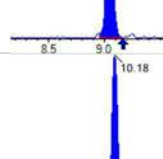
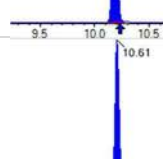
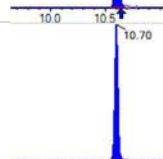
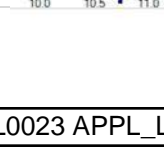
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Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 235597 ( 498.0 / 478.0 ) 6231	( 10.18 , 1.00 ) ( 0.00 , N/A , 0.1 )	914.5 29871.6	0.0264 110.8 110.8	0.5094 [ 0.5000 ]	101.9%			
NMeFOSA	( 511.9 / 219.0 ) 259215 ( 511.9 / 169.0 ) 158306	( 10.61 , 1.00 ) ( 0.00 , N/A , 0.0 )	1551.1 1226.5	0.6107 91.6 91.6	2.3504 [ 2.0000 ]	117.5%			
NEIFOSA	( 526.0 / 219.0 ) 251156 ( 526.0 / 169.0 ) 264203	( 10.70 , 1.00 ) ( 0.00 , N/A , 0.0 )	1822.9 1602.1	1.0519 96.5 96.5	1.9998 [ 2.0000 ]	100.0%			
NMeFOSAA	( 570.0 / 419.0 ) 22125 ( 570.0 / 483.0 ) 15670	( 9.57 , 1.00 ) ( 0.01 , N/A , -0.1 )	178.1 2626.8	0.7083 152.7 152.7	0.4166 [ 0.5000 ]	83.3%			IR2,
NEIFOSAA	( 584.0 / 419.0 ) 26464 ( 584.0 / 526.0 ) 16647	( 9.73 , 1.00 ) ( 0.01 , N/A , -0.1 )	8294.2 593683.0	0.6290 103.7 103.7	0.5626 [ 0.5000 ]	112.5%			
NMeFOSE	( 616.1 / 59.0 ) 60075	( 10.58 , 1.00 ) ( 0.01 , N/A , 0.0 )	726.9	N/A 0.0 0.0	1.9912 [ 2.0000 ]	99.6%			
NEtFOSE	( 630.0 / 59.0 ) 15508	( 10.68 , 1.00 ) ( 0.01 , N/A , 0.0 )	556.5	N/A 0.0 0.0	2.0877 [ 2.0000 ]	104.4%			
HFPO-DA	( 285.0 / 169.0 ) 56561 ( 285.0 / 185.0 ) 164593	( 6.58 , 1.00 ) ( 0.00 , N/A , 0.0 )	779.6 1258.0	2.9100 105.0 105.0	0.9906 [ 1.0000 ]	99.1%			
ADONA	( 377.0 / 85.0 ) 206123 ( 377.0 / 251.0 ) 25367	( 7.48 , 1.14 ) ( N/A , -0.12 , 0.4 )	1049.5 145.7	0.1231 97.9 97.9	0.8928 [ 0.9427 ]	94.7%			
9Cl-Pf3ONS	( 531.0 / 351.0 ) 600912 ( 533.0 / 353.0 ) 200618	( 9.75 , 1.48 ) ( N/A , -0.04 , 0.0 )	1617.4 854.9	0.3339 100.0 100.0	0.9458 [ 0.9333 ]	101.3%			
11Cl-PF3OUDS	( 631.0 / 451.0 ) 401716 ( 633.0 / 453.0 ) 124883	( 10.02 , 1.52 ) ( N/A , -0.03 , 0.2 )	1250.3 481.9	0.3109 96.1 96.1	0.9190 [ 0.9432 ]	97.4%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[min], $\Delta$ RT-CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 8564 (241.0 / 117.0) 13826	(4.59, 0.90) (N/A, -0.14, 0.1)	403.9 283.0	1.6144 92.7 92.7	2.0444 [2.0000]	102.2%			
5:3FTCA	(341.0 / 236.7) 54387 (341.0 / 217.0) 79942	(6.86, 1.10) (N/A, -0.13, 0.1)	592.8 326.4	1.4699 86.1 86.1	2.0691 [2.0000]	103.5%			
7:3FTCA	(441.0 / 317.0) 67268 (441.0 / 337.0) 56455	(8.69, 1.40) (N/A, -0.12, 0.3)	219.3 332.5	0.8393 101.7 101.7	1.9876 [2.0000]	99.4%			
PFEESA	(315.0 / 135.0) 115647 (315.0 / 83.0) 36543	(6.70, 1.08) (N/A, -0.13, 0.1)	1301.0 335.3	0.3160 106.3 106.3	0.9141 [0.8925]	102.4%			
PFMPA	(229.0 / 85.0) 26678	(4.28, 0.84) (N/A, -0.14, 0.0)	707.9	N/A 0.0 0.0	1.1361 [1.0000]	113.6%			
PFMBA	(279.0 / 85.0) 72490	(5.47, 1.08) (N/A, -0.14, 0.0)	1112.7	N/A 0.0 0.0	0.9905 [1.0000]	99.1%			
NFDHA	(201.0 / 85.0) 3197 (295.0 / 201.0) 18989	(6.11, 0.98) (N/A, -0.13, 0.3)	369.6 631.7	5.9391 84.9 84.9	0.9570 [1.0000]	95.7%			
13C3_PFBA_IIS	(216.0 / 172.0) 101063	(3.77, N/A) (N/A, -0.13, N/A)	1670.8	N/A	1.0514 [1.0000]	105.1% {98.9%}			
13C2_PFHxA_IIS	(315.1 / 270.0) 134882	(6.22, N/A) (N/A, -0.14, N/A)	1884.4	N/A	1.0923 [1.0000]	109.2% {109.0%}			
13C4_PFOA_IIS	(417.0 / 372.0) 119020	(7.98, N/A) (N/A, -0.12, N/A)	1213.6	N/A	1.0040 [1.0000]	100.4% {105.7%}			
13C5_PFNA_IIS	(468.0 / 423.0) 94217	(8.72, N/A) (N/A, -0.12, N/A)	809.2	N/A	0.9893 [1.0000]	98.9% {91.7%}			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 81747	(9.39, N/A) (N/A, -0.10, N/A)	1033.9	N/A	0.9923 [ 1.0000 ]	99.2% { 92.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 208121	(8.12, N/A) (N/A, -0.12, N/A)	1345.3	N/A	0.9697 [ 1.0000 ]	97.0% { 94.1% }			
13C4_PFOS_IIS	(502.8 / 79.9) 187757	(9.53, N/A) (N/A, -0.08, N/A)	774.1	N/A	1.0088 [ 1.0000 ]	100.9% { 92.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 744076	(3.77, N/A) (N/A, -0.13, N/A)	2930.1	N/A	7.8530 [ 8.0000 ]	98.2% { 95.0% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 354834	(5.09, N/A) (N/A, -0.14, N/A)	2235.3	N/A	3.6064 [ 4.0000 ]	90.2% { 95.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 245500	(6.22, N/A) (N/A, -0.14, N/A)	1779.5	N/A	1.7844 [ 2.0000 ]	89.2% { 92.5% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 217413	(7.16, N/A) (N/A, -0.12, N/A)	1365.6	N/A	1.7507 [ 2.0000 ]	87.5% { 95.8% }			
13C8_PFOA_EIS	(421.0 / 376.0) 229470	(7.98, N/A) (N/A, -0.12, N/A)	971.9	N/A	1.8955 [ 2.0000 ]	94.8% { 90.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 97835	(8.72, N/A) (N/A, -0.11, N/A)	724.3	N/A	1.0522 [ 1.0000 ]	105.2% { 106.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 114332	(9.40, N/A) (N/A, -0.09, N/A)	791.2	N/A	0.9629 [ 1.0000 ]	96.3% { 92.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 173833	(9.75, N/A) (N/A, -0.04, N/A)	642.6	N/A	1.0906 [ 1.0000 ]	109.1% { 105.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 190365	(9.91, N/A) (N/A, -0.04, N/A)	621.6	N/A	0.9841 [ 1.0000 ]	98.4% { 82.6% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 142983	(10.14, N/A) (N/A, -0.04, N/A)	634.5	N/A	1.0069 [ 1.0000 ]	100.7% { 96.1% }			
13C3_PFBs_EIS	(302.0 / 80.0) 642009	(6.20, N/A) (N/A, -0.14, N/A)	1918.3	N/A	2.0990 [ 2.0000 ]	104.9% { 99.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 366436	(8.12, N/A) (N/A, -0.12, N/A)	1436.2	N/A	2.1046 [ 2.0000 ]	105.2% { 99.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 592538	(9.53, N/A) (N/A, -0.08, N/A)	1052.1	N/A	2.0702 [ 2.0000 ]	103.5% { 96.2% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 69477	(5.88, N/A) (N/A, -0.14, N/A)	601.0	N/A	4.0275 [ 4.0000 ]	100.7% { 96.1% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 90228	(7.62, N/A) (N/A, -0.12, N/A)	750.0	N/A	3.8986 [ 4.0000 ]	97.5% { 95.1% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 71473	(9.05, N/A) (N/A, -0.11, N/A)	416.6	N/A	3.5580 [ 4.0000 ]	88.9% { 80.7% }			
13C8_PFOA_EIS	(506.0 / 78.0) 832923	(10.18, N/A) (N/A, -0.04, N/A)	1457.1	N/A	1.9062 [ 2.0000 ]	95.3% { 93.3% }			
D3_NMeFOA_EIS	(515.0 / 169.0) 239981	(10.61, N/A) (N/A, -0.03, N/A)	1167.1	N/A	1.8560 [ 2.0000 ]	92.8% { 92.3% }			
D5_NEiFOA_EIS	(531.1 / 169.0) 242542	(10.70, N/A) (N/A, -0.03, N/A)	2012.0	N/A	2.0688 [ 2.0000 ]	103.4% { 100.0% }			

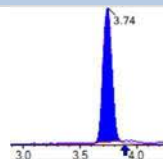
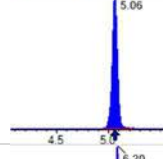
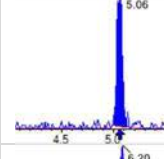
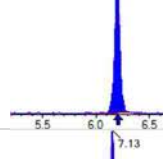
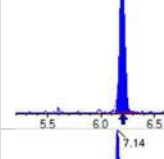
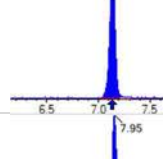
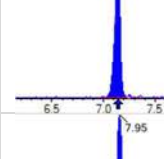
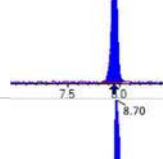
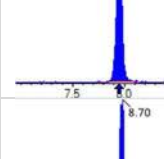
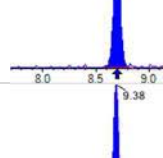
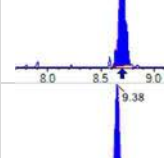
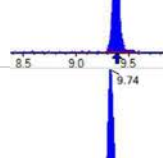
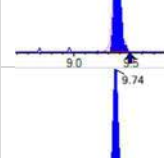
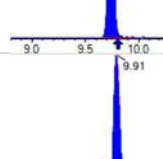
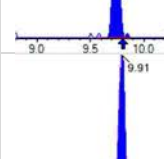
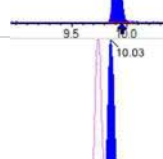
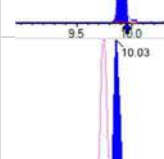
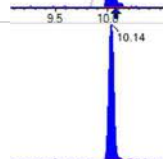
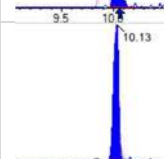
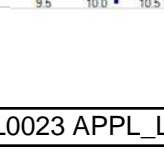
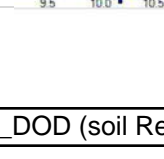


Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03724-CAL2  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-07A14.wiff-0  
 Acquired: 2022/12/07 - 14:24

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 243583	( 9.56, N/A ) ( N/A, -0.07, N/A )	655.8	N/A	3.8252 [ 4.0000 ]	95.6% { 89.2% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 205042	( 9.72, N/A ) ( N/A, -0.05, N/A )	594.3	N/A	3.7463 [ 4.0000 ]	93.7% { 88.9% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 429189	( 10.57, N/A ) ( N/A, -0.03, N/A )	1740.3	N/A	19.4335 [ 20.0000 ]	97.2% { 94.3% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 216965	( 10.67, N/A ) ( N/A, -0.03, N/A )	1975.4	N/A	19.2807 [ 20.0000 ]	96.4% { 91.3% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 687782	( 6.58, N/A ) ( N/A, -0.13, N/A )	1687.1	N/A	7.5905 [ 8.0000 ]	94.9% { 102.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 300036	(3.74, 1.00) (0.00, N/A, 0.0)	140.4	N/A 0.0 0.0	4.0038 [ 4.0000 ]	100.1%			
PFPeA	(262.9 / 219.0) 181207 (262.9 / 69.0) 2137	(5.06, 1.00) (0.00, N/A, 0.3)	1378.8 83.8	0.0118 101.3 101.3	1.9861 [ 2.0000 ]	99.3%			
PFHxA	(313.0 / 269.0) 128354 (313.0 / 119.0) 13855	(6.20, 1.00) (0.00, N/A, 0.1)	510.8 255.4	0.1079 120.1 120.1	0.9420 [ 1.0000 ]	94.2%			
PFHpA	(363.0 / 319.0) 122717 (363.0 / 169.0) 35507	(7.13, 1.00) (0.00, N/A, -0.1)	532.7 485.6	0.2893 100.9 100.9	0.9834 [ 1.0000 ]	98.3%			
PFOA	(413.0 / 369.0) 135806 (413.0 / 169.0) 42907	(7.95, 1.00) (0.00, N/A, 0.0)	476.2 479.5	0.3159 97.7 97.7	1.0800 [ 1.0000 ]	108.0%			
PFNA	(463.0 / 419.0) 98054 (463.0 / 169.0) 18747	(8.70, 1.00) (0.00, N/A, 0.0)	334.9 96.3	0.1912 95.0 95.0	1.0737 [ 1.0000 ]	107.4%			
PFDA	(513.0 / 469.0) 119437 (513.0 / 169.0) 13271	(9.38, 1.00) (0.00, N/A, 0.0)	398.9 9125.2	0.1111 125.1 125.1	1.0936 [ 1.0000 ]	109.4%			
PFUnA	(563.0 / 519.0) 160671 (563.0 / 169.0) 14453	(9.74, 1.00) (0.00, N/A, 0.1)	615.5 316.8	0.0900 83.7 83.7	1.0024 [ 1.0000 ]	100.2%			
PFDoA	(613.0 / 569.0) 185369 (613.0 / 169.0) 21562	(9.91, 1.00) (0.00, N/A, -0.3)	563.4 105.2	0.1163 97.7 97.7	1.0516 [ 1.0000 ]	105.2%			
PFTTrDA	(663.0 / 619.0) 159563 (663.0 / 169.0) 32429	(10.03, 1.01) (N/A, -0.04, -0.1)	637.4 194.1	0.2032 109.1 109.1	1.0305 [ 1.0000 ]	103.1%			
PFTeDA	(713.0 / 669.0) 160214 (713.0 / 169.0) 28263	(10.14, 1.00) (0.00, N/A, 0.1)	741.3 536.4	0.1764 89.6 89.6	1.0334 [ 1.0000 ]	103.3%			

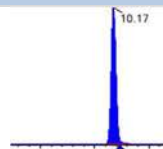
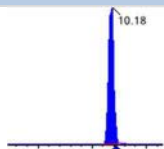
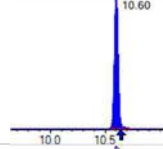
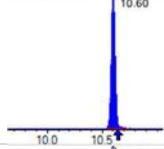
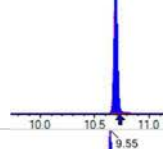
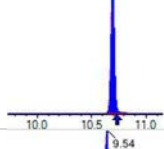
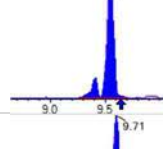
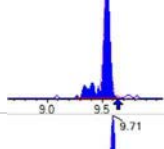
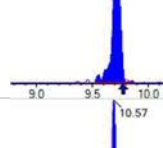
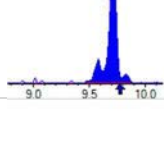
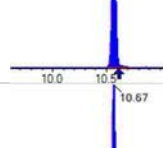
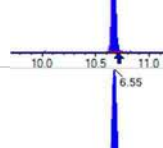
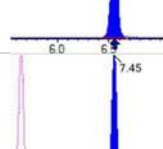
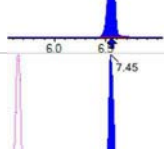
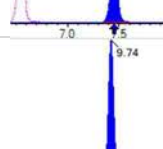
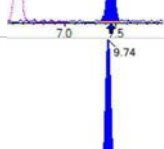
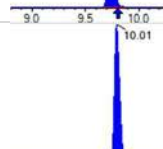
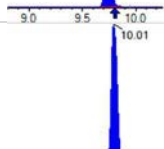
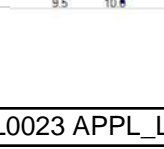
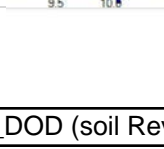


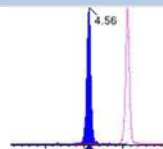
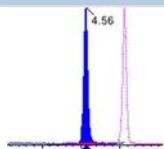
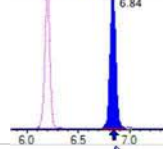
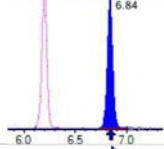
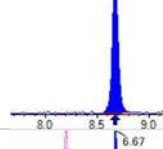
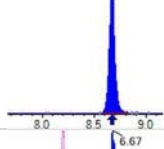
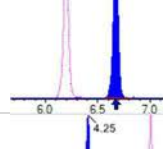
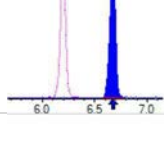
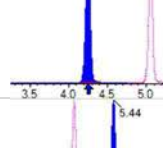
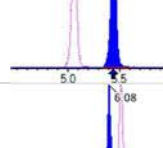
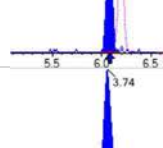
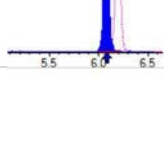
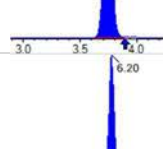
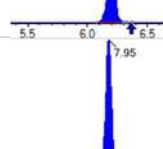
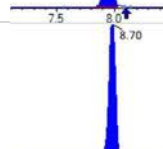
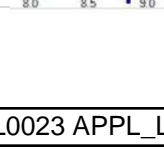
Chemist: ABK  
Instrument: Saphira  
Type: Sciex Q3 5500

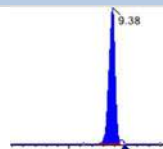
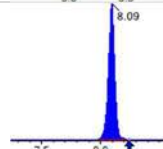
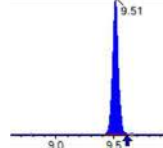
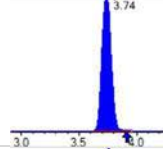
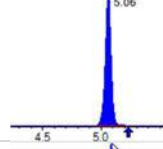
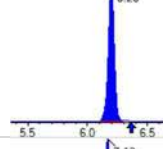
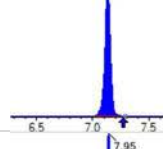
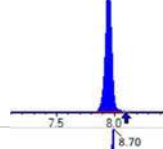
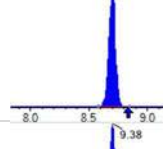
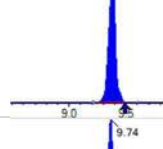
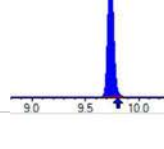
Sample I.D.: SB03724-CAL3  
DF, IV: 1, 10.0µL  
Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
Path: S2022-12-07A15.wiff-0  
Acquired: 2022/12/07 - 14:37

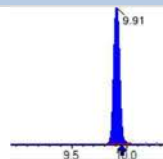
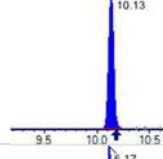
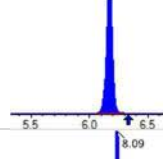
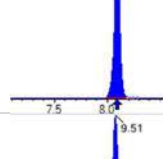
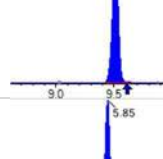
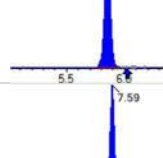
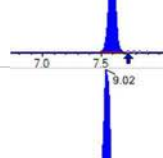
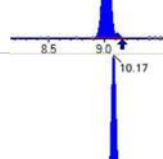
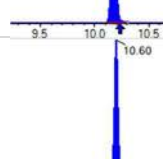
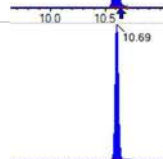
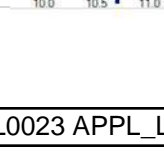
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 190333 ( 298.9 / 99.0 ) 119081	( 6.17 , 1.00 ) ( 0.00 , N/A , 0.0 )	1290.5 1010.6	0.6256 92.3 92.3	0.9361 [ 0.8847 ]	105.8%			
PFPeS	( 349.0 / 80.0 ) 334090 ( 349.0 / 99.0 ) 118942	( 7.22 , 0.89 ) ( N/A , -0.15 , 0.0 )	1398.4 1022.5	0.3560 97.6 97.6	0.9887 [ 0.9384 ]	105.4%			
PFHxS	( 399.0 / 80.0 ) 280660 ( 399.0 / 99.0 ) 95556	( 8.09 , 1.00 ) ( 0.00 , N/A , 0.2 )	103839.4 752.2	0.3405 98.7 98.7	0.9367 [ 0.9110 ]	102.8%			
PFHpS	( 449.0 / 80.0 ) 259971 ( 449.0 / 99.0 ) 66905	( 8.87 , 0.93 ) ( N/A , -0.14 , 0.0 )	972.9 704.4	0.2574 90.5 90.5	1.0708 [ 0.9514 ]	112.6%			
PFOS	( 499.0 / 80.0 ) 298706 ( 499.0 / 99.0 ) 61226	( 9.51 , 1.00 ) ( 0.00 , N/A , -0.2 )	243.1 206.1	0.2050 79.6 79.6	0.9932 [ 0.9275 ]	107.1%			
PFNS	( 549.0 / 80.0 ) 380781 ( 549.0 / 99.0 ) 94699	( 9.78 , 1.03 ) ( N/A , -0.05 , 0.0 )	1214.1 403.1	0.2487 104.1 104.1	1.0783 [ 0.9599 ]	112.3%			
PFDS	( 599.0 / 80.0 ) 450236 ( 599.0 / 99.0 ) 104227	( 9.93 , 1.04 ) ( N/A , -0.04 , 0.2 )	1090.0 1255.1	0.2315 99.5 99.5	1.0180 [ 0.9631 ]	105.7%			
PFDoS	( 698.9 / 80.0 ) 288552 ( 698.9 / 99.0 ) 72431	( 10.12 , 1.06 ) ( N/A , -0.04 , -0.2 )	2666.5 1606.6	0.2510 108.3 108.3	1.1001 [ 0.9696 ]	113.5%			
4:2FTS	( 327.0 / 307.0 ) 233834 ( 327.0 / 81.0 ) 139551	( 5.85 , 1.00 ) ( 0.00 , N/A , 0.1 )	1745.3 897.1	0.5968 99.9 99.9	3.6262 [ 3.7381 ]	97.0%			
6:2FTS	( 427.0 / 407.0 ) 150202 ( 427.0 / 81.0 ) 108903	( 7.60 , 1.00 ) ( 0.00 , N/A , 0.0 )	1165.8 943.7	0.7250 100.8 100.8	3.9459 [ 3.7962 ]	103.9%			
8:2FTS	( 527.0 / 507.0 ) 130807 ( 527.0 / 81.0 ) 80708	( 9.02 , 1.00 ) ( 0.00 , N/A , 0.0 )	1407.5 613.6	0.6170 99.0 99.0	4.2765 [ 3.8332 ]	111.6%			

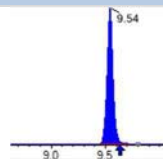
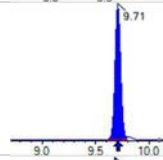
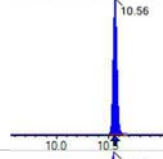
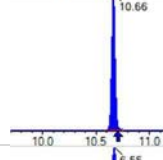
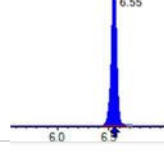
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 495788 (498.0 / 478.0) 11387	(10.17, 1.00) (0.00, N/A, -0.1)	1194.0 2178.3	0.0230 96.2 96.2	0.9243 [ 1.0000 ]	92.4%			
NMeFOSA	(511.9 / 219.0) 510792 (511.9 / 169.0) 331616	(10.60, 1.00) (0.00, N/A, 0.0)	1601.5 1464.8	0.6492 97.3 97.3	4.2091 [ 4.0000 ]	105.2%			
NEIFOSA	(526.0 / 219.0) 508527 (526.0 / 169.0) 535287	(10.69, 1.00) (0.00, N/A, 0.0)	1986.8 2315.5	1.0526 96.6 96.6	3.9626 [ 4.0000 ]	99.1%			
NMeFOSAA	(570.0 / 419.0) 58028 (570.0 / 483.0) 24948	(9.55, 1.00) (0.01, N/A, 0.2)	2588.6 6739.6	0.4299 92.7 92.7	1.0029 [ 1.0000 ]	100.3%			
NEIFOSAA	(584.0 / 419.0) 48300 (584.0 / 526.0) 35594	(9.71, 1.00) (0.01, N/A, 0.3)	1230.4 1383169.4	0.7369 121.4 121.4	0.9570 [ 1.0000 ]	95.7%			
NMeFOSE	(616.1 / 59.0) 135244	(10.57, 1.00) (0.01, N/A, 0.0)	1028.0	N/A 0.0 0.0	4.3406 [ 4.0000 ]	108.5%			
NEIFOSE	(630.0 / 59.0) 33129	(10.67, 1.00) (0.01, N/A, 0.0)	1155.8	N/A 0.0 0.0	4.1625 [ 4.0000 ]	104.1%			
HFPO-DA	(285.0 / 169.0) 116223 (285.0 / 185.0) 319965	(6.55, 1.00) (0.00, N/A, 0.1)	994.8 1262.6	2.7530 99.3 99.3	2.0462 [ 2.0000 ]	102.3%			
ADONA	(377.0 / 85.0) 428525 (377.0 / 251.0) 59630	(7.45, 1.14) (N/A, -0.15, 0.1)	1867.5 284.1	0.1392 110.7 110.7	1.8659 [ 1.8854 ]	99.0%			
9CI-Pf3ONS	(531.0 / 351.0) 1171497 (533.0 / 353.0) 410662	(9.74, 1.49) (N/A, -0.06, -0.1)	1741.5 1041.3	0.3505 105.0 105.0	1.8537 [ 1.8665 ]	99.3%			
11CI-PF3OUDS	(631.0 / 451.0) 884106 (633.0 / 453.0) 253813	(10.01, 1.53) (N/A, -0.04, -0.1)	2107.1 1064.4	0.2871 88.7 88.7	2.0332 [ 1.8864 ]	107.8%			

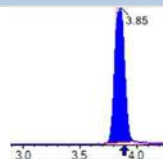
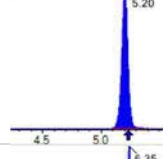
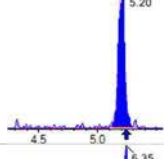
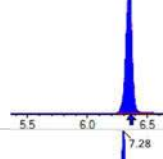
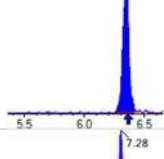
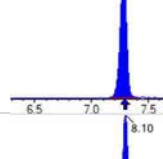
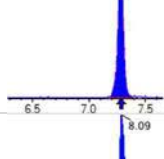
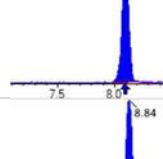
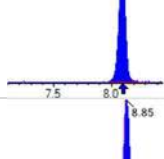
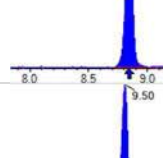
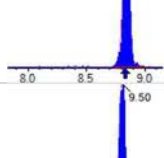
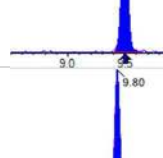
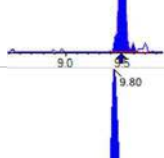
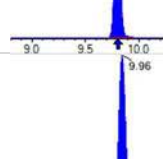
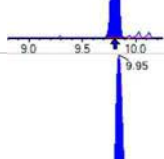
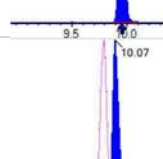
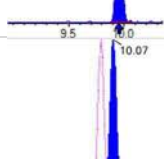
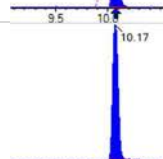
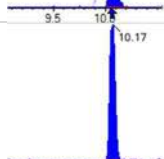
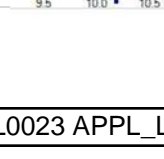
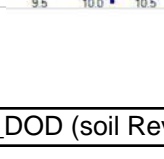
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 17630 (241.0 / 117.0) 30453	(4.56, 0.90) (N/A, -0.18, 0.1)	501.0 502.5	1.7274 99.2 99.2	3.9333 [ 4.0000 ]	98.3%			
5:3FTCA	(341.0 / 236.7) 112336 (341.0 / 217.0) 183665	(6.84, 1.10) (N/A, -0.16, 0.0)	732.5 556.0	1.6350 95.7 95.7	3.8804 [ 4.0000 ]	97.0%			
7:3FTCA	(441.0 / 317.0) 139293 (441.0 / 337.0) 112590	(8.67, 1.40) (N/A, -0.14, 0.1)	334.8 563.1	0.8083 98.0 98.0	3.7370 [ 4.0000 ]	93.4%			
PFEESA	(315.0 / 135.0) 250986 (315.0 / 83.0) 73950	(6.67, 1.08) (N/A, -0.16, -0.1)	1135.8 638.2	0.2946 99.1 99.1	1.8013 [ 1.7849 ]	100.9%			
PFMPA	(229.0 / 85.0) 49849	(4.25, 0.84) (N/A, -0.16, 0.0)	1216.3	N/A 0.0 0.0	1.9841 [ 2.0000 ]	99.2%			
PFMBA	(279.0 / 85.0) 156577	(5.44, 1.08) (N/A, -0.17, 0.0)	1540.9	N/A 0.0 0.0	1.9996 [ 2.0000 ]	100.0%			
NFDHA	(201.0 / 85.0) 6697 (295.0 / 201.0) 42118	(6.08, 0.98) (N/A, -0.17, 0.0)	263.0 722.0	6.2896 89.9 89.9	1.9313 [ 2.0000 ]	96.6%			
13C3_PFBA_IIS	(216.0 / 172.0) 107797	(3.74, N/A) (N/A, -0.16, N/A)	1759.7	N/A	1.1214 [ 1.0000 ]	112.1% { 105.5% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 129636	(6.20, N/A) (N/A, -0.16, N/A)	1054.4	N/A	1.0498 [ 1.0000 ]	105.0% { 104.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 127326	(7.95, N/A) (N/A, -0.14, N/A)	1065.8	N/A	1.0740 [ 1.0000 ]	107.4% { 113.1% }			
13C5_PFNA_IIS	(468.0 / 423.0) 101758	(8.70, N/A) (N/A, -0.14, N/A)	3334.8	N/A	1.0684 [ 1.0000 ]	106.8% { 99.1% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 80775	(9.38, N/A) (N/A, -0.11, N/A)	3062.3	N/A	0.9805 [ 1.0000 ]	98.0% { 91.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 218193	(8.09, N/A) (N/A, -0.15, N/A)	1371.6	N/A	1.0166 [ 1.0000 ]	101.7% { 98.6% }			
13C4_PFOS_IIS	(502.8 / 79.9) 176553	(9.51, N/A) (N/A, -0.09, N/A)	1036.7	N/A	0.9486 [ 1.0000 ]	94.9% { 87.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 787334	(3.74, N/A) (N/A, -0.16, N/A)	2690.3	N/A	7.7905 [ 8.0000 ]	97.4% { 100.5% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 379649	(5.06, N/A) (N/A, -0.17, N/A)	2094.3	N/A	4.0147 [ 4.0000 ]	100.4% { 102.1% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 270387	(6.20, N/A) (N/A, -0.16, N/A)	1396.9	N/A	2.0449 [ 2.0000 ]	102.2% { 101.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 246379	(7.13, N/A) (N/A, -0.15, N/A)	1312.9	N/A	2.0643 [ 2.0000 ]	103.2% { 108.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 243968	(7.95, N/A) (N/A, -0.15, N/A)	1666.5	N/A	1.8838 [ 2.0000 ]	94.2% { 96.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 94725	(8.70, N/A) (N/A, -0.13, N/A)	979.6	N/A	0.9433 [ 1.0000 ]	94.3% { 103.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 107653	(9.38, N/A) (N/A, -0.11, N/A)	1225.1	N/A	0.9175 [ 1.0000 ]	91.8% { 87.3% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 182077	(9.74, N/A) (N/A, -0.06, N/A)	1260.0	N/A	1.1561 [ 1.0000 ]	115.6% { 110.1% }			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 191576	(9.91, N/A) (N/A, -0.05, N/A)	652.0	N/A	1.0023 [ 1.0000 ]	100.2% { 83.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 157280	(10.13, N/A) (N/A, -0.04, N/A)	882.5	N/A	1.1209 [ 1.0000 ]	112.1% { 105.7% }			
13C3_PFBs_EIS	(302.0 / 80.0) 666100	(6.17, N/A) (N/A, -0.16, N/A)	1764.0	N/A	2.0772 [ 2.0000 ]	103.9% { 103.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 357409	(8.09, N/A) (N/A, -0.14, N/A)	1349.5	N/A	1.9580 [ 2.0000 ]	97.9% { 96.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 535755	(9.51, N/A) (N/A, -0.09, N/A)	793.6	N/A	1.9906 [ 2.0000 ]	99.5% { 86.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 73835	(5.85, N/A) (N/A, -0.17, N/A)	845.2	N/A	4.0826 [ 4.0000 ]	102.1% { 102.1% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 95989	(7.59, N/A) (N/A, -0.14, N/A)	965.9	N/A	3.9560 [ 4.0000 ]	98.9% { 101.1% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 77910	(9.02, N/A) (N/A, -0.14, N/A)	558.5	N/A	3.6994 [ 4.0000 ]	92.5% { 88.0% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 966019	(10.17, N/A) (N/A, -0.05, N/A)	1278.9	N/A	2.3511 [ 2.0000 ]	117.6% { 108.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 264072	(10.60, N/A) (N/A, -0.04, N/A)	1322.7	N/A	2.1719 [ 2.0000 ]	108.6% { 101.6% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 247837	(10.69, N/A) (N/A, -0.04, N/A)	1874.1	N/A	2.2481 [ 2.0000 ]	112.4% { 102.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 265404	(9.54, N/A) (N/A, -0.09, N/A)	793.5	N/A	4.4323 [ 4.0000 ]	110.8% { 97.2% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 219993	(9.71, N/A) (N/A, -0.06, N/A)	607.2	N/A	4.2746 [ 4.0000 ]	106.9% { 95.4% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 443236	(10.56, N/A) (N/A, -0.04, N/A)	1649.2	N/A	21.3431 [ 20.0000 ]	106.7% { 97.4% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 232460	(10.66, N/A) (N/A, -0.04, N/A)	3076.8	N/A	21.9686 [ 20.0000 ]	109.8% { 97.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 684157	(6.55, N/A) (N/A, -0.16, N/A)	1714.2	N/A	7.8561 [ 8.0000 ]	98.2% { 101.9% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 573512	(3.85, 1.00) (0.00, N/A, 0.0)	138.3	N/A 0.0 0.0	8.1979 [ 8.0000 ]	102.5%			
PFPeA	(262.9 / 219.0) 364344 (262.9 / 69.0) 3803	(5.20, 1.00) (0.00, N/A, 0.1)	1887.4 151.9	0.0104 89.6 89.6	4.0798 [ 4.0000 ]	102.0%			
PFHxA	(313.0 / 269.0) 264286 (313.0 / 119.0) 25580	(6.35, 1.00) (0.00, N/A, 0.1)	1043.7 352.2	0.0968 107.7 107.7	2.0720 [ 2.0000 ]	103.6%			
PFHpA	(363.0 / 319.0) 235343 (363.0 / 169.0) 71981	(7.28, 1.00) (0.00, N/A, 0.0)	839.0 558.9	0.3059 106.6 106.6	2.0325 [ 2.0000 ]	101.6%			
PFOA	(413.0 / 369.0) 261900 (413.0 / 169.0) 81444	(8.10, 1.00) (0.00, N/A, 0.0)	590.7 629.8	0.3110 96.1 96.1	2.0570 [ 2.0000 ]	102.8%			
PFNA	(463.0 / 419.0) 188075 (463.0 / 169.0) 40959	(8.84, 1.00) (0.00, N/A, -0.2)	645.3 387.2	0.2178 108.2 108.2	2.0096 [ 2.0000 ]	100.5%			
PFDA	(513.0 / 469.0) 260951 (513.0 / 169.0) 23734	(9.50, 1.00) (0.00, N/A, -0.1)	569.3 199.1	0.0910 102.4 102.4	2.2223 [ 2.0000 ]	111.1%			
PFUnA	(563.0 / 519.0) 303693 (563.0 / 169.0) 34701	(9.80, 1.00) (0.00, N/A, -0.1)	755.9 209.0	0.1143 106.3 106.3	2.0980 [ 2.0000 ]	104.9%			
PFDoA	(613.0 / 569.0) 387342 (613.0 / 169.0) 52935	(9.96, 1.00) (0.00, N/A, 0.1)	816.0 297.1	0.1367 114.8 114.8	2.2635 [ 2.0000 ]	113.2%			
PFTTrDA	(663.0 / 619.0) 323957 (663.0 / 169.0) 70804	(10.07, 1.01) (N/A, 0.00, -0.3)	892.0 995.2	0.2186 117.4 117.4	2.1552 [ 2.0000 ]	107.8%			
PFTeDA	(713.0 / 669.0) 294471 (713.0 / 169.0) 52441	(10.17, 1.00) (0.00, N/A, 0.0)	766.0 565.4	0.1781 90.5 90.5	2.1842 [ 2.0000 ]	109.2%			

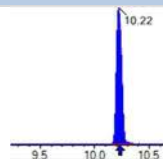
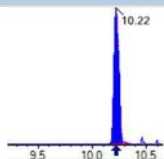
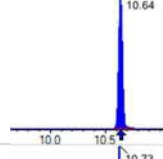
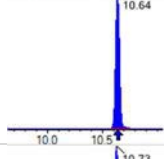
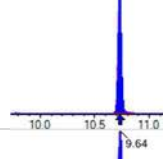
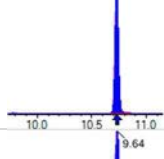
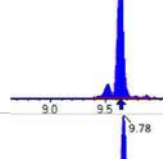
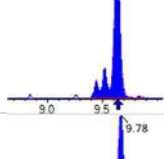
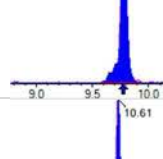
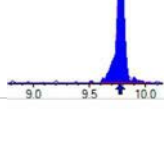
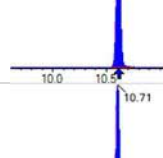
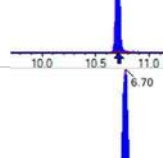
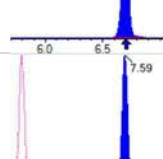
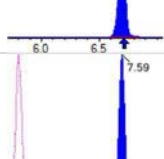
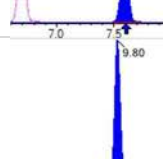
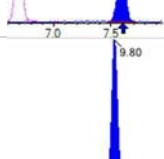
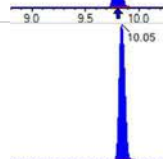
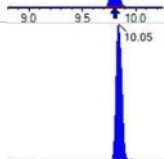
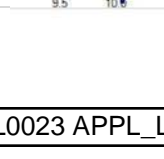
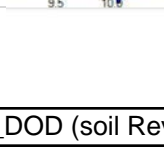


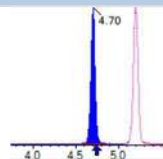
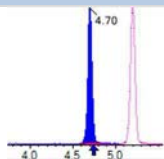
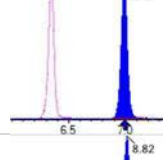
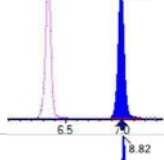
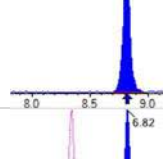
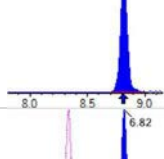
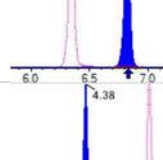
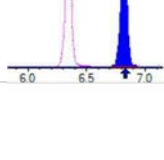
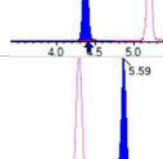
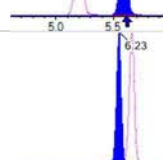
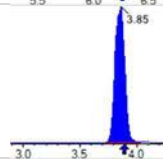

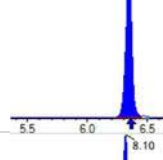
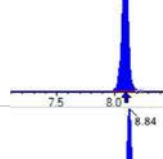
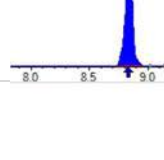
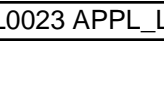
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Instrument: Saphira  
Type: Sciex Q3 5500

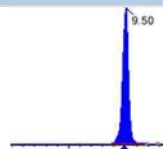
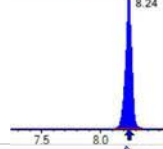
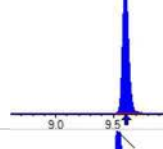
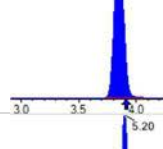
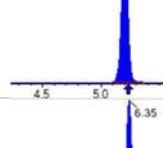
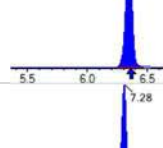
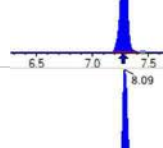
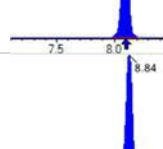
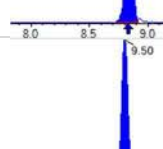
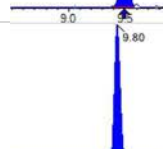
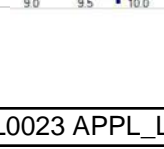
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Acquisition Method: 1633 2022-12-07.dam

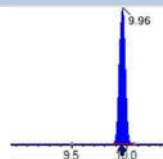
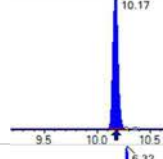
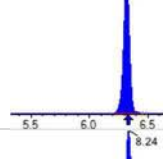
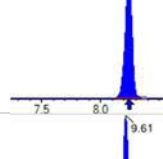
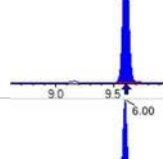
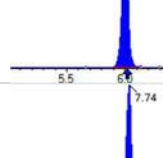
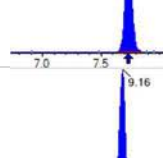
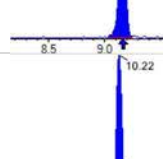
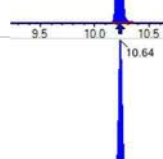
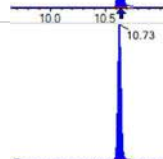
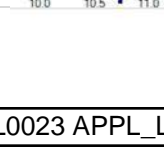
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Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 364483 ( 298.9 / 99.0 ) 228101	( 6.32 , 1.00 ) ( 0.00 , N/A , 0.0 )	2185.3 1463.1	0.6258 92.4 92.4	1.9164 [ 1.7695 ]	108.3%			
PFPeS	( 349.0 / 80.0 ) 676512 ( 349.0 / 99.0 ) 249278	( 7.36 , 0.89 ) ( N/A , 0.00 , 0.0 )	2049.6 1183.8	0.3685 101.0 101.0	1.9874 [ 1.8768 ]	105.9%			
PFHxS	( 399.0 / 80.0 ) 614449 ( 399.0 / 99.0 ) 205382	( 8.24 , 1.00 ) ( 0.00 , N/A , 0.0 )	23159.7 14520374.5	0.3343 96.9 96.9	2.0357 [ 1.8220 ]	111.7%			
PFHpS	( 449.0 / 80.0 ) 543358 ( 449.0 / 99.0 ) 157314	( 9.01 , 0.94 ) ( N/A , 0.00 , 0.1 )	1975.4 938.7	0.2895 101.9 101.9	1.8766 [ 1.9028 ]	98.6%			
PFOS	( 499.0 / 80.0 ) 642218 ( 499.0 / 99.0 ) 151432	( 9.61 , 1.00 ) ( 0.00 , N/A , 0.0 )	334.7 366.4	0.2358 91.6 91.6	1.7905 [ 1.8550 ]	96.5%			
PFNS	( 549.0 / 80.0 ) 747153 ( 549.0 / 99.0 ) 198651	( 9.84 , 1.02 ) ( N/A , 0.00 , 0.2 )	1000.4 886.2	0.2659 111.2 111.2	1.7740 [ 1.9198 ]	92.4%			
PFDS	( 599.0 / 80.0 ) 957081 ( 599.0 / 99.0 ) 213410	( 9.97 , 1.04 ) ( N/A , 0.00 , 0.0 )	1127.9 943.7	0.2230 95.9 95.9	1.8145 [ 1.9262 ]	94.2%			
PFDoS	( 698.9 / 80.0 ) 564696 ( 698.9 / 99.0 ) 140467	( 10.16 , 1.06 ) ( N/A , 0.00 , 0.0 )	1227.1 890.0	0.2487 107.4 107.4	1.8051 [ 1.9391 ]	93.1%			
4:2FTS	( 327.0 / 307.0 ) 493289 ( 327.0 / 81.0 ) 268729	( 6.00 , 1.00 ) ( 0.00 , N/A , 0.1 )	2482.3 1540.8	0.5448 91.2 91.2	8.0117 [ 7.4762 ]	107.2%			
6:2FTS	( 427.0 / 407.0 ) 305122 ( 427.0 / 81.0 ) 221737	( 7.74 , 1.00 ) ( 0.00 , N/A , 0.0 )	1711.2 1130.8	0.7267 101.0 101.0	8.5705 [ 7.5923 ]	112.9%			
8:2FTS	( 527.0 / 507.0 ) 267782 ( 527.0 / 81.0 ) 172184	( 9.16 , 1.00 ) ( 0.00 , N/A , 0.0 )	1107.9 868.5	0.6430 103.1 103.1	9.0287 [ 7.6663 ]	117.8%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 1018161 (498.0 / 478.0) 23538	(10.22, 1.00) (0.00, N/A, 0.0)	795.7 980.7	0.0231 96.8 96.8	2.0264 [2.0000]	101.3%			
NMeFOSA	(511.9 / 219.0) 1056493 (511.9 / 169.0) 659642	(10.64, 1.00) (0.00, N/A, 0.0)	2149.0 1733.9	0.6244 93.6 93.6	9.1898 [8.0000]	114.9%			
NEIFOSA	(526.0 / 219.0) 1093891 (526.0 / 169.0) 1125542	(10.73, 1.00) (0.00, N/A, 0.0)	3111.8 2307.0	1.0289 94.4 94.4	8.6320 [8.0000]	107.9%			
NMeFOSAA	(570.0 / 419.0) 126432 (570.0 / 483.0) 58393	(9.64, 1.00) (0.00, N/A, 0.1)	2449135.9 12370.6	0.4619 99.6 99.6	2.1792 [2.0000]	109.0%			
NEIFOSAA	(584.0 / 419.0) 127102 (584.0 / 526.0) 69799	(9.78, 1.00) (0.00, N/A, 0.0)	5741.3 105109.7	0.5492 90.5 90.5	2.3997 [2.0000]	120.0%			
NMeFOSE	(616.1 / 59.0) 272869	(10.61, 1.00) (0.01, N/A, 0.0)	1262.4	N/A 0.0 0.0	8.3864 [8.0000]	104.8%			
NEIFOSE	(630.0 / 59.0) 67235	(10.71, 1.00) (0.01, N/A, 0.0)	1207.7	N/A 0.0 0.0	8.6886 [8.0000]	108.6%			
HFPO-DA	(285.0 / 169.0) 226202 (285.0 / 185.0) 632879	(6.70, 1.00) (0.00, N/A, -0.1)	1139.3 1604.3	2.7979 100.9 100.9	4.1013 [4.0000]	102.5%			
ADONA	(377.0 / 85.0) 940178 (377.0 / 251.0) 116680	(7.59, 1.13) (N/A, 0.00, 0.0)	2103.0 599.8	0.1241 98.7 98.7	4.2158 [3.7708]	111.8%			
9CI-Pf3ONS	(531.0 / 351.0) 2585144 (533.0 / 353.0) 850137	(9.80, 1.46) (N/A, 0.00, -0.1)	1606.3 1160.7	0.3289 98.5 98.5	4.2124 [3.7330]	112.8%			
11CI-PF3OUDS	(631.0 / 451.0) 1724972 (633.0 / 453.0) 534747	(10.05, 1.50) (N/A, 0.00, 0.0)	931.6 1067.1	0.3100 95.8 95.8	4.0853 [3.7728]	108.3%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 36085 (241.0 / 117.0) 62436	(4.70, 0.90) (N/A, -0.04, 0.1)	997.2 778.3	1.7303 99.4 99.4	8.2251 [ 8.0000 ]	102.8%			
5:3FTCA	(341.0 / 236.7) 216241 (341.0 / 217.0) 376736	(6.99, 1.10) (N/A, -0.01, 0.1)	957.3 1047.8	1.7422 102.0 102.0	7.9798 [ 8.0000 ]	99.7%			
7:3FTCA	(441.0 / 317.0) 289871 (441.0 / 337.0) 246866	(8.82, 1.39) (N/A, 0.00, 0.2)	546.4 1267.3	0.8516 103.2 103.2	8.3081 [ 8.0000 ]	103.9%			
PFEESA	(315.0 / 135.0) 507296 (315.0 / 83.0) 145121	(6.82, 1.07) (N/A, -0.01, 0.2)	1900.3 716.4	0.2861 96.2 96.2	3.8895 [ 3.5698 ]	109.0%			
PFMPA	(229.0 / 85.0) 99523	(4.38, 0.84) (N/A, -0.04, 0.0)	1365.7	N/A 0.0 0.0	4.0471 [ 4.0000 ]	101.2%			
PFMBA	(279.0 / 85.0) 309456	(5.59, 1.07) (N/A, -0.03, 0.0)	2513.9	N/A 0.0 0.0	4.0377 [ 4.0000 ]	100.9%			
NFDHA	(201.0 / 85.0) 14580 (295.0 / 201.0) 77606	(6.23, 0.98) (N/A, -0.02, 0.0)	424.9 949.5	5.3228 76.1 76.1	4.6530 [ 4.0000 ]	116.3%			
13C3_PFBA_IIS	(216.0 / 172.0) 97296	(3.85, N/A) (N/A, -0.05, N/A)	1437.2	N/A	1.0122 [ 1.0000 ]	101.2% { 95.2% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 122939	(6.35, N/A) (N/A, -0.02, N/A)	1257.7	N/A	0.9956 [ 1.0000 ]	99.6% { 99.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 124459	(8.10, N/A) (N/A, 0.00, N/A)	1123.8	N/A	1.0498 [ 1.0000 ]	105.0% { 110.5% }			
13C5_PFNA_IIS	(468.0 / 423.0) 96661	(8.84, N/A) (N/A, 0.00, N/A)	1435.8	N/A	1.0149 [ 1.0000 ]	101.5% { 94.1% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 89083	(9.50, N/A) (N/A, 0.01, N/A)	311.2	N/A	1.0813 [ 1.0000 ]	108.1% { 100.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 218239	(8.24, N/A) (N/A, 0.00, N/A)	1446.5	N/A	1.0168 [ 1.0000 ]	101.7% { 98.6% }			
13C4_PFOS_IIS	(502.8 / 79.9) 208870	(9.60, N/A) (N/A, 0.00, N/A)	1959.9	N/A	1.1222 [ 1.0000 ]	112.2% { 102.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 735031	(3.85, N/A) (N/A, -0.05, N/A)	2360.2	N/A	8.0579 [ 8.0000 ]	100.7% { 93.8% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 371596	(5.20, N/A) (N/A, -0.03, N/A)	2077.4	N/A	4.1436 [ 4.0000 ]	103.6% { 99.9% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 253098	(6.35, N/A) (N/A, -0.01, N/A)	1449.0	N/A	2.0184 [ 2.0000 ]	100.9% { 95.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 228609	(7.28, N/A) (N/A, 0.00, N/A)	1397.6	N/A	2.0197 [ 2.0000 ]	101.0% { 100.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 247023	(8.09, N/A) (N/A, 0.00, N/A)	1170.3	N/A	1.9513 [ 2.0000 ]	97.6% { 97.5% }			
13C9_PFNA_EIS	(472.0 / 427.0) 97078	(8.84, N/A) (N/A, 0.01, N/A)	1970.5	N/A	1.0177 [ 1.0000 ]	101.8% { 105.7% }			
13C6_PFDA_EIS	(519.0 / 474.0) 115748	(9.50, N/A) (N/A, 0.00, N/A)	1106.6	N/A	0.8945 [ 1.0000 ]	89.5% { 93.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 164438	(9.80, N/A) (N/A, 0.00, N/A)	994.2	N/A	0.9467 [ 1.0000 ]	94.7% { 99.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 185980	(9.96, N/A) (N/A, 0.00, N/A)	784.6	N/A	0.8823 [ 1.0000 ]	88.2% { 80.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 136774	(10.17, N/A) (N/A, 0.00, N/A)	551.4	N/A	0.8839 [ 1.0000 ]	88.4% { 91.9% }			
13C3_PFBs_EIS	(302.0 / 80.0) 623053	(6.32, N/A) (N/A, -0.02, N/A)	2052.1	N/A	1.9426 [ 2.0000 ]	97.1% { 96.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 360048	(8.24, N/A) (N/A, 0.00, N/A)	1574.4	N/A	1.9721 [ 2.0000 ]	98.6% { 97.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 638966	(9.61, N/A) (N/A, 0.00, N/A)	1059.7	N/A	2.0067 [ 2.0000 ]	100.3% { 103.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 70500	(6.00, N/A) (N/A, -0.02, N/A)	727.8	N/A	3.8973 [ 4.0000 ]	97.4% { 97.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 89775	(7.74, N/A) (N/A, 0.00, N/A)	877.9	N/A	3.6992 [ 4.0000 ]	92.5% { 94.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 75545	(9.16, N/A) (N/A, 0.00, N/A)	551.5	N/A	3.5863 [ 4.0000 ]	89.7% { 85.3% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 904844	(10.22, N/A) (N/A, 0.00, N/A)	893.0	N/A	1.8615 [ 2.0000 ]	93.1% { 101.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 250164	(10.64, N/A) (N/A, 0.00, N/A)	1226.1	N/A	1.7392 [ 2.0000 ]	87.0% { 96.2% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 244733	(10.73, N/A) (N/A, 0.00, N/A)	1419.6	N/A	1.8764 [ 2.0000 ]	93.8% { 100.9% }			





Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03724-CAL4  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-07A16.wiff-0  
 Acquired: 2022/12/07 - 14:50

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 266116	( 9.63 , N/A ) ( N/A , 0.00 , N/A )	594.7	N/A	3.7566 [ 4.0000 ]	93.9% { 97.5% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 230865	( 9.77 , N/A ) ( N/A , 0.00 , N/A )	522.3	N/A	3.7918 [ 4.0000 ]	94.8% { 100.1% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 462857	( 10.60 , N/A ) ( N/A , 0.00 , N/A )	1585.1	N/A	18.8394 [ 20.0000 ]	94.2% { 101.7% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 226020	( 10.70 , N/A ) ( N/A , 0.00 , N/A )	2078.3	N/A	18.0550 [ 20.0000 ]	90.3% { 95.1% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 664350	( 6.69 , N/A ) ( N/A , -0.01 , N/A )	1632.3	N/A	8.0442 [ 8.0000 ]	100.6% { 98.9% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03724-CAL5  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-07A17.wiff-0  
 Acquired: 2022/12/07 - 15:03

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 1356291	(3.90, 1.00) (0.00, N/A, 0.0)	152.1	N/A 0.0 0.0	18.1870 [ 20.0000 ]	90.9%			
PFPeA	(262.9 / 219.0) 821235 (262.9 / 69.0) 9564	(5.23, 1.00) (0.00, N/A, -0.1)	2604.1 271.1	0.0116 100.0 100.0	9.1887 [ 10.0000 ]	91.9%			
PFHxA	(313.0 / 269.0) 626087 (313.0 / 119.0) 56273	(6.36, 1.00) (0.00, N/A, 0.1)	1632.7 643.0	0.0899 100.0 100.0	4.6818 [ 5.0000 ]	93.6%			
PFHpA	(363.0 / 319.0) 559749 (363.0 / 169.0) 160591	(7.28, 1.00) (0.00, N/A, 0.1)	1459.9 965.3	0.2869 100.0 100.0	4.8700 [ 5.0000 ]	97.4%			
PFOA	(413.0 / 369.0) 592137 (413.0 / 169.0) 191578	(8.10, 1.00) (0.00, N/A, 0.0)	1247.3 1103.5	0.3235 100.0 100.0	4.5344 [ 5.0000 ]	90.7%			
PFNA	(463.0 / 419.0) 438417 (463.0 / 169.0) 88255	(8.84, 1.00) (0.01, N/A, 0.2)	1101.0 311.2	0.2013 100.0 100.0	4.9510 [ 5.0000 ]	99.0%			
PFDA	(513.0 / 469.0) 622586 (513.0 / 169.0) 55278	(9.50, 1.00) (0.00, N/A, 0.2)	888.4 1112.1	0.0888 100.0 100.0	4.9757 [ 5.0000 ]	99.5%			
PFUnA	(563.0 / 519.0) 695455 (563.0 / 169.0) 74733	(9.80, 1.00) (0.00, N/A, -0.1)	990.9 1766.1	0.1075 100.0 100.0	4.7792 [ 5.0000 ]	95.6%			
PFDoA	(613.0 / 569.0) 924761 (613.0 / 169.0) 110126	(9.95, 1.00) (0.00, N/A, 0.1)	1220.8 2168.4	0.1191 100.0 100.0	4.3613 [ 5.0000 ]	87.2%			
PFTTrDA	(663.0 / 619.0) 759476 (663.0 / 169.0) 141439	(10.07, 1.01) (N/A, 0.00, -0.2)	1050.3 509.3	0.1862 100.0 100.0	4.0777 [ 5.0000 ]	81.6%			
PFTTeDA	(713.0 / 669.0) 630921 (713.0 / 169.0) 124201	(10.17, 1.00) (0.00, N/A, 0.1)	1215.3 481.1	0.1969 100.0 100.0	4.3004 [ 5.0000 ]	86.0%			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03724-CAL5  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-07A17.wiff-0  
 Acquired: 2022/12/07 - 15:03

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 817265 ( 298.9 / 99.0 ) 553705	( 6.33 , 1.00 ) ( 0.00 , N/A , -0.1)	1994.6 2045.9	0.6775 100.0 100.0	4.1474 [ 4.4237 ]	93.8%			
PFPeS	( 349.0 / 80.0 ) 1508155 ( 349.0 / 99.0 ) 550003	( 7.37 , 0.89 ) ( N/A , 0.00 , 0.0)	2139.6 1699.4	0.3647 100.0 100.0	4.3113 [ 4.6919 ]	91.9%			
PFHxS	( 399.0 / 80.0 ) 1310829 ( 399.0 / 99.0 ) 451995	( 8.24 , 1.00 ) ( 0.00 , N/A , 0.0)	1940.4 13461057.9	0.3448 100.0 100.0	4.2260 [ 4.5549 ]	92.8%			
PFHpS	( 449.0 / 80.0 ) 1135402 ( 449.0 / 99.0 ) 322713	( 9.00 , 0.94 ) ( N/A , 0.00 , -0.1)	2212.7 1570.7	0.2842 100.0 100.0	4.0659 [ 4.7570 ]	85.5%			
PFOS	( 499.0 / 80.0 ) 1458387 ( 499.0 / 99.0 ) 375557	( 9.61 , 1.00 ) ( 0.00 , N/A , 0.0)	344.4 581.7	0.2575 100.0 100.0	4.2160 [ 4.6375 ]	90.9%			
PFNS	( 549.0 / 80.0 ) 1789512 ( 549.0 / 99.0 ) 427713	( 9.84 , 1.02 ) ( N/A , 0.00 , -0.1)	2007.1 1310.9	0.2390 100.0 100.0	4.4057 [ 4.7994 ]	91.8%			
PFDS	( 599.0 / 80.0 ) 2151810 ( 599.0 / 99.0 ) 500489	( 9.97 , 1.04 ) ( N/A , 0.00 , 0.0)	1906.7 1600.7	0.2326 100.0 100.0	4.2300 [ 4.8155 ]	87.8%			
PFDoS	( 698.9 / 80.0 ) 1305111 ( 698.9 / 99.0 ) 302364	( 10.16 , 1.06 ) ( N/A , 0.00 , -0.1)	1836.9 1118.9	0.2317 100.0 100.0	4.3259 [ 4.8478 ]	89.2%			
4:2FTS	( 327.0 / 307.0 ) 1095452 ( 327.0 / 81.0 ) 654341	( 6.02 , 1.00 ) ( 0.00 , N/A , 0.0)	2428.2 2370.8	0.5973 100.0 100.0	17.3517 [ 18.6906 ]	92.8%			
6:2FTS	( 427.0 / 407.0 ) 684051 ( 427.0 / 81.0 ) 491959	( 7.74 , 1.00 ) ( 0.00 , N/A , 0.1)	1938.2 1688.9	0.7192 100.0 100.0	18.1723 [ 18.9808 ]	95.7%			
8:2FTS	( 527.0 / 507.0 ) 589710 ( 527.0 / 81.0 ) 367643	( 9.16 , 1.00 ) ( 0.00 , N/A , -0.1)	531.3 1296.4	0.6234 100.0 100.0	16.9669 [ 19.1658 ]	88.5%			

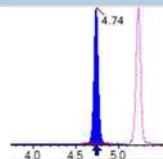
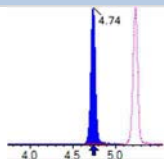
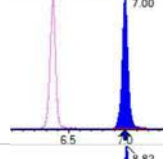
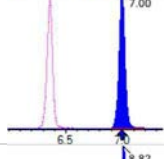
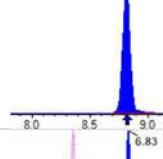
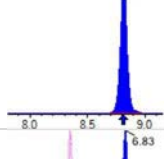
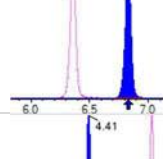
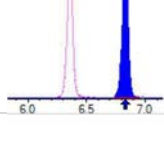
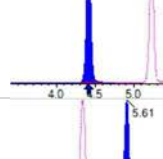
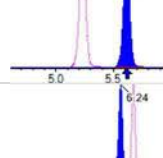
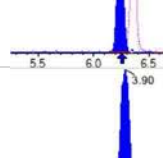
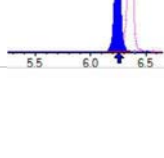
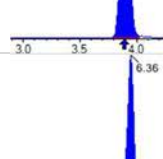
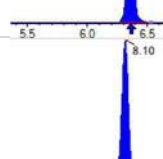
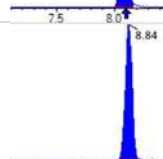
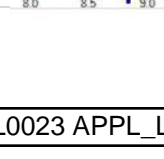


Chemist: ABK  
Instrument: Saphira  
Type: Sciex Q3 5500

Sample I.D.: SB03724-CAL5  
DF, IV: 1, 10.0µL  
Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
Path: S2022-12-07A17.wiff-0  
Acquired: 2022/12/07 - 15:03

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 2315127 ( 498.0 / 478.0 ) 55270	( 10.22 , 1.00 ) ( 0.00 , N/A , 0.1 )	1273.4 344.0	0.0239 100.0 100.0	4.6703 [ 5.0000 ]	93.4%			
NMeFOSA	( 511.9 / 219.0 ) 2230207 ( 511.9 / 169.0 ) 1487374	( 10.64 , 1.00 ) ( 0.00 , N/A , 0.0 )	1928.6 1933.3	0.6669 100.0 100.0	18.6675 [ 20.0000 ]	93.3%			
NEIFOSA	( 526.0 / 219.0 ) 2322852 ( 526.0 / 169.0 ) 2531396	( 10.73 , 1.00 ) ( 0.00 , N/A , 0.0 )	3099.4 3269.1	1.0898 100.0 100.0	18.4988 [ 20.0000 ]	92.5%			
NMeFOSAA	( 570.0 / 419.0 ) 271678 ( 570.0 / 483.0 ) 126024	( 9.63 , 1.00 ) ( 0.01 , N/A , 0.0 )	19694.4 17542.3	0.4639 100.0 100.0	4.5632 [ 5.0000 ]	91.3%			
NEIFOSAA	( 584.0 / 419.0 ) 251956 ( 584.0 / 526.0 ) 152891	( 9.78 , 1.00 ) ( 0.00 , N/A , 0.1 )	1245.3 312008.8	0.6068 100.0 100.0	4.7600 [ 5.0000 ]	95.2%			
NMeFOSE	( 616.1 / 59.0 ) 600951	( 10.61 , 1.00 ) ( 0.01 , N/A , 0.0 )	1810.2	N/A 0.0 0.0	18.7791 [ 20.0000 ]	93.9%			
NEIFOSE	( 630.0 / 59.0 ) 151356	( 10.71 , 1.00 ) ( 0.01 , N/A , 0.0 )	1945.9	N/A 0.0 0.0	18.6047 [ 20.0000 ]	93.0%			
HFPO-DA	( 285.0 / 169.0 ) 534784 ( 285.0 / 185.0 ) 1482572	( 6.71 , 1.00 ) ( 0.00 , N/A , 0.0 )	1852.2 1527.4	2.7723 100.0 100.0	9.5930 [ 10.0000 ]	95.9%			
ADONA	( 377.0 / 85.0 ) 2047318 ( 377.0 / 251.0 ) 257340	( 7.60 , 1.13 ) ( N/A , 0.00 , 0.0 )	2374.5 970.0	0.1257 100.0 100.0	9.0824 [ 9.4270 ]	96.3%			
9CI-Pf3ONS	( 531.0 / 351.0 ) 5750344 ( 533.0 / 353.0 ) 1919440	( 9.80 , 1.46 ) ( N/A , 0.00 , -0.1 )	2007.9 1717.1	0.3338 100.0 100.0	9.2702 [ 9.3325 ]	99.3%			
11CI-PF3OUDS	( 631.0 / 451.0 ) 3887188 ( 633.0 / 453.0 ) 1257639	( 10.05 , 1.50 ) ( N/A , 0.00 , 0.0 )	1497.1 1395.7	0.3235 100.0 100.0	9.1080 [ 9.4321 ]	96.6%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 79522 (241.0 / 117.0) 138412	(4.74, 0.91) (N/A, 0.00, 0.0)	1166.4 1156.8	1.7406 100.0 100.0	18.1117 [ 20.0000 ]	90.6%			
5:3FTCA	(341.0 / 236.7) 487672 (341.0 / 217.0) 832861	(7.00, 1.10) (N/A, 0.00, 0.0)	1465.9 1346.5	1.7078 100.0 100.0	17.1647 [ 20.0000 ]	85.8%			
7:3FTCA	(441.0 / 317.0) 641818 (441.0 / 337.0) 529421	(8.82, 1.39) (N/A, 0.00, 0.0)	1204.2 1951.4	0.8249 100.0 100.0	17.5455 [ 20.0000 ]	87.7%			
PFEESA	(315.0 / 135.0) 1092681 (315.0 / 83.0) 324936	(6.83, 1.07) (N/A, 0.00, 0.0)	1825.0 1360.4	0.2974 100.0 100.0	7.9907 [ 8.9246 ]	89.5%			
PFMPA	(229.0 / 85.0) 224416	(4.41, 0.84) (N/A, 0.00, 0.0)	1548.3	N/A 0.0 0.0	9.1187 [ 10.0000 ]	91.2%			
PFMBA	(279.0 / 85.0) 702014	(5.61, 1.07) (N/A, 0.00, 0.0)	2668.9	N/A 0.0 0.0	9.1524 [ 10.0000 ]	91.5%			
NFDHA	(201.0 / 85.0) 28619 (295.0 / 201.0) 200230	(6.24, 0.98) (N/A, 0.00, 0.0)	744.7 1475.1	6.9964 100.0 100.0	8.8086 [ 10.0000 ]	88.1%			
13C3_PFBa_IIS	(216.0 / 172.0) 102165	(3.90, N/A) (N/A, 0.00, N/A)	1394.2	N/A	1.0628 [ 1.0000 ]	106.3% { 100.0% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 123787	(6.36, N/A) (N/A, 0.00, N/A)	1111.7	N/A	1.0024 [ 1.0000 ]	100.2% { 100.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 112620	(8.10, N/A) (N/A, 0.00, N/A)	847.9	N/A	0.9500 [ 1.0000 ]	95.0% { 100.0% }			
13C5_PFNAl_IIS	(468.0 / 423.0) 102716	(8.84, N/A) (N/A, 0.00, N/A)	2007545.5	N/A	1.0785 [ 1.0000 ]	107.8% { 100.0% }			

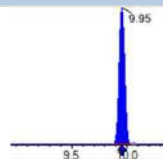
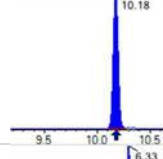
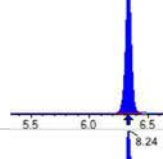
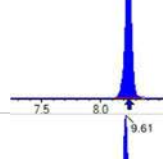
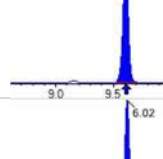
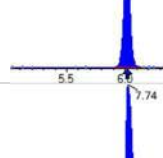
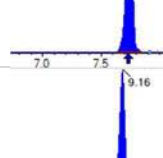
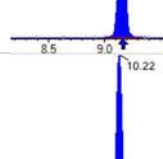
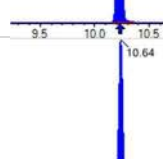
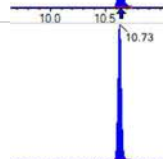
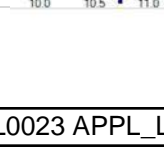


Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03724-CAL5  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-07A17.wiff- 0  
 Acquired: 2022/12/07 - 15:03

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 88539	(9.49, N/A) (N/A, 0.00, N/A)	1617.9	N/A	1.0747 [ 1.0000 ]	107.5% { 100.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 221235	(8.24, N/A) (N/A, 0.00, N/A)	1506.9	N/A	1.0308 [ 1.0000 ]	103.1% { 100.0% }			
13C4_PFOS_IIS	(502.8 / 79.9) 202919	(9.60, N/A) (N/A, 0.00, N/A)	1287.7	N/A	1.0902 [ 1.0000 ]	109.0% { 100.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 783530	(3.90, N/A) (N/A, 0.00, N/A)	2818.7	N/A	8.1802 [ 8.0000 ]	102.3% { 100.0% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 371890	(5.23, N/A) (N/A, 0.00, N/A)	2514.7	N/A	4.1185 [ 4.0000 ]	103.0% { 100.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 265358	(6.36, N/A) (N/A, 0.00, N/A)	1200.4	N/A	2.1016 [ 2.0000 ]	105.1% { 100.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 226932	(7.28, N/A) (N/A, 0.00, N/A)	1289.4	N/A	1.9912 [ 2.0000 ]	99.6% { 100.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 253363	(8.10, N/A) (N/A, 0.00, N/A)	1334.4	N/A	2.2118 [ 2.0000 ]	110.6% { 100.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 91851	(8.83, N/A) (N/A, 0.00, N/A)	837.5	N/A	0.9061 [ 1.0000 ]	90.6% { 100.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 123337	(9.49, N/A) (N/A, 0.00, N/A)	545.2	N/A	0.9590 [ 1.0000 ]	95.9% { 100.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 165304	(9.80, N/A) (N/A, 0.00, N/A)	662.9	N/A	0.9576 [ 1.0000 ]	95.8% { 100.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 230445	(9.95, N/A) (N/A, 0.00, N/A)	1020.8	N/A	1.0999 [ 1.0000 ]	110.0% { 100.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 148835	(10.18, N/A) (N/A, 0.00, N/A)	857.0	N/A	0.9677 [ 1.0000 ]	96.8% { 100.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 645547	(6.33, N/A) (N/A, 0.00, N/A)	2164.3	N/A	1.9854 [ 2.0000 ]	99.3% { 100.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 370014	(8.24, N/A) (N/A, 0.00, N/A)	1652.2	N/A	1.9992 [ 2.0000 ]	100.0% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 616241	(9.61, N/A) (N/A, 0.00, N/A)	818.1	N/A	1.9921 [ 2.0000 ]	99.6% { 100.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 72288	(6.02, N/A) (N/A, 0.00, N/A)	693.6	N/A	3.9420 [ 4.0000 ]	98.6% { 100.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 94921	(7.74, N/A) (N/A, 0.00, N/A)	835.7	N/A	3.8583 [ 4.0000 ]	96.5% { 100.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 88529	(9.16, N/A) (N/A, 0.00, N/A)	652.9	N/A	4.1458 [ 4.0000 ]	103.6% { 100.0% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 892739	(10.22, N/A) (N/A, 0.00, N/A)	739.8	N/A	1.8904 [ 2.0000 ]	94.5% { 100.0% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 259970	(10.64, N/A) (N/A, 0.00, N/A)	1404.6	N/A	1.8603 [ 2.0000 ]	93.0% { 100.0% }			
D5_NeIFOSA_EIS	(531.1 / 169.0) 242498	(10.73, N/A) (N/A, 0.00, N/A)	1958.8	N/A	1.9138 [ 2.0000 ]	95.7% { 100.0% }			



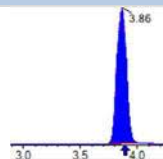
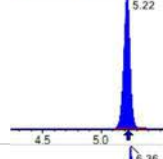
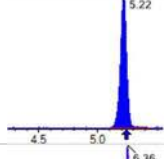
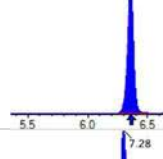
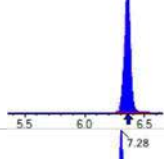
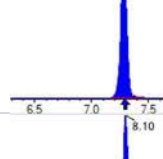
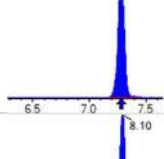
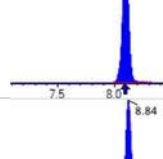
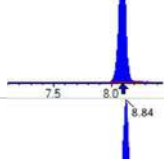
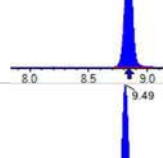
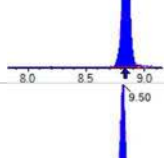
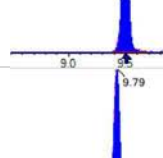
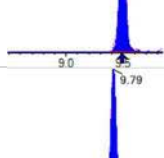
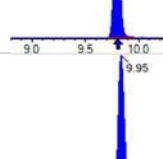
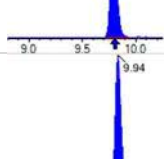
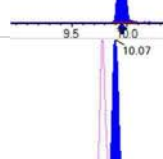
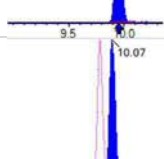
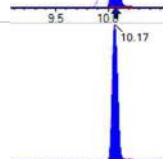
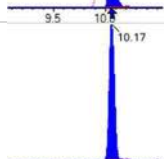
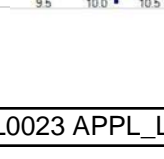
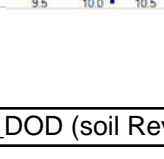
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03724-CAL5  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-07A17.wiff- 0  
 Acquired: 2022/12/07 - 15:03

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 273079	( 9.63 , N/A ) ( N/A , 0.00 , N/A )	985.9	N/A	3.9679 [ 4.0000 ]	99.2% { 100.0% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 230719	( 9.77 , N/A ) ( N/A , 0.00 , N/A )	649.4	N/A	3.9005 [ 4.0000 ]	97.5% { 100.0% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 455230	( 10.61 , N/A ) ( N/A , 0.00 , N/A )	1650.8	N/A	19.0724 [ 20.0000 ]	95.4% { 100.0% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 237617	( 10.70 , N/A ) ( N/A , 0.00 , N/A )	2003.7	N/A	19.5381 [ 20.0000 ]	97.7% { 100.0% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 671502	( 6.70 , N/A ) ( N/A , 0.00 , N/A )	1638.0	N/A	8.0751 [ 8.0000 ]	100.9% { 100.0% }			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 2986725	(3.86, 1.00) (0.00, N/A, 0.0)	153.5	N/A 0.0 0.0	42.9174 [ 40.0000 ]	107.3%			
PFPeA	(262.9 / 219.0) 1814210 (262.9 / 69.0) 20420	(5.22, 1.00) (0.00, N/A, 0.1)	2906.9 509.1	0.0113 96.6 96.6	20.1776 [ 20.0000 ]	100.9%			
PFHxA	(313.0 / 269.0) 1303035 (313.0 / 119.0) 118416	(6.36, 1.00) (0.00, N/A, 0.0)	2097.8 1467.9	0.0909 101.1 101.1	10.4818 [ 10.0000 ]	104.8%			
PFHpA	(363.0 / 319.0) 1188266 (363.0 / 169.0) 352096	(7.28, 1.00) (0.00, N/A, -0.1)	1560.5 1434.7	0.2963 103.3 103.3	10.3163 [ 10.0000 ]	103.2%			
PFOA	(413.0 / 369.0) 1307333 (413.0 / 169.0) 416714	(8.10, 1.00) (0.00, N/A, 0.0)	1700.1 1364.4	0.3188 98.5 98.5	10.8127 [ 10.0000 ]	108.1%			
PFNA	(463.0 / 419.0) 938839 (463.0 / 169.0) 196717	(8.84, 1.00) (0.00, N/A, 0.0)	1647.3 365.9	0.2107 104.6 104.6	9.4447 [ 10.0000 ]	94.4%			
PFDA	(513.0 / 469.0) 1251700 (513.0 / 169.0) 138621	(9.49, 1.00) (0.00, N/A, -0.2)	1182.4 810.7	0.1107 124.7 124.7	10.0356 [ 10.0000 ]	100.4%			
PFUnA	(563.0 / 519.0) 1398091 (563.0 / 169.0) 142486	(9.79, 1.00) (0.01, N/A, 0.2)	1052.5 836.3	0.1019 94.8 94.8	9.8546 [ 10.0000 ]	98.5%			
PFDoA	(613.0 / 569.0) 1813938 (613.0 / 169.0) 223612	(9.95, 1.00) (0.00, N/A, 0.1)	1296.4 555.2	0.1233 103.5 103.5	10.6789 [ 10.0000 ]	106.8%			
PFTTrDA	(663.0 / 619.0) 1567749 (663.0 / 169.0) 344419	(10.07, 1.01) (N/A, 0.00, 0.3)	1384.9 737.9	0.2197 118.0 118.0	10.5073 [ 10.0000 ]	105.1%			
PFTTeDA	(713.0 / 669.0) 1264068 (713.0 / 169.0) 263203	(10.17, 1.00) (0.00, N/A, 0.1)	1241.2 1017.0	0.2082 105.8 105.8	9.5450 [ 10.0000 ]	95.4%			



Chemist: ABK  
Instrument: Saphira  
Type: Sciex Q3 5500

Sample I.D.: SB03724-CAL6  
DF, IV: 1, 10.0µL  
Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
Path: S2022-12-07A18.wiff-0  
Acquired: 2022/12/07 - 15:15

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 1750771 ( 298.9 / 99.0 ) 1235176	( 6.33 , 1.00 ) ( 0.00 , N/A , 0.1 )	1237.8 2372.6	0.7055 104.1 104.1	9.2758 [ 8.8473 ]	104.8%			
PFPeS	( 349.0 / 80.0 ) 3373991 ( 349.0 / 99.0 ) 1194475	( 7.37 , 0.89 ) ( N/A , 0.00 , 0.0 )	2145.8 1715.3	0.3540 97.1 97.1	9.7342 [ 9.3838 ]	103.7%			
PFHxS	( 399.0 / 80.0 ) 2813551 ( 399.0 / 99.0 ) 961001	( 8.24 , 1.00 ) ( 0.00 , N/A , 0.1 )	23336.4 2546471.6	0.3416 99.1 99.1	9.1543 [ 9.1098 ]	100.5%			
PFHpS	( 449.0 / 80.0 ) 2492938 ( 449.0 / 99.0 ) 699355	( 9.00 , 0.94 ) ( N/A , 0.00 , -0.2 )	1438.9 2671.5	0.2805 98.7 98.7	9.9426 [ 9.5141 ]	104.5%			
PFOS	( 499.0 / 80.0 ) 3062055 ( 499.0 / 99.0 ) 719421	( 9.60 , 1.00 ) ( 0.00 , N/A , 0.0 )	459.8 484.4	0.2349 91.2 91.2	9.8587 [ 9.2749 ]	106.3%			
PFNS	( 549.0 / 80.0 ) 3917468 ( 549.0 / 99.0 ) 909818	( 9.83 , 1.02 ) ( N/A , 0.00 , 0.1 )	1618.9 1221.2	0.2322 97.2 97.2	10.7415 [ 9.5989 ]	111.9%			
PFDS	( 599.0 / 80.0 ) 4793838 ( 599.0 / 99.0 ) 1136928	( 9.97 , 1.04 ) ( N/A , -0.01 , 0.0 )	1318.3 1124.8	0.2372 102.0 102.0	10.4956 [ 9.6311 ]	109.0%			
PFDoS	( 698.9 / 80.0 ) 2702763 ( 698.9 / 99.0 ) 588336	( 10.15 , 1.06 ) ( N/A , 0.00 , 0.0 )	1108.6 1767.3	0.2177 94.0 94.0	9.9773 [ 9.6956 ]	102.9%			
4:2FTS	( 327.0 / 307.0 ) 2380862 ( 327.0 / 81.0 ) 1358255	( 6.01 , 1.00 ) ( 0.00 , N/A , 0.0 )	2695.0 2884.1	0.5705 95.5 95.5	36.4930 [ 37.3811 ]	97.6%			
6:2FTS	( 427.0 / 407.0 ) 1492648 ( 427.0 / 81.0 ) 1098713	( 7.74 , 1.00 ) ( 0.00 , N/A , 0.0 )	2078.1 2357.4	0.7361 102.3 102.3	39.2165 [ 37.9617 ]	103.3%			
8:2FTS	( 527.0 / 507.0 ) 1262287 ( 527.0 / 81.0 ) 812547	( 9.16 , 1.00 ) ( -0.01 , N/A , 0.1 )	1982.2 2045.3	0.6437 103.3 103.3	44.6548 [ 38.3315 ]	116.5%			

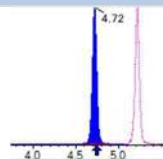
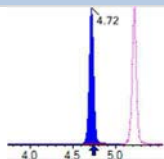
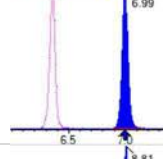
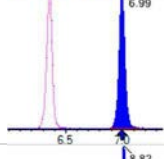
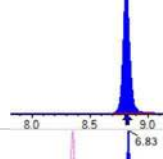
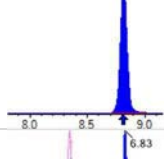
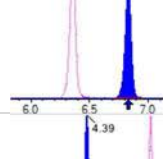
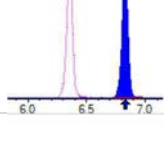
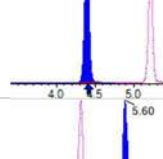
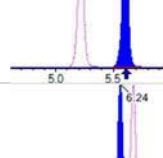
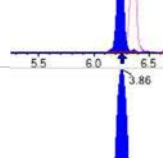
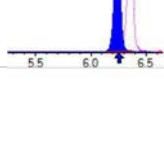
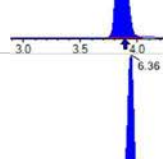
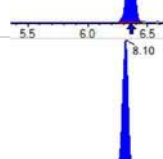
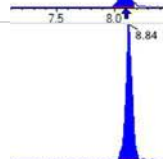
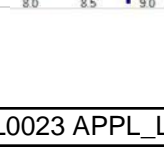


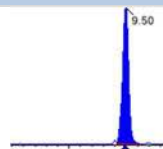
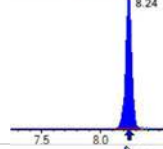
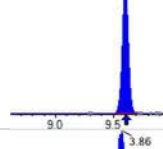
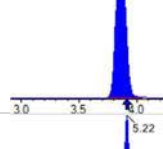
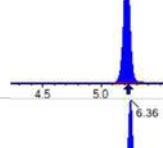
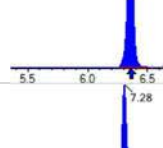
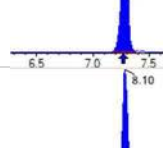
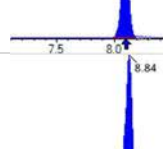
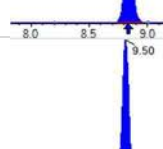
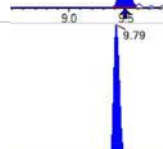
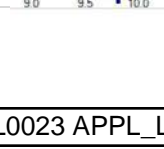
Chemist: ABK  
Instrument: Saphira  
Type: Sciex Q3 5500

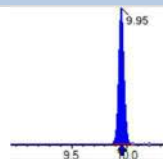
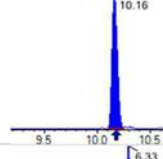
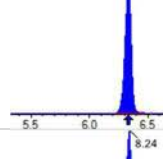
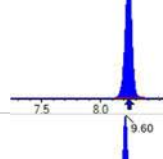
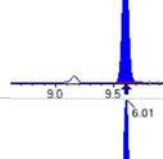
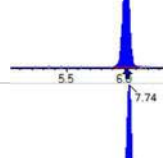
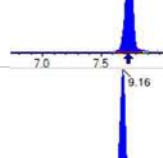
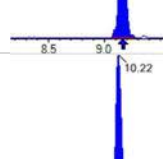
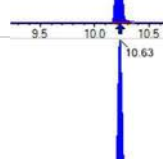
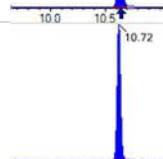
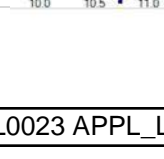
Sample I.D.: SB03724-CAL6  
DF, IV: 1, 10.0µL  
Acquisition Method: 1633 2022-12-07.dam

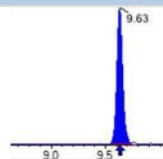
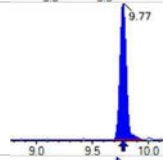
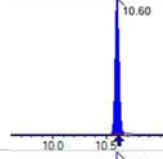
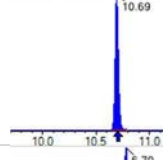
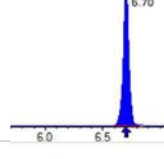
Quant Method: 1633 - 2022-12-07  
Path: S2022-12-07A18.wiff-0  
Acquired: 2022/12/07 - 15:15

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 4825046 ( 498.0 / 478.0 ) 112058	( 10.22 , 1.00 ) ( 0.00 , N/A , 0.1 )	938.5 923.1	0.0232 97.3 97.3	10.2589 [ 10.0000 ]	102.6%			
NMeFOSA	( 511.9 / 219.0 ) 4694961 ( 511.9 / 169.0 ) 3072816	( 10.63 , 1.00 ) ( 0.00 , N/A , 0.0 )	2168.6 2090.6	0.6545 98.1 98.1	41.5988 [ 40.0000 ]	104.0%			
NEIFOSA	( 526.0 / 219.0 ) 4882667 ( 526.0 / 169.0 ) 5213363	( 10.72 , 1.00 ) ( 0.00 , N/A , 0.0 )	3241.9 3260.5	1.0677 98.0 98.0	40.9499 [ 40.0000 ]	102.4%			
NMeFOSAA	( 570.0 / 419.0 ) 557267 ( 570.0 / 483.0 ) 284481	( 9.63 , 1.00 ) ( 0.00 , N/A , 0.0 )	1777.7 1419.6	0.5105 110.1 110.1	10.6517 [ 10.0000 ]	106.5%			
NEIFOSAA	( 584.0 / 419.0 ) 528258 ( 584.0 / 526.0 ) 319809	( 9.77 , 1.00 ) ( 0.00 , N/A , 0.1 )	1187.2 7653.2	0.6054 99.8 99.8	9.9861 [ 10.0000 ]	99.9%			
NMeFOSE	( 616.1 / 59.0 ) 1258463	( 10.60 , 1.00 ) ( 0.01 , N/A , 0.0 )	1841.9	N/A 0.0 0.0	41.7115 [ 40.0000 ]	104.3%			
NEtFOSE	( 630.0 / 59.0 ) 298689	( 10.70 , 1.00 ) ( 0.01 , N/A , 0.0 )	1943.5	N/A 0.0 0.0	37.8120 [ 40.0000 ]	94.5%			
HFPO-DA	( 285.0 / 169.0 ) 1104777 ( 285.0 / 185.0 ) 3238038	( 6.71 , 1.00 ) ( 0.00 , N/A , 0.1 )	1532.4 2452.8	2.9309 105.7 105.7	20.0389 [ 20.0000 ]	100.2%			
ADONA	( 377.0 / 85.0 ) 4408570 ( 377.0 / 251.0 ) 582298	( 7.60 , 1.13 ) ( N/A , 0.00 , 0.1 )	2688.3 1364.4	0.1321 105.1 105.1	19.7760 [ 18.8540 ]	104.9%			
9CI-Pf3ONS	( 531.0 / 351.0 ) 11566057 ( 533.0 / 353.0 ) 3772100	( 9.80 , 1.46 ) ( N/A , 0.00 , 0.0 )	1710.6 1570.8	0.3261 97.7 97.7	18.8541 [ 18.6651 ]	101.0%			
11CI-PF3OUDS	( 631.0 / 451.0 ) 8071262 ( 633.0 / 453.0 ) 2542135	( 10.05 , 1.50 ) ( N/A , 0.00 , 0.0 )	1880.6 1037.4	0.3150 97.4 97.4	19.1229 [ 18.8642 ]	101.4%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 181509 (241.0 / 117.0) 305608	(4.72, 0.90) (N/A, -0.02, 0.0)	1405.6 1569.9	1.6837 96.7 96.7	41.0930 [ 40.0000 ]	102.7%			
5:3FTCA	(341.0 / 236.7) 1128759 (341.0 / 217.0) 1827782	(6.99, 1.10) (N/A, 0.00, 0.0)	1297.1 1807.2	1.6193 94.8 94.8	42.7381 [ 40.0000 ]	106.8%			
7:3FTCA	(441.0 / 317.0) 1429515 (441.0 / 337.0) 1176249	(8.81, 1.39) (N/A, 0.00, -0.1)	1715.9 1863.5	0.8228 99.8 99.8	42.0386 [ 40.0000 ]	105.1%			
PFEESA	(315.0 / 135.0) 2456978 (315.0 / 83.0) 716033	(6.83, 1.07) (N/A, 0.00, 0.1)	2198.9 1422.7	0.2914 98.0 98.0	19.3285 [ 17.8492 ]	108.3%			
PFMPA	(229.0 / 85.0) 498708	(4.39, 0.84) (N/A, -0.02, 0.0)	1654.6	N/A 0.0 0.0	20.1428 [ 20.0000 ]	100.7%			
PFMBA	(279.0 / 85.0) 1612834	(5.60, 1.07) (N/A, -0.01, 0.0)	2738.1	N/A 0.0 0.0	20.9014 [ 20.0000 ]	104.5%			
NFDHA	(201.0 / 85.0) 60961 (295.0 / 201.0) 398304	(6.24, 0.98) (N/A, 0.00, 0.0)	999.2 2074.4	6.5337 93.4 93.4	20.2736 [ 20.0000 ]	101.4%			
13C3_PFBA_IIS	(216.0 / 172.0) 97804	(3.86, N/A) (N/A, -0.03, N/A)	1187.4	N/A	1.0175 [ 1.0000 ]	101.7% { 95.7% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 124122	(6.36, N/A) (N/A, 0.00, N/A)	1415.5	N/A	1.0052 [ 1.0000 ]	100.5% { 100.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 127524	(8.10, N/A) (N/A, 0.00, N/A)	875.5	N/A	1.0757 [ 1.0000 ]	107.6% { 113.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 90053	(8.84, N/A) (N/A, 0.00, N/A)	1226.6	N/A	0.9455 [ 1.0000 ]	94.6% { 87.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 88953	(9.50, N/A) (N/A, 0.00, N/A)	1436.9	N/A	1.0797 [ 1.0000 ]	108.0% { 100.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 223237	(8.24, N/A) (N/A, 0.00, N/A)	1507.1	N/A	1.0401 [ 1.0000 ]	104.0% { 100.9% }			
13C4_PFOS_IIS	(502.8 / 79.9) 177716	(9.60, N/A) (N/A, 0.00, N/A)	359.8	N/A	0.9548 [ 1.0000 ]	95.5% { 87.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 731181	(3.86, N/A) (N/A, -0.04, N/A)	3169.4	N/A	7.9741 [ 8.0000 ]	99.7% { 93.3% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 374127	(5.22, N/A) (N/A, -0.02, N/A)	2431.4	N/A	4.1321 [ 4.0000 ]	103.3% { 100.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 246675	(6.36, N/A) (N/A, 0.00, N/A)	1895.5	N/A	1.9484 [ 2.0000 ]	97.4% { 93.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 227414	(7.28, N/A) (N/A, 0.00, N/A)	902.5	N/A	1.9900 [ 2.0000 ]	99.5% { 100.2% }			
13C8_PFOA_EIS	(421.0 / 376.0) 234578	(8.10, N/A) (N/A, 0.00, N/A)	825.6	N/A	1.8085 [ 2.0000 ]	90.4% { 92.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 102558	(8.84, N/A) (N/A, 0.01, N/A)	1326.3	N/A	1.1540 [ 1.0000 ]	115.4% { 111.7% }			
13C6_PFDA_EIS	(519.0 / 474.0) 122944	(9.50, N/A) (N/A, 0.00, N/A)	327.3	N/A	0.9515 [ 1.0000 ]	95.2% { 99.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 161162	(9.79, N/A) (N/A, -0.01, N/A)	1174.9	N/A	0.9292 [ 1.0000 ]	92.9% { 97.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 184610	(9.95, N/A) (N/A, -0.01, N/A)	537.0	N/A	0.8770 [ 1.0000 ]	87.7% { 80.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 134350	(10.16, N/A) (N/A, -0.01, N/A)	420.5	N/A	0.8695 [ 1.0000 ]	86.9% { 90.3% }			
13C3_PFBs_EIS	(302.0 / 80.0) 618324	(6.33, N/A) (N/A, 0.00, N/A)	1578.6	N/A	1.8846 [ 2.0000 ]	94.2% { 95.8% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 366628	(8.24, N/A) (N/A, 0.00, N/A)	1364.7	N/A	1.9632 [ 2.0000 ]	98.2% { 99.1% }			
13C8_PFOS_EIS	(507.0 / 80.0) 553311	(9.60, N/A) (N/A, 0.00, N/A)	635.6	N/A	2.0424 [ 2.0000 ]	102.1% { 89.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 74703	(6.01, N/A) (N/A, 0.00, N/A)	738.6	N/A	4.0372 [ 4.0000 ]	100.9% { 103.3% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 95979	(7.74, N/A) (N/A, 0.00, N/A)	954.6	N/A	3.8663 [ 4.0000 ]	96.7% { 101.1% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 72001	(9.16, N/A) (N/A, 0.00, N/A)	1071.3	N/A	3.3415 [ 4.0000 ]	83.5% { 81.3% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 847018	(10.22, N/A) (N/A, -0.01, N/A)	1280.1	N/A	2.0480 [ 2.0000 ]	102.4% { 94.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 245593	(10.63, N/A) (N/A, -0.01, N/A)	992.5	N/A	2.0067 [ 2.0000 ]	100.3% { 94.5% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 230269	(10.72, N/A) (N/A, -0.01, N/A)	1632.0	N/A	2.0751 [ 2.0000 ]	103.8% { 95.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 239965	( 9.63 , N/A ) ( N/A , 0.00 , N/A )	642.6	N/A	3.9813 [ 4.0000 ]	99.5% { 87.9% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 230579	( 9.77 , N/A ) ( N/A , 0.00 , N/A )	537.8	N/A	4.4510 [ 4.0000 ]	111.3% { 99.9% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 429191	( 10.60 , N/A ) ( N/A , -0.01 , N/A )	1275.0	N/A	20.5315 [ 20.0000 ]	102.7% { 94.3% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 230721	( 10.69 , N/A ) ( N/A , -0.01 , N/A )	2568.8	N/A	21.6616 [ 20.0000 ]	108.3% { 97.1% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 664084	( 6.70 , N/A ) ( N/A , 0.00 , N/A )	1445.6	N/A	7.9643 [ 8.0000 ]	99.6% { 98.9% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03724-CAL7  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-07A19.wiff-0  
 Acquired: 2022/12/07 - 15:28

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 5199576	(3.89, 1.00) (0.00, N/A, 0.0)	180.7	N/A 0.0 0.0	82.4975 [ 80.0000 ]	103.1%			
PFPeA	(262.9 / 219.0) 3362998 (262.9 / 69.0) 38439	(5.22, 1.00) (0.00, N/A, -0.1)	3397.1 894.2	0.0114 98.1 98.1	41.2084 [ 40.0000 ]	103.0%			
PFHxA	(313.0 / 269.0) 2362644 (313.0 / 119.0) 217133	(6.35, 1.00) (0.00, N/A, 0.0)	2094.4 1309.1	0.0919 102.2 102.2	20.1621 [ 20.0000 ]	100.8%			
PFHpA	(363.0 / 319.0) 2179272 (363.0 / 169.0) 665343	(7.28, 1.00) (0.00, N/A, 0.0)	1731.5 1445.5	0.3053 106.4 106.4	19.6489 [ 20.0000 ]	98.2%			
PFOA	(413.0 / 369.0) 2405737 (413.0 / 169.0) 775829	(8.09, 1.00) (0.00, N/A, 0.1)	1631.8 1792.1	0.3225 99.7 99.7	18.9834 [ 20.0000 ]	94.9%			
PFNA	(463.0 / 419.0) 1726437 (463.0 / 169.0) 353292	(8.83, 1.00) (0.00, N/A, 0.2)	2587.6 492.9	0.2046 101.7 101.7	19.9119 [ 20.0000 ]	99.6%			
PFDA	(513.0 / 469.0) 2364190 (513.0 / 169.0) 238284	(9.49, 1.00) (0.00, N/A, 0.0)	1745.0 819.6	0.1008 113.5 113.5	17.2769 [ 20.0000 ]	86.4%			
PFUnA	(563.0 / 519.0) 2705865 (563.0 / 169.0) 253235	(9.79, 1.00) (0.00, N/A, -0.2)	1839.8 731.6	0.0936 87.1 87.1	20.2932 [ 20.0000 ]	101.5%			
PFDoA	(613.0 / 569.0) 3387883 (613.0 / 169.0) 431486	(9.95, 1.00) (0.00, N/A, -0.2)	2212.8 1060.8	0.1274 106.9 106.9	18.8222 [ 20.0000 ]	94.1%			
PFTrDA	(663.0 / 619.0) 2955289 (663.0 / 169.0) 578942	(10.07, 1.01) (N/A, 0.00, 0.1)	1299.3 933.5	0.1959 105.2 105.2	18.6920 [ 20.0000 ]	93.5%			
PFTeDA	(713.0 / 669.0) 2725237 (713.0 / 169.0) 485635	(10.17, 1.00) (0.00, N/A, -0.1)	1937.8 1078.2	0.1782 90.5 90.5	20.3601 [ 20.0000 ]	101.8%			





Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03724-CAL7  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-07A19.wiff-0  
 Acquired: 2022/12/07 - 15:28

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 3229984 ( 298.9 / 99.0 ) 2182190	( 6.33 , 1.00 ) ( 0.00 , N/A , 0.0 )	2220.0 2554.0	0.6756 99.7 99.7	16.6689 [ 17.6947 ]	94.2%			
PFPeS	( 349.0 / 80.0 ) 6215123 ( 349.0 / 99.0 ) 2217179	( 7.36 , 0.89 ) ( N/A , -0.01 , 0.0 )	2249.8 2278.8	0.3567 97.8 97.8	18.7784 [ 18.7676 ]	100.1%			
PFHxS	( 399.0 / 80.0 ) 5378212 ( 399.0 / 99.0 ) 1826506	( 8.23 , 1.00 ) ( 0.00 , N/A , 0.0 )	737859.1 46696.2	0.3396 98.5 98.5	18.3258 [ 18.2197 ]	100.6%			
PFHpS	( 449.0 / 80.0 ) 4526138 ( 449.0 / 99.0 ) 1324290	( 9.00 , 0.94 ) ( N/A , -0.01 , 0.0 )	2866.5 3035.8	0.2926 102.9 102.9	18.4053 [ 19.0281 ]	96.7%			
PFOS	( 499.0 / 80.0 ) 5613835 ( 499.0 / 99.0 ) 1363447	( 9.60 , 1.00 ) ( 0.00 , N/A , 0.0 )	332.2 877.7	0.2429 94.3 94.3	18.4287 [ 18.5499 ]	99.3%			
PFNS	( 549.0 / 80.0 ) 7005194 ( 549.0 / 99.0 ) 1727932	( 9.83 , 1.02 ) ( N/A , 0.00 , -0.1 )	1890.4 1145.5	0.2467 103.2 103.2	19.5842 [ 19.1977 ]	102.0%			
PFDS	( 599.0 / 80.0 ) 9192181 ( 599.0 / 99.0 ) 2137337	( 9.97 , 1.04 ) ( N/A , -0.01 , -0.1 )	1054.7 1623.0	0.2325 100.0 100.0	20.5196 [ 19.2621 ]	106.5%			
PFDoS	( 698.9 / 80.0 ) 5678530 ( 698.9 / 99.0 ) 1164180	( 10.15 , 1.06 ) ( N/A , -0.01 , 0.0 )	1698.7 1690.5	0.2050 88.5 88.5	21.3732 [ 19.3913 ]	110.2%			
4:2FTS	( 327.0 / 307.0 ) 4657290 ( 327.0 / 81.0 ) 2637893	( 6.01 , 1.00 ) ( 0.00 , N/A , 0.1 )	3311.6 2582.2	0.5664 94.8 94.8	75.5293 [ 74.7622 ]	101.0%			
6:2FTS	( 427.0 / 407.0 ) 2777392 ( 427.0 / 81.0 ) 2002517	( 7.73 , 1.00 ) ( 0.00 , N/A , 0.1 )	2374.0 2451.1	0.7210 100.3 100.3	68.2104 [ 75.9234 ]	89.8%			
8:2FTS	( 527.0 / 507.0 ) 2422577 ( 527.0 / 81.0 ) 1592545	( 9.15 , 1.00 ) ( 0.00 , N/A , 0.1 )	1098.8 2583.7	0.6574 105.4 105.4	66.3269 [ 76.6631 ]	86.5%			

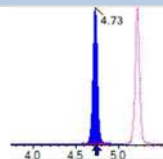
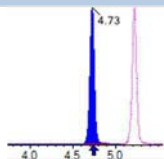
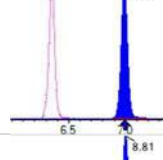
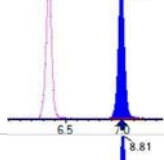
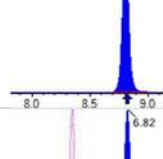
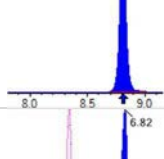
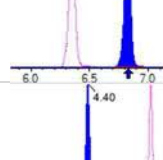
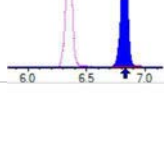
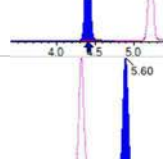
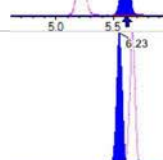
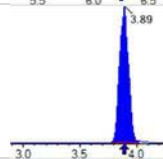

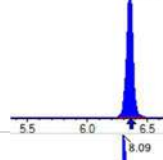
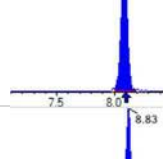
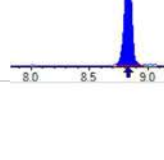
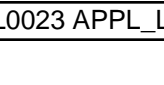


Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03724-CAL7  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-07A19.wiff-0  
 Acquired: 2022/12/07 - 15:28

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 9268030 ( 498.0 / 478.0 ) 211011	( 10.22 , 1.00 ) ( 0.00 , N/A , 0.0 )	1455.1 589.3	0.0228 95.4 95.4	20.3351 [ 20.0000 ]	101.7%			
NMeFOSA	( 511.9 / 219.0 ) 8637072 ( 511.9 / 169.0 ) 5765056	( 10.64 , 1.00 ) ( 0.00 , N/A , 0.0 )	1877.8 1931.1	0.6675 100.1 100.1	69.4405 [ 80.0000 ]	86.8%			
NEIFOSA	( 526.0 / 219.0 ) 8920353 ( 526.0 / 169.0 ) 9392194	( 10.73 , 1.00 ) ( 0.00 , N/A , 0.0 )	2958.1 3607.7	1.0529 96.6 96.6	78.4009 [ 80.0000 ]	98.0%			
NMeFOSAA	( 570.0 / 419.0 ) 1076714 ( 570.0 / 483.0 ) 528490	( 9.63 , 1.00 ) ( 0.00 , N/A , 0.1 )	1722.5 951.9	0.4908 105.8 105.8	20.3731 [ 20.0000 ]	101.9%			
NEIFOSAA	( 584.0 / 419.0 ) 923472 ( 584.0 / 526.0 ) 558749	( 9.77 , 1.00 ) ( 0.01 , N/A , 0.2 )	1215.0 611153.2	0.6051 99.7 99.7	18.7294 [ 20.0000 ]	93.6%			
NMeFOSE	( 616.1 / 59.0 ) 2355461	( 10.61 , 1.00 ) ( 0.01 , N/A , 0.0 )	1886.9	N/A 0.0 0.0	76.1482 [ 80.0000 ]	95.2%			
NEIFOSE	( 630.0 / 59.0 ) 555574	( 10.70 , 1.00 ) ( 0.01 , N/A , 0.0 )	2383.5	N/A 0.0 0.0	75.2772 [ 80.0000 ]	94.1%			
HFPO-DA	( 285.0 / 169.0 ) 2024469 ( 285.0 / 185.0 ) 6138192	( 6.70 , 1.00 ) ( 0.00 , N/A , 0.0 )	1491.4 2268.9	3.0320 109.4 109.4	37.5811 [ 40.0000 ]	94.0%			
ADONA	( 377.0 / 85.0 ) 8002295 ( 377.0 / 251.0 ) 1028270	( 7.59 , 1.13 ) ( N/A , -0.01 , 0.1 )	2482.9 1751.3	0.1285 102.2 102.2	36.7380 [ 37.7080 ]	97.4%			
9CI-Pf3ONS	( 531.0 / 351.0 ) 20443740 ( 533.0 / 353.0 ) 6878741	( 9.79 , 1.46 ) ( N/A , 0.00 , 0.0 )	1533.8 1981.7	0.3365 100.8 100.8	34.1067 [ 37.3302 ]	91.4%			
11CI-PF3OUDS	( 631.0 / 451.0 ) 16266901 ( 633.0 / 453.0 ) 4974912	( 10.04 , 1.50 ) ( N/A , -0.01 , -0.1 )	1714.7 1153.5	0.3058 94.5 94.5	39.4435 [ 37.7283 ]	104.5%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 315763 (241.0 / 117.0) 562660	(4.73, 0.91) (N/A, -0.01, 0.1)	1343.9 1424.5	1.7819 102.4 102.4	78.7606 [ 80.0000 ]	98.5%			
5:3FTCA	(341.0 / 236.7) 2124768 (341.0 / 217.0) 3519483	(6.99, 1.10) (N/A, -0.01, 0.0)	1549.8 1866.9	1.6564 97.0 97.0	85.3457 [ 80.0000 ]	106.7%			
7:3FTCA	(441.0 / 317.0) 2845430 (441.0 / 337.0) 2317220	(8.81, 1.39) (N/A, -0.01, 0.0)	2380.6 2145.8	0.8144 98.7 98.7	88.7694 [ 80.0000 ]	111.0%			
PFEESA	(315.0 / 135.0) 4332282 (315.0 / 83.0) 1281110	(6.82, 1.07) (N/A, -0.01, -0.1)	1182.8 1490.9	0.2957 99.4 99.4	36.1550 [ 35.6984 ]	101.3%			
PFMPA	(229.0 / 85.0) 861554	(4.40, 0.84) (N/A, -0.01, 0.0)	1850.0	N/A 0.0 0.0	38.3385 [ 40.0000 ]	95.8%			
PFMBA	(279.0 / 85.0) 2779679	(5.60, 1.07) (N/A, -0.01, 0.0)	2502.4	N/A 0.0 0.0	39.6880 [ 40.0000 ]	99.2%			
NFDHA	(201.0 / 85.0) 115556 (295.0 / 201.0) 744066	(6.23, 0.98) (N/A, -0.01, -0.3)	1034.6 1567.7	6.4390 92.0 92.0	40.6428 [ 40.0000 ]	101.6%			
13C3_PFBA_IIS	(216.0 / 172.0) 84555	(3.89, N/A) (N/A, -0.01, N/A)	1663.0	N/A	0.8796 [ 1.0000 ]	88.0% { 82.8% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 111907	(6.35, N/A) (N/A, -0.01, N/A)	1366.4	N/A	0.9062 [ 1.0000 ]	90.6% { 90.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 107401	(8.09, N/A) (N/A, -0.01, N/A)	736.9	N/A	0.9060 [ 1.0000 ]	90.6% { 95.4% }			
13C5_PFNA_IIS	(468.0 / 423.0) 87743	(8.83, N/A) (N/A, 0.00, N/A)	583.4	N/A	0.9213 [ 1.0000 ]	92.1% { 85.4% }			

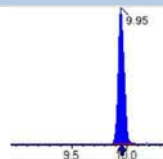
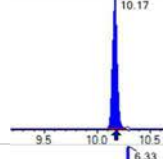
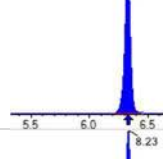
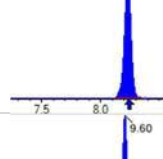
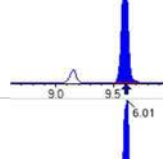
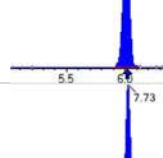
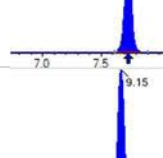
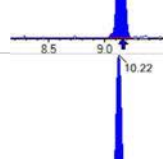
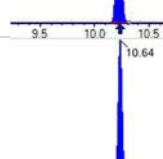
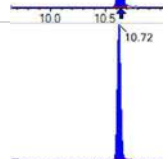
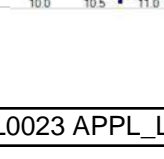


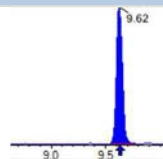
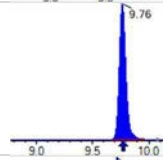
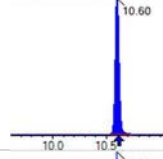
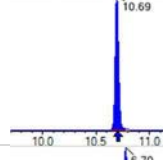
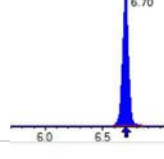
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03724-CAL7  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-07A19.wiff- 0  
 Acquired: 2022/12/07 - 15:28

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 83376	(9.49, N/A) (N/A, -0.01, N/A)	362.0	N/A	1.0121 [ 1.0000 ]	101.2% { 94.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 205198	(8.23, N/A) (N/A, -0.01, N/A)	1785.0	N/A	0.9560 [ 1.0000 ]	95.6% { 92.8% }			
13C4_PFOS_IIS	(502.8 / 79.9) 171830	(9.60, N/A) (N/A, 0.00, N/A)	665.2	N/A	0.9232 [ 1.0000 ]	92.3% { 84.7% }			
13C4_PFBA_EIS	(217.0 / 172.0) 662202	(3.88, N/A) (N/A, -0.01, N/A)	2563.7	N/A	8.3535 [ 8.0000 ]	104.4% { 84.5% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 339579	(5.22, N/A) (N/A, -0.01, N/A)	2118.2	N/A	4.1599 [ 4.0000 ]	104.0% { 91.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 232525	(6.35, N/A) (N/A, -0.01, N/A)	1345.1	N/A	2.0371 [ 2.0000 ]	101.9% { 87.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 218977	(7.28, N/A) (N/A, 0.00, N/A)	1100.2	N/A	2.1253 [ 2.0000 ]	106.3% { 96.5% }			
13C8_PFOA_EIS	(421.0 / 376.0) 245873	(8.09, N/A) (N/A, -0.01, N/A)	1091.6	N/A	2.2507 [ 2.0000 ]	112.5% { 97.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 89934	(8.83, N/A) (N/A, 0.00, N/A)	709.8	N/A	1.0386 [ 1.0000 ]	103.9% { 97.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 134886	(9.49, N/A) (N/A, 0.00, N/A)	542.7	N/A	1.1138 [ 1.0000 ]	111.4% { 109.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 151468	(9.79, N/A) (N/A, 0.00, N/A)	657.9	N/A	0.9317 [ 1.0000 ]	93.2% { 91.6% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 195621	(9.95, N/A) (N/A, -0.01, N/A)	1251.2	N/A	0.9915 [ 1.0000 ]	99.2% { 84.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 135790	(10.17, N/A) (N/A, -0.01, N/A)	590.5	N/A	0.9376 [ 1.0000 ]	93.8% { 91.2% }			
13C3_PFBs_EIS	(302.0 / 80.0) 634789	(6.33, N/A) (N/A, -0.01, N/A)	1793.1	N/A	2.1049 [ 2.0000 ]	105.2% { 98.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 350084	(8.23, N/A) (N/A, 0.00, N/A)	1669.9	N/A	2.0394 [ 2.0000 ]	102.0% { 94.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 542677	(9.60, N/A) (N/A, -0.01, N/A)	720.9	N/A	2.0717 [ 2.0000 ]	103.6% { 88.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 70604	(6.01, N/A) (N/A, -0.01, N/A)	667.8	N/A	4.1512 [ 4.0000 ]	103.8% { 97.7% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 102677	(7.73, N/A) (N/A, -0.01, N/A)	1127.8	N/A	4.4997 [ 4.0000 ]	112.5% { 108.2% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 93033	(9.15, N/A) (N/A, -0.01, N/A)	578.6	N/A	4.6972 [ 4.0000 ]	117.4% { 105.1% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 820790	(10.22, N/A) (N/A, 0.00, N/A)	1095.8	N/A	2.0526 [ 2.0000 ]	102.6% { 91.9% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 270656	(10.64, N/A) (N/A, -0.01, N/A)	1077.1	N/A	2.2872 [ 2.0000 ]	114.4% { 104.1% }			
D5_NEiFOsa_EIS	(531.1 / 169.0) 219731	(10.72, N/A) (N/A, -0.01, N/A)	1504.1	N/A	2.0479 [ 2.0000 ]	102.4% { 90.6% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 242408	( 9.62 , N/A ) ( N/A , 0.00 , N/A )	783.8	N/A	4.1596 [ 4.0000 ]	104.0% { 88.8% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 214915	( 9.76 , N/A ) ( N/A , -0.01 , N/A )	668.5	N/A	4.2907 [ 4.0000 ]	107.3% { 93.2% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 440031	( 10.60 , N/A ) ( N/A , -0.01 , N/A )	1809.7	N/A	21.7711 [ 20.0000 ]	108.9% { 96.7% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 215564	( 10.69 , N/A ) ( N/A , -0.01 , N/A )	1799.6	N/A	20.9318 [ 20.0000 ]	104.7% { 90.7% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 648879	( 6.70 , N/A ) ( N/A , -0.01 , N/A )	1492.2	N/A	8.6314 [ 8.0000 ]	107.9% { 96.6% }			

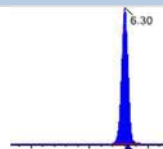
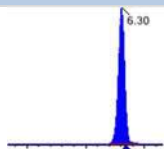
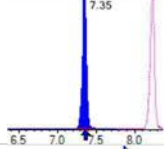
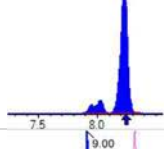
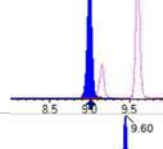
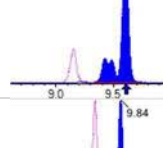
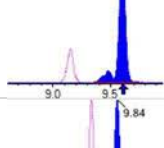
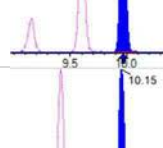
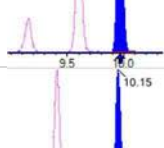
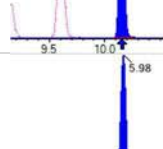
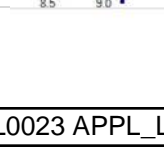


Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03724-CAL8  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-07A20.wiff-0  
 Acquired: 2022/12/07 - 15:41

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 11756955	(3.83, 1.00) (0.00, N/A, 0.0)	16541.6	N/A 0.0 0.0	199.0536 [ 200.0000 ]	99.5%			
PFPeA	(262.9 / 219.0) 7877081 (262.9 / 69.0) 85943	(5.18, 1.00) (0.00, N/A, 0.0)	2780.6 1476.7	0.0109 93.7 93.7	99.6572 [ 100.0000 ]	99.7%			
PFHxA	(313.0 / 269.0) 5574603 (313.0 / 119.0) 535836	(6.33, 1.00) (0.00, N/A, 0.0)	2668.8 1802.6	0.0961 106.9 106.9	46.7571 [ 50.0000 ]	93.5%			
PFHpA	(363.0 / 319.0) 5389915 (363.0 / 169.0) 1530168	(7.27, 1.00) (0.00, N/A, 0.0)	1761.8 1877.6	0.2839 99.0 99.0	47.6507 [ 50.0000 ]	95.3%			
PFOA	(413.0 / 369.0) 5748829 (413.0 / 169.0) 1839407	(8.09, 1.00) (0.00, N/A, -0.1)	2175.6 1817.9	0.3200 98.9 98.9	49.3123 [ 50.0000 ]	98.6%			
PFNA	(463.0 / 419.0) 4158420 (463.0 / 169.0) 926927	(8.83, 1.00) (0.00, N/A, -0.1)	3131.1 736.2	0.2229 110.7 110.7	50.0353 [ 50.0000 ]	100.1%			
PFDA	(513.0 / 469.0) 5868988 (513.0 / 169.0) 548012	(9.49, 1.00) (0.00, N/A, 0.0)	1315.3 1124.9	0.0934 105.2 105.2	49.0078 [ 50.0000 ]	98.0%			
PFUnA	(563.0 / 519.0) 5240793 (563.0 / 169.0) 524900	(9.79, 1.00) (0.00, N/A, 0.0)	1823.2 772.2	0.1002 93.2 93.2	48.2825 [ 50.0000 ]	96.6%			
PFDoA	(613.0 / 569.0) 7741668 (613.0 / 169.0) 937780	(9.95, 1.00) (0.00, N/A, 0.0)	1420.4 1530.2	0.1211 101.7 101.7	48.7265 [ 50.0000 ]	97.5%			
PFTTrDA	(663.0 / 619.0) 6240578 (663.0 / 169.0) 1330591	(10.07, 1.01) (N/A, 0.00, 0.0)	1971.0 1101.6	0.2132 114.5 114.5	44.7167 [ 50.0000 ]	89.4%			
PFTeDA	(713.0 / 669.0) 5780923 (713.0 / 169.0) 1088888	(10.17, 1.00) (0.00, N/A, 0.0)	1258.7 716.4	0.1884 95.7 95.7	43.4104 [ 50.0000 ]	86.8%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 7644606 (298.9 / 99.0) 5235309	(6.30, 1.00) (0.00, N/A, -0.1)	2293.9 2477.2	0.6848 101.1 101.1	42.4945 [ 44.2367 ]	96.1%			
PFPeS	(349.0 / 80.0) 14504483 (349.0 / 99.0) 5436065	(7.35, 0.89) (N/A, -0.01, 0.1)	2691.6 2488.3	0.3748 102.8 102.8	44.2638 [ 46.9191 ]	94.3%			
PFHxS	(399.0 / 80.0) 12574473 (399.0 / 99.0) 4383893	(8.23, 1.00) (0.00, N/A, 0.1)	50239.5 4304292.6	0.3486 101.1 101.1	43.2767 [ 45.5491 ]	95.0%			
PFHpS	(449.0 / 80.0) 11606040 (449.0 / 99.0) 3192787	(9.00, 0.94) (N/A, -0.01, -0.2)	2811.8 2629.9	0.2751 96.8 96.8	49.6060 [ 47.5703 ]	104.3%			
PFOS	(499.0 / 80.0) 13649162 (499.0 / 99.0) 2973745	(9.60, 1.00) (0.00, N/A, 0.1)	370.6 733.8	0.2179 84.6 84.6	47.0949 [ 46.3746 ]	101.6%			
PFNS	(549.0 / 80.0) 15031872 (549.0 / 99.0) 3579231	(9.84, 1.02) (N/A, 0.00, 0.0)	1869.5 1426.6	0.2381 99.6 99.6	44.1706 [ 47.9943 ]	92.0%			
PFDS	(599.0 / 80.0) 19985144 (599.0 / 99.0) 4777065	(9.97, 1.04) (N/A, 0.00, -0.1)	1890.8 1033.3	0.2390 102.8 102.8	46.8911 [ 48.1553 ]	97.4%			
PFDoS	(698.9 / 80.0) 11771864 (698.9 / 99.0) 2437947	(10.15, 1.06) (N/A, 0.00, 0.1)	1718.5 1732.6	0.2071 89.4 89.4	46.5707 [ 48.4781 ]	96.1%			
4:2FTS	(327.0 / 307.0) 10404170 (327.0 / 81.0) 5998335	(5.98, 1.00) (0.00, N/A, 0.0)	2952.7 2625.4	0.5765 96.5 96.5	169.3071 [ 186.9055 ]	90.6%			
6:2FTS	(427.0 / 407.0) 7022478 (427.0 / 81.0) 4908914	(7.73, 1.00) (0.00, N/A, -0.1)	2902.0 2565.2	0.6990 97.2 97.2	168.8479 [ 189.8085 ]	89.0%			
8:2FTS	(527.0 / 507.0) 5870374 (527.0 / 81.0) 3775665	(9.15, 1.00) (0.00, N/A, -0.1)	1508.7 2132.6	0.6432 103.2 103.2	147.3371 [ 191.6577 ]	76.9%			



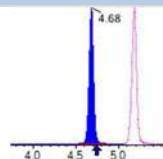
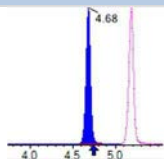
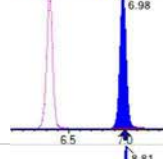
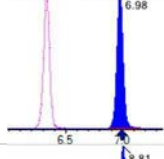
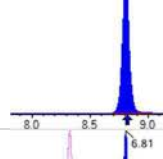
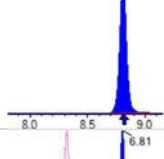
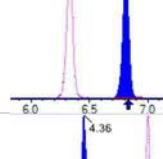
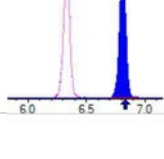
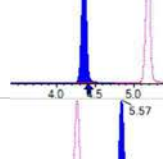
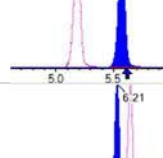
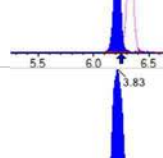
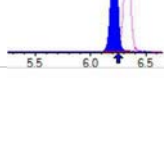
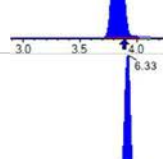
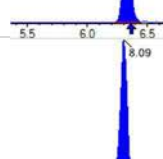
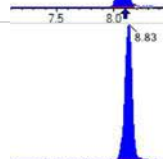
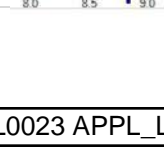


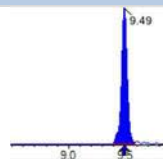
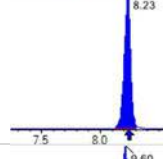
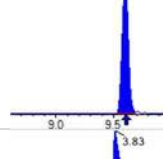
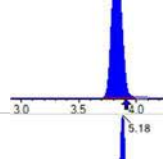
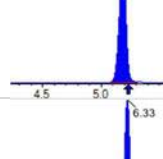
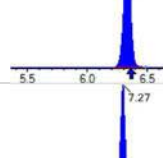
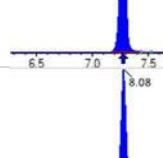
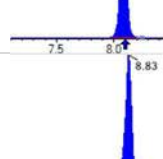
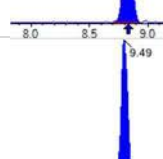
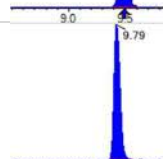
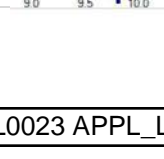
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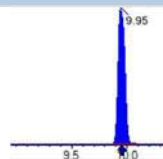
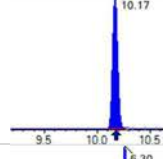
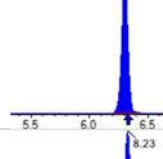
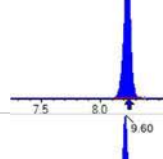
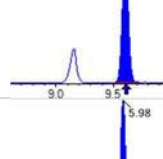
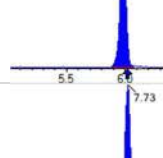
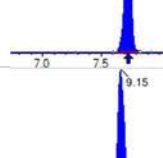
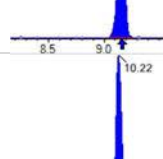
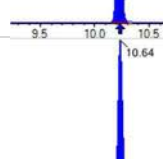
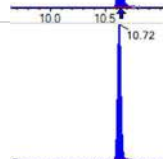
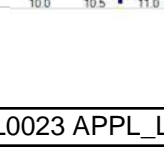
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Acquisition Method: 1633 2022-12-07.dam

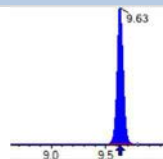
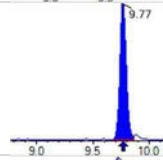
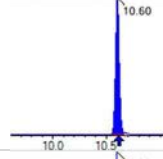
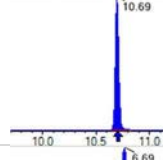
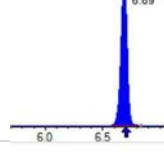
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Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 21157119 ( 498.0 / 478.0 ) 464426	( 10.22 , 1.00 ) ( 0.00 , N/A , 0.0 )	1087.5 872.5	0.0220 91.9 91.9	50.0666 [ 50.0000 ]	100.1%			
NMeFOSA	( 511.9 / 219.0 ) 17401665 ( 511.9 / 169.0 ) 11577946	( 10.64 , 1.00 ) ( 0.00 , N/A , 0.0 )	1927.0 1682.6	0.6653 99.8 99.8	143.0858 [ 200.0000 ]	71.5%			
NEIFOSA	( 526.0 / 219.0 ) 18021044 ( 526.0 / 169.0 ) 19000482	( 10.73 , 1.00 ) ( 0.00 , N/A , 0.0 )	3263.3 3324.4	1.0543 96.7 96.7	186.9414 [ 200.0000 ]	93.5%			
NMeFOSAA	( 570.0 / 419.0 ) 2382189 ( 570.0 / 483.0 ) 1312955	( 9.63 , 1.00 ) ( 0.00 , N/A , 0.0 )	3381.5 1109.7	0.5512 118.8 118.8	44.4304 [ 50.0000 ]	88.9%			
NEIFOSAA	( 584.0 / 419.0 ) 2079285 ( 584.0 / 526.0 ) 1303983	( 9.77 , 1.00 ) ( 0.00 , N/A , 0.1 )	1553.1 23419.6	0.6271 103.3 103.3	48.5742 [ 50.0000 ]	97.1%			
NMeFOSE	( 616.1 / 59.0 ) 5372390	( 10.61 , 1.00 ) ( 0.01 , N/A , 0.0 )	1982.1	N/A 0.0 0.0	201.7338 [ 200.0000 ]	100.9%			
NEIFOSE	( 630.0 / 59.0 ) 1175916	( 10.70 , 1.00 ) ( 0.01 , N/A , 0.0 )	2805.4	N/A 0.0 0.0	178.7772 [ 200.0000 ]	89.4%			
HFPO-DA	( 285.0 / 169.0 ) 4821313 ( 285.0 / 185.0 ) 13791027	( 6.69 , 1.00 ) ( 0.00 , N/A , 0.1 )	2020.4 2171.7	2.8604 103.2 103.2	93.9649 [ 100.0000 ]	94.0%			
ADONA	( 377.0 / 85.0 ) 18897863 ( 377.0 / 251.0 ) 2442076	( 7.59 , 1.13 ) ( N/A , -0.01 , 0.1 )	2462.2 2296.7	0.1292 102.8 102.8	91.0866 [ 94.2700 ]	96.6%			
9CI-Pf3ONS	( 531.0 / 351.0 ) 40603801 ( 533.0 / 353.0 ) 14602434	( 9.79 , 1.46 ) ( N/A , 0.00 , 0.1 )	1674.9 1777.6	0.3596 107.7 107.7	71.1193 [ 93.3254 ]	76.2%			
11CI-PF3OUDS	( 631.0 / 451.0 ) 31850494 ( 633.0 / 453.0 ) 10991721	( 10.05 , 1.50 ) ( N/A , 0.00 , 0.1 )	1915.9 1627.6	0.3451 106.7 106.7	81.0827 [ 94.3208 ]	86.0%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 807011 (241.0 / 117.0) 1390451	(4.68, 0.90) (N/A, -0.06, 0.0)	1788.3 1776.9	1.7230 99.0 99.0	207.8316 [200.0000]	103.9%			
5:3FTCA	(341.0 / 236.7) 5272640 (341.0 / 217.0) 8477122	(6.98, 1.10) (N/A, -0.02, 0.0)	2155.2 2087.1	1.6078 94.1 94.1	208.1589 [200.0000]	104.1%			
7:3FTCA	(441.0 / 317.0) 6523569 (441.0 / 337.0) 5401634	(8.81, 1.39) (N/A, -0.01, 0.0)	2200.9 2737.6	0.8280 100.4 100.4	200.0310 [200.0000]	100.0%			
PFEESA	(315.0 / 135.0) 10556816 (315.0 / 83.0) 3051589	(6.81, 1.08) (N/A, -0.02, 0.1)	2064.8 1942.0	0.2891 97.2 97.2	86.5928 [89.2459]	97.0%			
PFMPA	(229.0 / 85.0) 2125213	(4.36, 0.84) (N/A, -0.06, 0.0)	1746.3	N/A 0.0 0.0	97.6424 [100.0000]	97.6%			
PFMBA	(279.0 / 85.0) 6579526	(5.57, 1.07) (N/A, -0.04, 0.0)	2777.5	N/A 0.0 0.0	96.9936 [100.0000]	97.0%			
NFDHA	(201.0 / 85.0) 293111 (295.0 / 201.0) 1821849	(6.21, 0.98) (N/A, -0.03, -0.1)	1604.9 1835.7	6.2156 88.8 88.8	99.7346 [100.0000]	99.7%			
13C3_PFBA_IIS	(216.0 / 172.0) 82378	(3.83, N/A) (N/A, -0.07, N/A)	933.5	N/A	0.8570 [1.0000]	85.7% {80.6%}			
13C2_PFHxA_IIS	(315.1 / 270.0) 114035	(6.33, N/A) (N/A, -0.03, N/A)	798.2	N/A	0.9235 [1.0000]	92.3% {92.1%}			
13C4_PFOA_IIS	(417.0 / 372.0) 112012	(8.09, N/A) (N/A, -0.01, N/A)	771.8	N/A	0.9449 [1.0000]	94.5% {99.5%}			
13C5_PFNA_IIS	(468.0 / 423.0) 92945	(8.83, N/A) (N/A, 0.00, N/A)	842.2	N/A	0.9759 [1.0000]	97.6% {90.5%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 74000	(9.49, N/A) (N/A, 0.00, N/A)	608.0	N/A	0.8982 [ 1.0000 ]	89.8% { 83.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 204681	(8.23, N/A) (N/A, -0.01, N/A)	1352.1	N/A	0.9536 [ 1.0000 ]	95.4% { 92.5% }			
13C4_PFOS_IIS	(502.8 / 79.9) 163322	(9.60, N/A) (N/A, 0.00, N/A)	1924.0	N/A	0.8775 [ 1.0000 ]	87.7% { 80.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 620567	(3.83, N/A) (N/A, -0.07, N/A)	2174.5	N/A	8.0351 [ 8.0000 ]	100.4% { 79.2% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 328895	(5.18, N/A) (N/A, -0.05, N/A)	1826.7	N/A	3.9538 [ 4.0000 ]	98.8% { 88.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 236577	(6.33, N/A) (N/A, -0.03, N/A)	1497.8	N/A	2.0339 [ 2.0000 ]	101.7% { 89.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 223326	(7.27, N/A) (N/A, -0.01, N/A)	838.8	N/A	2.1271 [ 2.0000 ]	106.4% { 98.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 226183	(8.08, N/A) (N/A, -0.01, N/A)	1082.8	N/A	1.9853 [ 2.0000 ]	99.3% { 89.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 86206	(8.83, N/A) (N/A, 0.00, N/A)	755.2	N/A	0.9399 [ 1.0000 ]	94.0% { 93.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 118045	(9.49, N/A) (N/A, 0.00, N/A)	895.6	N/A	1.0982 [ 1.0000 ]	109.8% { 95.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 123303	(9.79, N/A) (N/A, 0.00, N/A)	675.4	N/A	0.8546 [ 1.0000 ]	85.5% { 74.6% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 172674	(9.95, N/A) (N/A, 0.00, N/A)	569.3	N/A	0.9861 [ 1.0000 ]	98.6% { 74.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 135097	(10.17, N/A) (N/A, -0.01, N/A)	679.3	N/A	1.0510 [ 1.0000 ]	105.1% { 90.8% }			
13C3_PFBs_EIS	(302.0 / 80.0) 589330	(6.30, N/A) (N/A, -0.03, N/A)	2000.2	N/A	1.9591 [ 2.0000 ]	98.0% { 91.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 346604	(8.23, N/A) (N/A, -0.01, N/A)	1573.1	N/A	2.0242 [ 2.0000 ]	101.2% { 93.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 516307	(9.60, N/A) (N/A, 0.00, N/A)	486.8	N/A	2.0737 [ 2.0000 ]	103.7% { 83.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 70363	(5.98, N/A) (N/A, -0.03, N/A)	710.6	N/A	4.1474 [ 4.0000 ]	103.7% { 97.3% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 104877	(7.73, N/A) (N/A, -0.01, N/A)	988.0	N/A	4.6077 [ 4.0000 ]	115.2% { 110.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 101485	(9.15, N/A) (N/A, -0.01, N/A)	638.0	N/A	5.1369 [ 4.0000 ]	128.4% { 114.6% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 761023	(10.22, N/A) (N/A, 0.00, N/A)	944.6	N/A	2.0022 [ 2.0000 ]	100.1% { 85.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 264642	(10.64, N/A) (N/A, -0.01, N/A)	1167.0	N/A	2.3529 [ 2.0000 ]	117.6% { 101.8% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 186168	(10.72, N/A) (N/A, 0.00, N/A)	1745.4	N/A	1.8255 [ 2.0000 ]	91.3% { 76.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 245924	(9.63, N/A) (N/A, 0.00, N/A)	801.2	N/A	4.4397 [ 4.0000 ]	111.0% { 90.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 186585	(9.77, N/A) (N/A, 0.00, N/A)	385.7	N/A	3.9191 [ 4.0000 ]	98.0% { 80.9% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 378840	(10.60, N/A) (N/A, 0.00, N/A)	1731.4	N/A	19.7200 [ 20.0000 ]	98.6% { 83.2% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 192116	(10.69, N/A) (N/A, -0.01, N/A)	2300.8	N/A	19.6267 [ 20.0000 ]	98.1% { 80.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 618048	(6.69, N/A) (N/A, -0.02, N/A)	1281.5	N/A	8.0679 [ 8.0000 ]	100.8% { 92.0% }			

**SECOND-SOURCE CALIBRATION VERIFICATION****EPA 1633****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling**Calibration:** 2250016**Laboratory ID:** SB03724-SCV1**Sequence:** SB03724**Standard ID:** 22L0185

<b>ANALYTE</b>	<b>EXPECTED (ng/mL)</b>	<b>FOUND (ng/mL)</b>	<b>% DRIFT</b>	<b>QC LIMIT</b>
PFBA	8.00	8.44	5.5	30.00
PFPEA	4.00	3.99	-0.2	30.00
PFHXA	2.00	2.07	3.4	30.00
PFHPA	2.00	1.92	-4.1	30.00
PFOA	2.00	2.13	6.7	30.00
PFNA	2.00	2.08	3.8	30.00
PFDA	2.00	1.90	-4.9	30.00
PFUnA	2.00	1.90	-5.0	30.00
PFDOA	2.00	2.18	8.9	30.00
PFTRDA	2.00	2.14	7.1	30.00
PFTEDA	2.00	2.07	3.6	30.00
PFBS	1.77	1.74	-1.4	30.00
PFPEs	1.88	1.81	-3.8	30.00
PFHXS	1.83	1.74	-4.8	30.00
PFHPS	1.91	1.90	-0.4	30.00
PFOS	1.86	1.77	-5.0	30.00
PFNS	1.92	1.89	-1.5	30.00
PFDS	1.93	1.84	-4.8	30.00
PFDOS	1.94	1.72	-11.3	30.00
4:2FTS	7.50	7.13	-5.0	30.00
6:2FTS	7.60	7.77	2.2	30.00
8:2FTS	7.68	7.55	-1.7	30.00
PFOSA	2.00	1.98	-1.2	30.00
NMeFOSA	8.00	7.65	-4.4	30.00
NEtFOSA	8.00	7.40	-7.5	30.00
NMeFOSAA	2.00	2.27	13.3	30.00
NEtFOSAA	2.00	2.34	16.8	30.00

**SECOND-SOURCE CALIBRATION VERIFICATION****EPA 1633****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling**Calibration:** 2250016**Laboratory ID:** SB03724-SCV1**Sequence:** SB03724**Standard ID:** 22L0185

NMeFOSE	8.00	6.90	-13.8	30.00
NEtFOSE	8.00	7.51	-6.1	30.00
HFPO-DA	4.00	4.03	0.8	30.00
ADONA	3.78	3.86	2.1	30.00
PFEESA	3.56	3.44	-3.3	30.00
PFMPA	4.00	3.80	-5.1	30.00
PFMBA	4.00	3.52	-12.1	30.00
NFDHA	4.00	4.55	13.7	30.00
9CL-PF3ONS	3.74	4.01	7.3	30.00
11CL-PF3OUDS	3.78	3.84	1.7	30.00
3:3FTCA	8.00	7.01	-12.4	30.00
5:3FTCA	8.00	7.83	-2.1	30.00
7:3FTCA	8.00	7.50	-6.3	30.00
13C4-PFBA	8.00	7.57	-5.3	30.00
13C5-PFPEA	4.00	4.25	6.1	30.00
13C5-PFHXA	2.00	1.96	-1.8	30.00
13C4-PFHPA	2.00	2.07	3.4	30.00
13C8-PFOA	2.00	1.96	-2.0	30.00
13C9-PFNA	1.00	0.875	-12.5	30.00
13C6-PFDA	1.00	0.938	-6.2	30.00
13C7-PFUnA	1.00	1.02	1.8	30.00
13C2-PFDOA	1.00	0.891	-10.9	30.00
13C2-PFTEDA	1.00	0.905	-9.5	30.00
13C3-PFBS	2.00	1.91	-4.3	30.00
13C3-PFHXS	2.00	1.91	-4.5	30.00
13C8-PFOS	2.00	1.99	-0.6	30.00
13C2-4:2FTS	4.00	4.01	0.2	30.00
13C2-6:2FTS	4.00	3.63	-9.3	30.00
13C2-8:2FTS	4.00	3.92	-1.9	30.00

**SECOND-SOURCE CALIBRATION VERIFICATION****EPA 1633****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling**Calibration:** 2250016**Laboratory ID:** SB03724-SCV1**Sequence:** SB03724**Standard ID:** 22L0185

13C8-PFOSA	2.00	1.96	-2.1	30.00
D5-NETFOSA	2.00	1.96	-1.9	30.00
D3-NMEFOSA	2.00	1.85	-7.7	30.00
D3-NMEFOSAA	4.00	3.79	-5.2	30.00
D5-NETFOSAA	4.00	3.51	-12.2	30.00
D7-NMEFOSE	20.0	20.0	-0.2	30.00
D9-NETFOSAE	20.0	19.5	-2.4	30.00
13C3-HFPO-DA	8.00	7.86	-1.7	30.00

\* Values outside of QC limits





Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03724-SCV1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-07A22.wiff-0  
 Acquired: 2022/12/07 - 16:06

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 594184	(3.88, 1.00) (0.00, N/A, 0.0)	131.5	N/A 0.0 0.0	8.4366 [ 8.0000 ]	105.5%			
PFPeA	(262.9 / 219.0) 372834 (262.9 / 69.0) 4351	(5.23, 1.00) (0.00, N/A, -0.1)	1641.8 156.3	0.0117 100.2 100.2	3.9918 [ 4.0000 ]	99.8%			
PFHxA	(313.0 / 269.0) 262203 (313.0 / 119.0) 21896	(6.37, 1.00) (0.00, N/A, 0.1)	1017.4 474.9	0.0835 92.9 92.9	2.0687 [ 2.0000 ]	103.4%			
PFHpA	(363.0 / 319.0) 232160 (363.0 / 169.0) 65071	(7.29, 1.00) (0.00, N/A, 0.1)	777.9 681.6	0.2803 97.7 97.7	1.9181 [ 2.0000 ]	95.9%			
PFOA	(413.0 / 369.0) 274652 (413.0 / 169.0) 83642	(8.11, 1.00) (0.00, N/A, 0.1)	688.7 630.5	0.3045 94.1 94.1	2.1336 [ 2.0000 ]	106.7%			
PFNA	(463.0 / 419.0) 192853 (463.0 / 169.0) 42438	(8.85, 1.00) (0.00, N/A, -0.3)	447.9 220.2	0.2201 109.3 109.3	2.0769 [ 2.0000 ]	103.8%			
PFDA	(513.0 / 469.0) 234313 (513.0 / 169.0) 24111	(9.50, 1.00) (0.00, N/A, -0.3)	451.7 4709.1	0.1029 115.9 115.9	1.9027 [ 2.0000 ]	95.1%			
PFUnA	(563.0 / 519.0) 295747 (563.0 / 169.0) 30286	(9.80, 1.00) (0.00, N/A, 0.3)	626.2 4085.2	0.1024 95.3 95.3	1.8995 [ 2.0000 ]	95.0%			
PFDoA	(613.0 / 569.0) 376485 (613.0 / 169.0) 56337	(9.95, 1.00) (0.00, N/A, 0.0)	843.2 1398.5	0.1496 125.7 125.7	2.1775 [ 2.0000 ]	108.9%			
PFTTrDA	(663.0 / 619.0) 325307 (663.0 / 169.0) 71050	(10.07, 1.01) (N/A, 0.00, 0.0)	702.4 487.5	0.2184 117.3 117.3	2.1420 [ 2.0000 ]	107.1%			
PFTeDA	(713.0 / 669.0) 285976 (713.0 / 169.0) 51891	(10.17, 1.00) (0.00, N/A, -0.1)	1007.1 392.3	0.1815 92.2 92.2	2.0712 [ 2.0000 ]	103.6%			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03724-SCV1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-07A22.wiff-0  
 Acquired: 2022/12/07 - 16:06

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 341791 ( 298.9 / 99.0 ) 229688	( 6.34 , 1.00 ) ( 0.00 , N/A , 0.0 )	1922.7 1578.4	0.6720 99.2 99.2	1.7446 [ 1.7695 ]	98.6%			
PFPeS	( 349.0 / 80.0 ) 623941 ( 349.0 / 99.0 ) 240498	( 7.38 , 0.89 ) ( N/A , 0.01 , 0.1 )	1449.1 1454.4	0.3854 105.7 105.7	1.8091 [ 1.8768 ]	96.4%			
PFHxS	( 399.0 / 80.0 ) 532964 ( 399.0 / 99.0 ) 181808	( 8.25 , 1.00 ) ( 0.00 , N/A , 0.1 )	180239.8 800578.2	0.3411 98.9 98.9	1.7428 [ 1.8220 ]	95.7%			
PFHpS	( 449.0 / 80.0 ) 537097 ( 449.0 / 99.0 ) 138505	( 9.01 , 0.94 ) ( N/A , 0.01 , 0.0 )	1527.5 1015.9	0.2579 90.7 90.7	1.9017 [ 1.9028 ]	99.9%			
PFOS	( 499.0 / 80.0 ) 618109 ( 499.0 / 99.0 ) 142161	( 9.61 , 1.00 ) ( 0.00 , N/A , -0.2 )	365.9 444.3	0.2300 89.3 89.3	1.7667 [ 1.8550 ]	95.2%			
PFNS	( 549.0 / 80.0 ) 776987 ( 549.0 / 99.0 ) 183656	( 9.84 , 1.02 ) ( N/A , 0.00 , 0.0 )	1159.8 640.7	0.2364 98.9 98.9	1.8913 [ 1.9198 ]	98.5%			
PFDS	( 599.0 / 80.0 ) 945224 ( 599.0 / 99.0 ) 227305	( 9.97 , 1.04 ) ( N/A , 0.00 , 0.0 )	1098.6 909.4	0.2405 103.4 103.4	1.8372 [ 1.9262 ]	95.4%			
PFDoS	( 698.9 / 80.0 ) 525013 ( 698.9 / 99.0 ) 120787	( 10.15 , 1.06 ) ( N/A , 0.00 , 0.0 )	1296.7 684.6	0.2301 99.3 99.3	1.7206 [ 1.9391 ]	88.7%			
4:2FTS	( 327.0 / 307.0 ) 471746 ( 327.0 / 81.0 ) 273478	( 6.02 , 1.00 ) ( 0.00 , N/A , 0.0 )	2333.0 1368.2	0.5797 97.1 97.1	7.1259 [ 7.4762 ]	95.3%			
6:2FTS	( 427.0 / 407.0 ) 283630 ( 427.0 / 81.0 ) 210114	( 7.75 , 1.00 ) ( 0.00 , N/A , 0.1 )	1685.9 1448.2	0.7408 103.0 103.0	7.7695 [ 7.5923 ]	102.3%			
8:2FTS	( 527.0 / 507.0 ) 256309 ( 527.0 / 81.0 ) 163447	( 9.17 , 1.00 ) ( 0.00 , N/A , -0.1 )	1361.5 980.6	0.6377 102.3 102.3	7.5514 [ 7.6663 ]	98.5%			

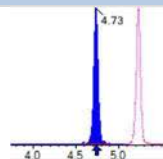
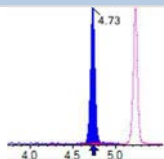
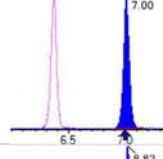
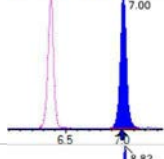
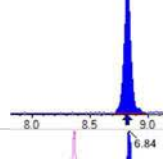
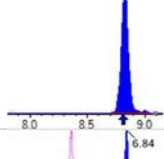
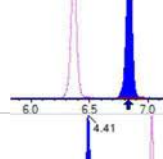
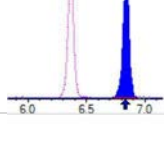
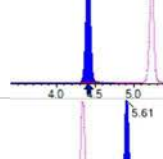
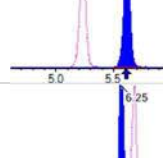
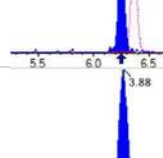
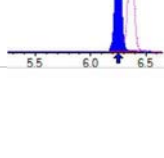
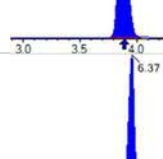
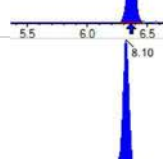
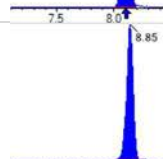
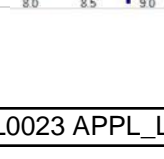


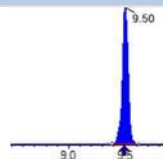
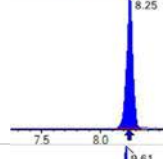
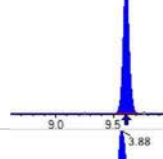
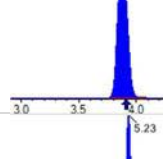
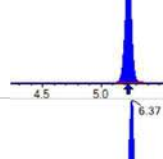
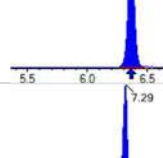
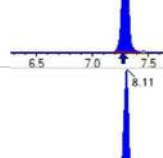
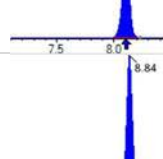
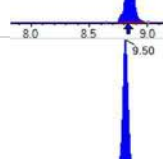
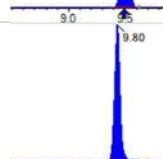
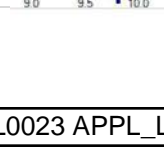
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

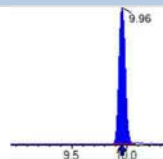
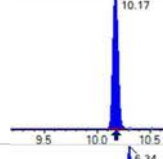
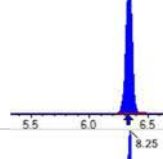
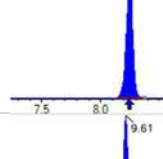
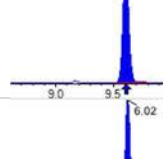
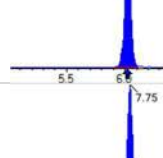
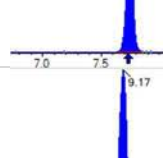
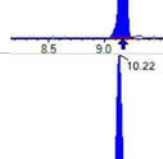
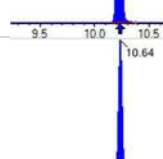
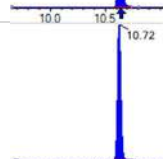
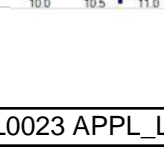
Sample I.D.: SB03724-SCV1  
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 Acquisition Method: 1633 2022-12-07.dam

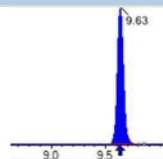
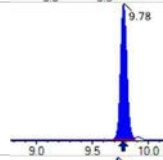
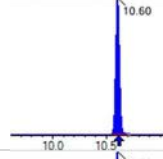
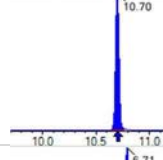
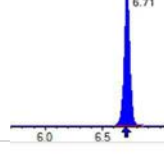
Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-07A22.wiff-0  
 Acquired: 2022/12/07 - 16:06

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 1028224 ( 498.0 / 478.0 ) 19818	( 10.22 , 1.00 ) ( 0.00 , N/A , 0.0 )	1209.2 483.5	0.0193 80.7 80.7	1.9763 [ 2.0000 ]	98.8%			
NMeFOSA	( 511.9 / 219.0 ) 918652 ( 511.9 / 169.0 ) 607401	( 10.64 , 1.00 ) ( 0.00 , N/A , 0.0 )	1724.9 1574.8	0.6612 99.1 99.1	7.6493 [ 8.0000 ]	95.6%			
NEIFOSA	( 526.0 / 219.0 ) 965341 ( 526.0 / 169.0 ) 1014670	( 10.73 , 1.00 ) ( 0.00 , N/A , 0.0 )	2661.7 2876.4	1.0511 96.5 96.5	7.4036 [ 8.0000 ]	92.5%			
NMeFOSAA	( 570.0 / 419.0 ) 130661 ( 570.0 / 483.0 ) 58487	( 9.64 , 1.00 ) ( 0.00 , N/A , 0.0 )	1490.3 62446.6	0.4476 96.5 96.5	2.2670 [ 2.0000 ]	113.3%			
NEIFOSAA	( 584.0 / 419.0 ) 112832 ( 584.0 / 526.0 ) 73691	( 9.78 , 1.00 ) ( 0.00 , N/A , 0.1 )	598.9 514.8	0.6531 107.6 107.6	2.3361 [ 2.0000 ]	116.8%			
NMeFOSE	( 616.1 / 59.0 ) 234108	( 10.61 , 1.00 ) ( 0.01 , N/A , 0.0 )	1346.1	N/A 0.0 0.0	6.8971 [ 8.0000 ]	86.2%			
NEtFOSE	( 630.0 / 59.0 ) 61825	( 10.70 , 1.00 ) ( 0.01 , N/A , 0.0 )	1283.2	N/A 0.0 0.0	7.5125 [ 8.0000 ]	93.9%			
HFPO-DA	( 285.0 / 169.0 ) 221691 ( 285.0 / 185.0 ) 630496	( 6.72 , 1.00 ) ( 0.00 , N/A , 0.0 )	1224.8 1291.9	2.8440 102.6 102.6	4.0302 [ 4.0000 ]	100.8%			
ADONA	( 377.0 / 85.0 ) 858385 ( 377.0 / 251.0 ) 104733	( 7.61 , 1.13 ) ( N/A , 0.01 , 0.0 )	2279.9 471.5	0.1220 97.1 97.1	3.8593 [ 3.7708 ]	102.3%			
9CI-Pf3ONS	( 531.0 / 351.0 ) 2455621 ( 533.0 / 353.0 ) 762245	( 9.80 , 1.46 ) ( N/A , 0.00 , 0.0 )	1064.4 1291.8	0.3104 93.0 93.0	4.0120 [ 3.7330 ]	107.5%			
11CI-PF3OUDS	( 631.0 / 451.0 ) 1619127 ( 633.0 / 453.0 ) 528085	( 10.05 , 1.50 ) ( N/A , 0.00 , 0.0 )	1070.7 1879.8	0.3262 100.8 100.8	3.8448 [ 3.7728 ]	101.9%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 32161 (241.0 / 117.0) 55716	(4.73, 0.90) (N/A, 0.00, 0.1)	700.9 673.5	1.7324 99.5 99.5	7.0093 [ 8.0000 ]	87.6%			
5:3FTCA	(341.0 / 236.7) 210933 (341.0 / 217.0) 333902	(7.00, 1.10) (N/A, 0.01, 0.0)	1202.7 1033.6	1.5830 92.7 92.7	7.8332 [ 8.0000 ]	97.9%			
7:3FTCA	(441.0 / 317.0) 259942 (441.0 / 337.0) 214943	(8.82, 1.39) (N/A, 0.01, 0.0)	499.3 883.7	0.8269 100.2 100.2	7.4975 [ 8.0000 ]	93.7%			
PFEESA	(315.0 / 135.0) 446293 (315.0 / 83.0) 136453	(6.84, 1.07) (N/A, 0.01, -0.1)	1293.8 815.5	0.3057 102.8 102.8	3.4435 [ 3.5698 ]	96.5%			
PFMPA	(229.0 / 85.0) 97664	(4.41, 0.84) (N/A, -0.01, 0.0)	1518.8	N/A 0.0 0.0	3.7974 [ 4.0000 ]	94.9%			
PFMBA	(279.0 / 85.0) 281864	(5.61, 1.07) (N/A, 0.00, 0.0)	1894.7	N/A 0.0 0.0	3.5164 [ 4.0000 ]	87.9%			
NFDHA	(201.0 / 85.0) 14173 (295.0 / 201.0) 74912	(6.25, 0.98) (N/A, 0.01, 0.0)	375.0 1132.5	5.2854 75.5 75.5	4.5494 [ 4.0000 ]	113.7%			
13C3_PFBA_IIS	(216.0 / 172.0) 104227	(3.88, N/A) (N/A, -0.02, N/A)	2044.1	N/A	1.0843 [ 1.0000 ]	108.4% { 102.0% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 125484	(6.37, N/A) (N/A, 0.01, N/A)	812.3	N/A	1.0162 [ 1.0000 ]	101.6% { 101.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 125229	(8.10, N/A) (N/A, 0.01, N/A)	1167.1	N/A	1.0563 [ 1.0000 ]	105.6% { 111.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 111545	(8.85, N/A) (N/A, 0.01, N/A)	1135.2	N/A	1.1712 [ 1.0000 ]	117.1% { 108.6% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 89091	(9.50, N/A) (N/A, 0.01, N/A)	731.3	N/A	1.0814 [ 1.0000 ]	108.1% { 100.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 228225	(8.25, N/A) (N/A, 0.01, N/A)	1475.1	N/A	1.0633 [ 1.0000 ]	106.3% { 103.2% }			
13C4_PFOS_IIS	(502.8 / 79.9) 205563	(9.61, N/A) (N/A, 0.01, N/A)	789.5	N/A	1.1044 [ 1.0000 ]	110.4% { 101.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 739976	(3.88, N/A) (N/A, -0.02, N/A)	2627.3	N/A	7.5727 [ 8.0000 ]	94.7% { 94.4% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 388638	(5.23, N/A) (N/A, 0.00, N/A)	2337.5	N/A	4.2457 [ 4.0000 ]	106.1% { 104.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 251504	(6.37, N/A) (N/A, 0.01, N/A)	1482.9	N/A	1.9650 [ 2.0000 ]	98.2% { 94.8% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 238969	(7.29, N/A) (N/A, 0.01, N/A)	1554.0	N/A	2.0684 [ 2.0000 ]	103.4% { 105.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 249756	(8.11, N/A) (N/A, 0.01, N/A)	1340.8	N/A	1.9608 [ 2.0000 ]	98.0% { 98.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 96314	(8.84, N/A) (N/A, 0.01, N/A)	802.2	N/A	0.8750 [ 1.0000 ]	87.5% { 104.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 121389	(9.50, N/A) (N/A, 0.01, N/A)	139254.1	N/A	0.9380 [ 1.0000 ]	93.8% { 98.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 176865	(9.80, N/A) (N/A, 0.00, N/A)	537.4	N/A	1.0182 [ 1.0000 ]	101.8% { 107.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 187913	(9.96, N/A) (N/A, 0.00, N/A)	310.1	N/A	0.8914 [ 1.0000 ]	89.1% { 81.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 140071	(10.17, N/A) (N/A, 0.00, N/A)	723.1	N/A	0.9051 [ 1.0000 ]	90.5% { 94.1% }			
13C3_PFBs_EIS	(302.0 / 80.0) 641820	(6.34, N/A) (N/A, 0.01, N/A)	2880.9	N/A	1.9135 [ 2.0000 ]	95.7% { 99.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 364799	(8.25, N/A) (N/A, 0.01, N/A)	1596.6	N/A	1.9107 [ 2.0000 ]	95.5% { 98.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 623261	(9.61, N/A) (N/A, 0.00, N/A)	888.7	N/A	1.9889 [ 2.0000 ]	99.4% { 101.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 75802	(6.02, N/A) (N/A, 0.01, N/A)	859.0	N/A	4.0071 [ 4.0000 ]	100.2% { 104.9% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 92055	(7.75, N/A) (N/A, 0.01, N/A)	884.5	N/A	3.6271 [ 4.0000 ]	90.7% { 97.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 86453	(9.17, N/A) (N/A, 0.01, N/A)	1081.2	N/A	3.9246 [ 4.0000 ]	98.1% { 97.7% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 936961	(10.22, N/A) (N/A, 0.00, N/A)	1317.7	N/A	1.9586 [ 2.0000 ]	97.9% { 105.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 261332	(10.64, N/A) (N/A, 0.00, N/A)	1214.0	N/A	1.8460 [ 2.0000 ]	92.3% { 100.5% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 251809	(10.72, N/A) (N/A, 0.00, N/A)	1425.9	N/A	1.9618 [ 2.0000 ]	98.1% { 103.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 264364	( 9.63 , N/A ) ( N/A , 0.01 , N/A )	874.7	N/A	3.7919 [ 4.0000 ]	94.8% { 96.8% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 210526	( 9.78 , N/A ) ( N/A , 0.00 , N/A )	698.5	N/A	3.5133 [ 4.0000 ]	87.8% { 91.2% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 482858	( 10.60 , N/A ) ( N/A , 0.00 , N/A )	1769.3	N/A	19.9696 [ 20.0000 ]	99.8% { 106.1% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 240368	( 10.70 , N/A ) ( N/A , 0.00 , N/A )	2220.9	N/A	19.5101 [ 20.0000 ]	97.6% { 101.2% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 662583	( 6.71 , N/A ) ( N/A , 0.01 , N/A )	1335.7	N/A	7.8601 [ 8.0000 ]	98.3% { 98.7% }			

# LOW-CONCENTRATION CALIBRATION VERIFICATION

## EPA 1633

Laboratory: APPL, LLC

SDG:

Client: AECOM

Project: Red Hill AFFF Assessment Sampling

Calibration: 2250016

Laboratory ID: SB03753-LCV1

Sequence: SB03753

Standard ID: 22L0176

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
PFBA	0.400	0.358	-10.5	30.00
PFPEA	0.200	0.224	12.0	30.00
PFHXA	0.100	0.0971	-2.9	30.00
PFHPA	0.100	0.107	6.7	30.00
PFOA	0.100	0.109	9.2	30.00
PFNA	0.100	0.107	7.4	30.00
PFDA	0.100	0.106	5.7	30.00
PFUnA	0.100	0.123	22.7	30.00
PFDOA	0.100	0.106	6.4	30.00
PFTRDA	0.100	0.104	4.0	30.00
PFTEDA	0.100	0.130	30.1 *	30.00
PFBS	0.0885	0.103	16.7	30.00
PFPEs	0.0940	0.0980	4.3	30.00
PFHXS	0.0915	0.0908	-0.8	30.00
PFHPS	0.0955	0.0882	-7.6	30.00
PFOS	0.0930	0.117	25.3	30.00
PFNS	0.0960	0.0857	-10.7	30.00
PFDS	0.0965	0.106	9.9	30.00
PFDOS	0.0970	0.0928	-4.4	30.00
4:2FTS	0.375	0.406	8.3	30.00
6:2FTS	0.380	0.450	18.4	30.00
8:2FTS	0.384	0.337	-12.2	30.00
PFOSA	0.100	0.111	11.1	30.00
NMeFOSA	0.400	0.412	3.1	30.00
NEtFOSA	0.400	0.405	1.3	30.00
NMeFOSAA	0.100	0.117	17.1	30.00
NEtFOSAA	0.100	0.0641	-35.9 *	30.00
NMeFOSE	0.400	0.374	-6.4	30.00



**LOW-CONCENTRATION CALIBRATION VERIFICATION****EPA 1633****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling**Calibration:** 2250016**Laboratory ID:** SB03753-LCV1**Sequence:** SB03753**Standard ID:** 22L0176

NEtFOSE	0.400	0.394	-1.5	30.00
HFPO-DA	0.200	0.219	9.5	30.00
ADONA	0.189	0.167	-11.5	30.00
PFEESA	0.178	0.182	2.5	30.00
PFMPA	0.200	0.214	7.2	30.00
PFMBA	0.200	0.213	6.5	30.00
NFDHA	0.200	0.0290	-85.5 *	30.00
9CL-PF3ONS	0.187	0.251	34.0 *	30.00
11CL-PF3OUDS	0.189	0.183	-3.3	30.00
3:3FTCA	0.400	0.352	-11.9	30.00
5:3FTCA	0.400	0.380	-4.9	30.00
7:3FTCA	0.400	0.377	-5.7	30.00

\* Values outside of QC limits

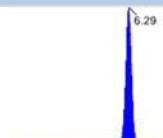
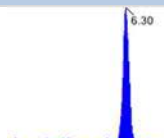
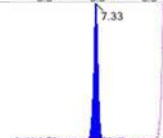
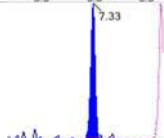
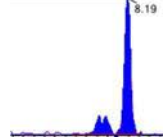
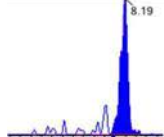
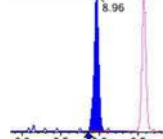
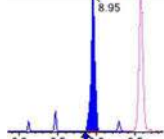
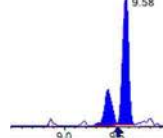
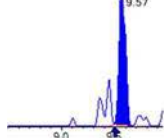
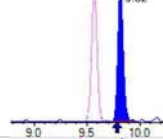
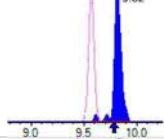
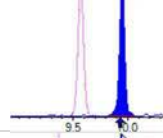
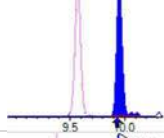
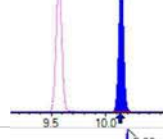
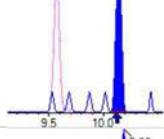
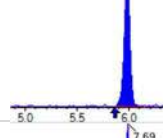
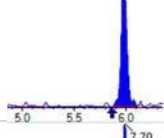
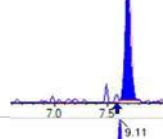
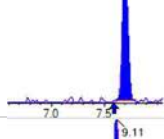
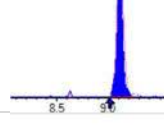
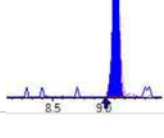


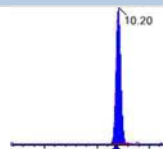
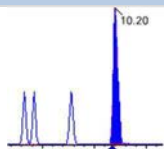
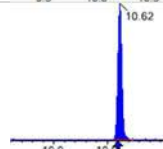
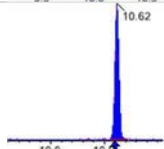
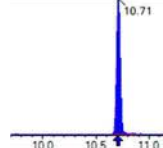
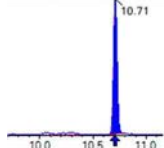
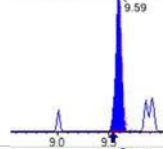
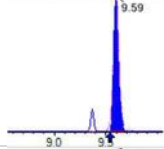
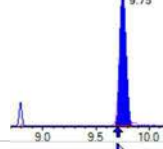
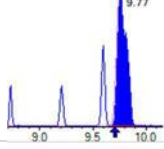
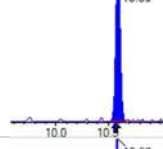
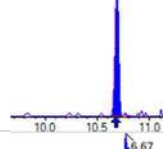
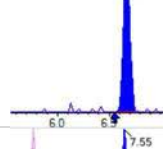
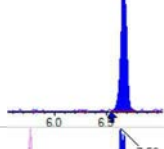
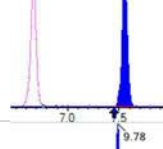
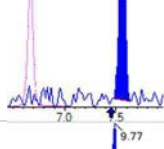
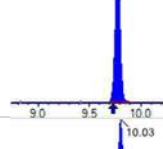
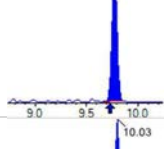
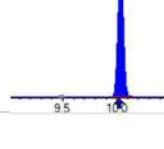
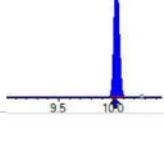
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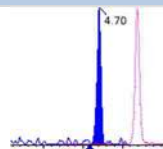
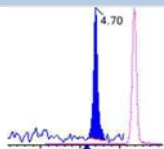
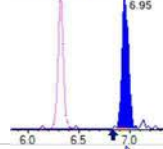
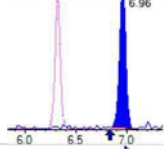
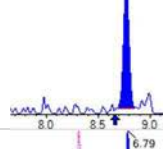
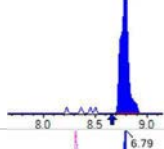
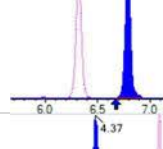
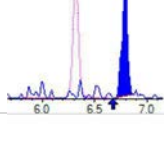
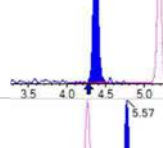
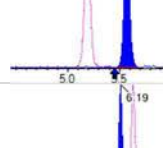
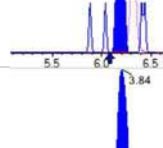
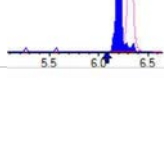
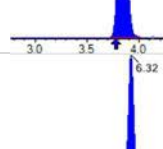
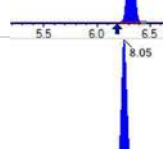
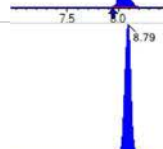
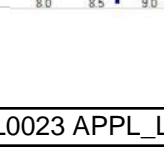
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 Acquisition Method: 1633 2022-12-07.dam

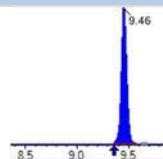
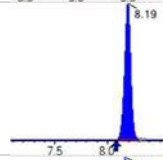
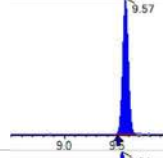
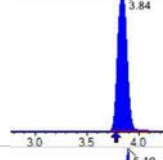
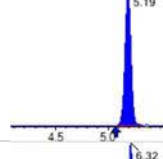
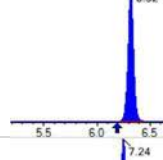
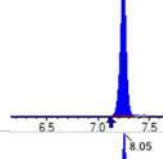
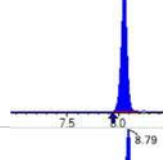
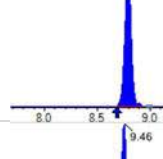
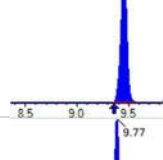
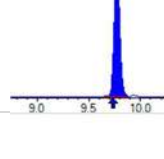
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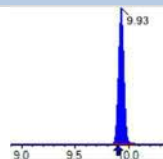
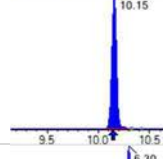
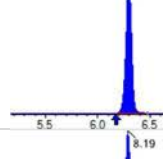
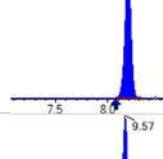
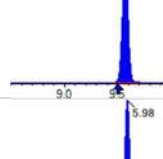
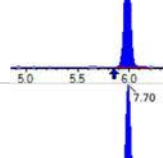
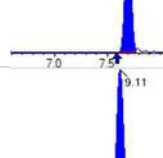
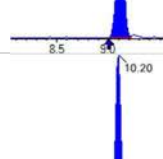
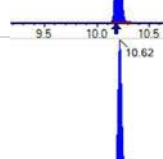
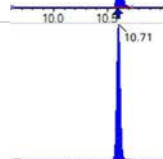
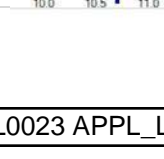
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 22214	(3.83, 1.00) (0.00, N/A, 0.0)	36.6	N/A 0.0 0.0	0.3580 [0.4000]	89.5%			
PFPeA	(262.9 / 219.0) 17429 (262.9 / 69.0) 258	(5.19, 1.00) (0.00, N/A, 0.4)	177.3 12.7	0.0148 127.0 127.0	0.2239 [0.2000]	112.0%			
PFHxA	(313.0 / 269.0) 13218 (313.0 / 119.0) 1695	(6.32, 1.00) (0.00, N/A, -0.8)	64.5 39.8	0.1282 142.6 132.6	0.0971 [0.1000]	97.1%			
PFHpA	(363.0 / 319.0) 11999 (363.0 / 169.0) 3037	(7.25, 1.00) (0.00, N/A, -0.1)	59.3 63.8	0.2531 88.2 86.1	0.1067 [0.1000]	106.7%			
PFOA	(413.0 / 369.0) 13866 (413.0 / 169.0) 4284	(8.06, 1.00) (0.01, N/A, 0.3)	58.1 122.1	0.3090 95.5 95.9	0.1092 [0.1000]	109.2%			
PFNA	(463.0 / 419.0) 8676 (463.0 / 169.0) 1291	(8.79, 1.00) (-0.01, N/A, -1.3)	62.3 25.6	0.1488 73.9 76.0	0.1074 [0.1000]	107.4%			
PFDA	(513.0 / 469.0) 13121 (513.0 / 169.0) 1328	(9.46, 1.00) (0.00, N/A, -0.5)	41.7 297.4	0.1012 114.0 98.2	0.1057 [0.1000]	105.7%			
PFUnA	(563.0 / 519.0) 18279 (563.0 / 169.0) 1894	(9.77, 1.00) (0.00, N/A, -0.4)	92.6 205.8	0.1036 96.4 111.5	0.1227 [0.1000]	122.7%			
PFDoA	(613.0 / 569.0) 23440 (613.0 / 169.0) 2653	(9.93, 1.00) (-0.01, N/A, -1.4)	88.9 78.7	0.1132 95.0 101.3	0.1064 [0.1000]	106.4%			
PFTTrDA	(663.0 / 619.0) 20127 (663.0 / 169.0) 4987	(10.06, 1.01) (N/A, 0.02, 0.5)	210.6 60.2	0.2478 133.0 128.8	0.1040 [0.1000]	104.0%			
PFTeDA	(713.0 / 669.0) 15279 (713.0 / 169.0) 3955	(10.15, 1.00) (0.00, N/A, 0.7)	17.8 379.4	0.2589 131.5 121.2	0.1301 [0.1000]	130.1%			QC,

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 19384 (298.9 / 99.0) 9788	(6.29, 1.00) (0.00, N/A, -0.2)	268.0 93.5	0.5050 74.5 74.3	0.1033 [0.0885]	116.8%			
PFPeS	(349.0 / 80.0) 34002 (349.0 / 99.0) 11053	(7.33, 0.89) (N/A, 0.12, -0.1)	289.0 105.6	0.3251 89.1 89.2	0.0980 [0.0938]	104.5%			
PFHxS	(399.0 / 80.0) 27914 (399.0 / 99.0) 7674	(8.19, 1.00) (0.00, N/A, 0.1)	73502.8 137.6	0.2749 79.7 78.2	0.0908 [0.0911]	99.6%			
PFHpS	(449.0 / 80.0) 24005 (449.0 / 99.0) 6122	(8.96, 0.94) (N/A, 0.11, 0.3)	149.1 338.0	0.2550 89.7 85.1	0.0882 [0.0951]	92.7%			
PFOS	(499.0 / 80.0) 39294 (499.0 / 99.0) 8706	(9.58, 1.00) (0.01, N/A, 0.4)	79.2 36.0	0.2216 86.0 90.9	0.1166 [0.0927]	125.7%			MI5 DG 2022-12-09
PFNS	(549.0 / 80.0) 33932 (549.0 / 99.0) 10614	(9.82, 1.03) (N/A, 0.03, -0.1)	197.4 487.4	0.3128 130.9 122.5	0.0857 [0.0960]	89.3%			
PFDS	(599.0 / 80.0) 52549 (599.0 / 99.0) 14583	(9.95, 1.04) (N/A, 0.02, -0.1)	227.2 169.3	0.2775 119.3 122.0	0.1060 [0.0963]	110.1%			
PFDoS	(698.9 / 80.0) 27271 (698.9 / 99.0) 3426	(10.14, 1.06) (N/A, 0.02, 0.0)	169.2 42.4	0.1256 54.2 56.9	0.0928 [0.0970]	95.7%			
4:2FTS	(327.0 / 307.0) 20233 (327.0 / 81.0) 11979	(5.98, 1.00) (0.00, N/A, 0.3)	371.9 126.2	0.5920 99.1 101.2	0.4060 [0.3738]	108.6%			
6:2FTS	(427.0 / 407.0) 14082 (427.0 / 81.0) 10779	(7.69, 1.00) (-0.01, N/A, -0.2)	91.7 104.9	0.7654 106.4 109.9	0.4500 [0.3796]	118.5%			
8:2FTS	(527.0 / 507.0) 9961 (527.0 / 81.0) 7759	(9.11, 1.00) (0.00, N/A, 0.2)	4144.1 191.9	0.7789 124.9 117.6	0.3370 [0.3833]	87.9%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 51952 (498.0 / 478.0) 1019	(10.20, 1.00) (0.00, N/A, 0.3)	374.7 90.3	0.0196 82.2 112.2	0.1111 [0.1000]	111.1%			
NMeFOSA	(511.9 / 219.0) 43480 (511.9 / 169.0) 30062	(10.62, 1.00) (0.00, N/A, -0.1)	538.1 466.2	0.6914 103.7 105.2	0.4123 [0.4000]	103.1%			
NEIFOSA	(526.0 / 219.0) 48204 (526.0 / 169.0) 49040	(10.71, 1.00) (0.00, N/A, 0.0)	823.1 350.9	1.0173 93.4 92.0	0.4053 [0.4000]	101.3%			
NMeFOSAA	(570.0 / 419.0) 6430 (570.0 / 483.0) 2532	(9.59, 1.00) (-0.01, N/A, -0.1)	249586.8 14602.9	0.3938 84.9 79.1	0.1171 [0.1000]	117.1%			
NEIFOSAA	(584.0 / 419.0) 3156 (584.0 / 526.0) 2522	(9.75, 1.00) (0.00, N/A, -1.1)	9794.8 151.3	0.7989 131.6 120.4	0.0641 [0.1000]	64.1%			QC,
NMeFOSE	(616.1 / 59.0) 12015	(10.59, 1.00) (0.01, N/A, 0.0)	184.0	N/A 0.0 0.0	0.3743 [0.4000]	93.6%			
NEIFOSE	(630.0 / 59.0) 3214	(10.69, 1.00) (0.01, N/A, 0.0)	143.4	N/A 0.0 0.0	0.3940 [0.4000]	98.5%			
HFPO-DA	(285.0 / 169.0) 12022 (285.0 / 185.0) 32514	(6.67, 1.00) (0.00, N/A, -0.1)	157.8 289.8	2.7046 97.6 93.5	0.2190 [0.2000]	109.5%			
ADONA	(377.0 / 85.0) 37126 (377.0 / 251.0) 5557	(7.55, 1.13) (N/A, 0.11, -0.3)	515.8 30.6	0.1497 119.1 115.7	0.1673 [0.1885]	88.7%			
9CI-Pf3ONS	(531.0 / 351.0) 153052 (533.0 / 353.0) 52564	(9.78, 1.47) (N/A, 0.04, 0.1)	26.7 161.0	0.3434 102.9 116.7	0.2506 [0.1867]	134.3%			QC,
11CI-PF3OUDS	(631.0 / 451.0) 76793 (633.0 / 453.0) 28515	(10.03, 1.50) (N/A, 0.02, 0.2)	1054.9 6447.7	0.3713 114.8 112.7	0.1828 [0.1886]	96.9%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 1347 (241.0 / 117.0) 2706	(4.70, 0.91) (N/A, 0.12, 0.5)	84.5 63.0	2.0091 115.4 119.2	0.3523 [0.4000]	88.1%			
5:3FTCA	(341.0 / 236.7) 10994 (341.0 / 217.0) 20325	(6.95, 1.10) (N/A, 0.12, -0.3)	193.3 129.4	1.8488 108.3 107.8	0.3803 [0.4000]	95.1%			
7:3FTCA	(441.0 / 317.0) 14036 (441.0 / 337.0) 10356	(8.77, 1.39) (N/A, 0.11, -0.9)	50.5 112.6	0.7378 89.4 87.0	0.3771 [0.4000]	94.3%			
PFEESA	(315.0 / 135.0) 25393 (315.0 / 83.0) 6714	(6.79, 1.07) (N/A, 0.12, -0.1)	450.1 51.1	0.2644 88.9 89.9	0.1825 [0.1785]	102.2%			
PFMPA	(229.0 / 85.0) 4596	(4.37, 0.84) (N/A, 0.10, 0.0)	135.6	N/A 0.0 0.0	0.2144 [0.2000]	107.2%			
PFMBA	(279.0 / 85.0) 14223	(5.57, 1.07) (N/A, 0.12, 0.0)	351.6	N/A 0.0 0.0	0.2129 [0.2000]	106.5%			
NFDHA	(201.0 / 85.0) 498 (295.0 / 201.0) 4822	(6.19, 0.98) (N/A, 0.11, -0.9)	36.6 229.0	9.6755 138.3 140.7	0.0290 [0.2000]	14.5%			QC,
13C3_PFBA_IIS	(216.0 / 172.0) 84596	(3.84, N/A) (N/A, 0.07, N/A)	890.9	N/A	0.8800 [1.0000]	88.0% {100.5%}			
13C2_PFHxA_IIS	(315.1 / 270.0) 120093	(6.32, N/A) (N/A, 0.12, N/A)	805.0	N/A	0.9725 [1.0000]	97.3% {103.4%}			
13C4_PFOA_IIS	(417.0 / 372.0) 116818	(8.05, N/A) (N/A, 0.11, N/A)	993.5	N/A	0.9854 [1.0000]	98.5% {103.3%}			
13C5_PFNA_IIS	(468.0 / 423.0) 93504	(8.79, N/A) (N/A, 0.10, N/A)	553.0	N/A	0.9818 [1.0000]	98.2% {108.3%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 92681	(9.46, N/A) (N/A, 0.10, N/A)	393.2	N/A	1.1250 [ 1.0000 ]	112.5% { 96.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 210748	(8.19, N/A) (N/A, 0.11, N/A)	969.8	N/A	0.9819 [ 1.0000 ]	98.2% { 103.0% }			
13C4_PFOS_IIS	(502.8 / 79.9) 196418	(9.57, N/A) (N/A, 0.07, N/A)	532.9	N/A	1.0553 [ 1.0000 ]	105.5% { 107.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 651917	(3.84, N/A) (N/A, 0.07, N/A)	1019.0	N/A	8.2197 [ 8.0000 ]	102.7% { 110.3% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 323868	(5.19, N/A) (N/A, 0.12, N/A)	906.5	N/A	3.6970 [ 4.0000 ]	92.4% { 104.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 270018	(6.32, N/A) (N/A, 0.13, N/A)	993.8	N/A	2.2043 [ 2.0000 ]	110.2% { 107.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 221950	(7.24, N/A) (N/A, 0.12, N/A)	317.8	N/A	2.0074 [ 2.0000 ]	100.4% { 96.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 246462	(8.05, N/A) (N/A, 0.11, N/A)	706.3	N/A	2.0743 [ 2.0000 ]	103.7% { 103.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 83813	(8.79, N/A) (N/A, 0.11, N/A)	344.2	N/A	0.9083 [ 1.0000 ]	90.8% { 92.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 122399	(9.46, N/A) (N/A, 0.09, N/A)	527.5	N/A	0.9092 [ 1.0000 ]	90.9% { 102.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 169194	(9.77, N/A) (N/A, 0.04, N/A)	292.0	N/A	0.9363 [ 1.0000 ]	93.6% { 100.9% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 239448	(9.93, N/A) (N/A, 0.02, N/A)	1330.0	N/A	1.0918 [ 1.0000 ]	109.2% { 126.8% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 119162	(10.15, N/A) (N/A, 0.01, N/A)	520.1	N/A	0.7402 [ 1.0000 ]	74.0% { 84.6% }			
13C3_PFBs_EIS	(302.0 / 80.0) 614610	(6.30, N/A) (N/A, 0.13, N/A)	871.9	N/A	1.9843 [ 2.0000 ]	99.2% { 108.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 366901	(8.19, N/A) (N/A, 0.11, N/A)	838.8	N/A	2.0810 [ 2.0000 ]	104.1% { 106.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 600518	(9.57, N/A) (N/A, 0.07, N/A)	450.6	N/A	2.0056 [ 2.0000 ]	100.3% { 106.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 57059	(5.98, N/A) (N/A, 0.13, N/A)	480.1	N/A	3.2664 [ 4.0000 ]	81.7% { 88.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 78909	(7.70, N/A) (N/A, 0.11, N/A)	763.7	N/A	3.3670 [ 4.0000 ]	84.2% { 92.1% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 75288	(9.11, N/A) (N/A, 0.11, N/A)	405.7	N/A	3.7012 [ 4.0000 ]	92.5% { 95.1% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 841897	(10.20, N/A) (N/A, 0.02, N/A)	1014.6	N/A	1.8418 [ 2.0000 ]	92.1% { 88.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 229455	(10.62, N/A) (N/A, 0.02, N/A)	793.9	N/A	1.6963 [ 2.0000 ]	84.8% { 99.1% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 229677	(10.71, N/A) (N/A, 0.01, N/A)	922.1	N/A	1.8727 [ 2.0000 ]	93.6% { 103.1% }			



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03753-LCV1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 2  
 Acquired: 2022/12/08 - 18:24

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 251753	( 9.60, N/A ) ( N/A, 0.07, N/A )	648.1	N/A	3.7791 [ 4.0000 ]	94.5% { 104.9% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 214739	( 9.75, N/A ) ( N/A, 0.04, N/A )	436.4	N/A	3.7505 [ 4.0000 ]	93.8% { 94.6% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 456640	( 10.59, N/A ) ( N/A, 0.02, N/A )	790.8	N/A	19.7647 [ 20.0000 ]	98.8% { 105.1% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 238270	( 10.68, N/A ) ( N/A, 0.01, N/A )	1521.7	N/A	20.2403 [ 20.0000 ]	101.2% { 108.8% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 661111	( 6.67, N/A ) ( N/A, 0.12, N/A )	823.1	N/A	8.1947 [ 8.0000 ]	102.4% { 99.1% }			



# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA 1633

Laboratory: APPL, LLC  
 Client: AECOM  
 Instrument ID: Saphira  
 Standard ID: 22L0180

Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling  
 Calibration: 2250016  
 Sequence: SB03753

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SB03753-CCV1	PFBA	20.0	18.5	92.6	ng/mL	+/- 30.00%
	PFPEA	10.0	9.48	94.8	ng/mL	+/- 30.00%
	PFHXA	5.00	4.41	88.2	ng/mL	+/- 30.00%
	PFHPA	5.00	4.58	91.5	ng/mL	+/- 30.00%
	PFOA	5.00	4.28	85.7	ng/mL	+/- 30.00%
	PFNA	5.00	4.89	97.8	ng/mL	+/- 30.00%
	PFDA	5.00	4.48	89.6	ng/mL	+/- 30.00%
	PFUnA	5.00	4.81	96.3	ng/mL	+/- 30.00%
	PFDOA	5.00	4.86	97.2	ng/mL	+/- 30.00%
	PFTRDA	5.00	5.00	99.9	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.56	91.1	ng/mL	+/- 30.00%
	PFBS	4.42	4.20	95.1	ng/mL	+/- 30.00%
	PFPEs	4.70	4.64	98.7	ng/mL	+/- 30.00%
	PFHXS	4.58	4.00	87.3	ng/mL	+/- 30.00%
	PFHPS	4.78	4.51	94.4	ng/mL	+/- 30.00%
	PFOS	4.65	4.39	94.4	ng/mL	+/- 30.00%
	PFNS	4.80	4.96	103	ng/mL	+/- 30.00%
	PFDS	4.82	5.26	109	ng/mL	+/- 30.00%
	PFDOS	4.85	4.48	92.4	ng/mL	+/- 30.00%
	4:2FTS	18.8	16.3	86.6	ng/mL	+/- 30.00%
	6:2FTS	19.0	17.8	93.6	ng/mL	+/- 30.00%
	8:2FTS	19.2	17.3	90.0	ng/mL	+/- 30.00%
	PFOSA	5.00	4.13	82.5	ng/mL	+/- 30.00%
	NMeFOSA	20.0	19.1	95.4	ng/mL	+/- 30.00%
	NEtFOSA	20.0	17.6	87.9	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	4.78	95.7	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	4.46	89.3	ng/mL	+/- 30.00%
	NMeFOSE	20.0	19.1	95.3	ng/mL	+/- 30.00%
	NEtFOSE	20.0	19.0	94.8	ng/mL	+/- 30.00%
	HFPO-DA	10.0	9.16	91.6	ng/mL	+/- 30.00%

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA 1633

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2250016
Standard ID:	22L0180	Sequence:	SB03753

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SB03753-CCV1	ADONA	9.45	8.29	87.7	ng/mL	+/- 30.00%
	PFEESA	8.90	8.03	90.2	ng/mL	+/- 30.00%
	PFMPA	10.0	9.34	93.4	ng/mL	+/- 30.00%
	PFMBA	10.0	10.4	104	ng/mL	+/- 30.00%
	NFDHA	10.0	8.01	80.1	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	9.98	107	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	7.96	84.2	ng/mL	+/- 30.00%
	3:3FTCA	20.0	17.9	89.4	ng/mL	+/- 30.00%
	5:3FTCA	20.0	17.0	85.1	ng/mL	+/- 30.00%
	7:3FTCA	20.0	16.9	84.6	ng/mL	+/- 30.00%

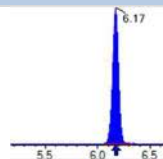
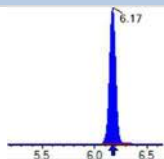
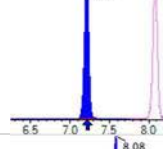
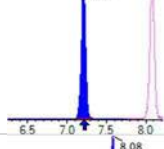
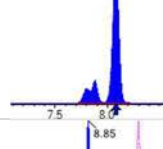
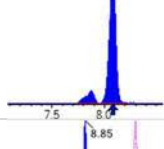
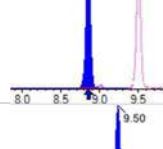
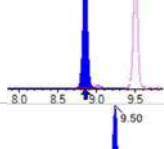
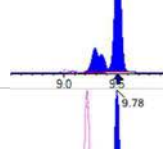
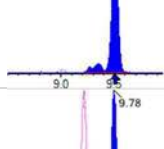
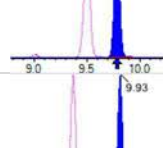
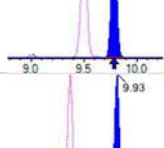
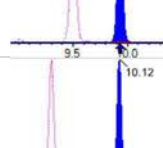
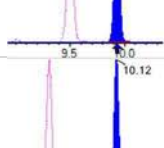
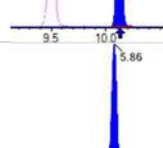
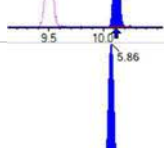
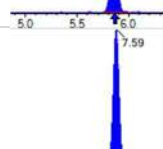
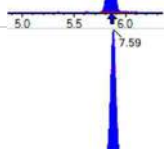
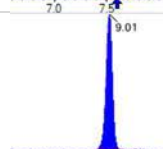
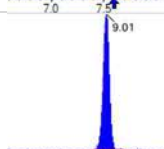
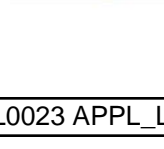
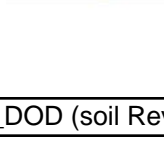


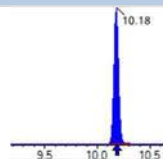
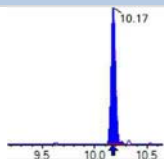
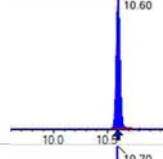
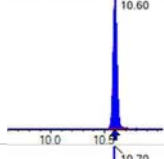
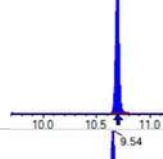
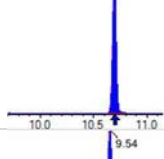
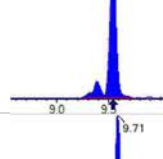
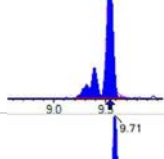
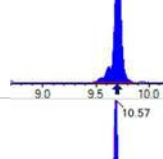
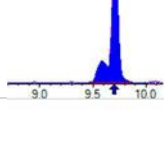
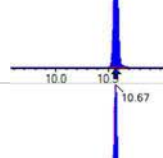
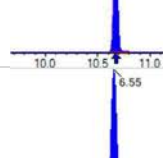
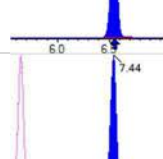
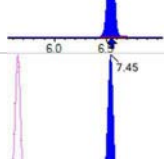
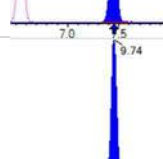
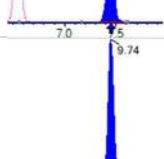
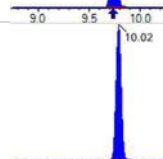
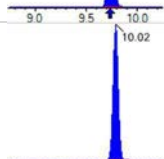
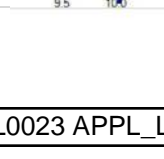
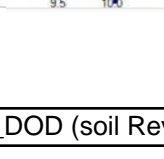
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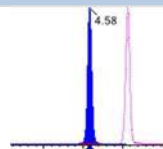
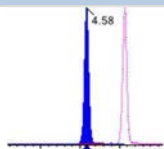
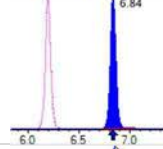
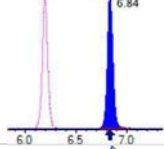
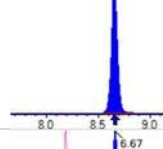
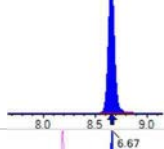
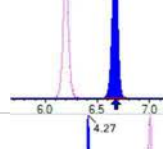
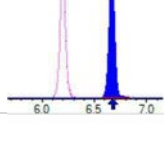
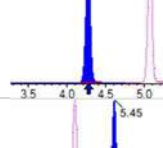
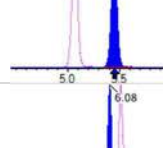
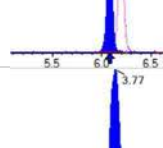
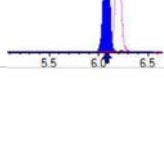
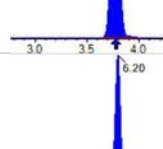
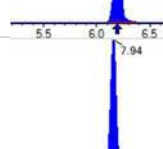
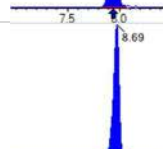
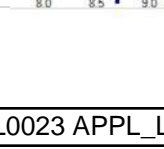
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 Acquisition Method: 1633 2022-12-07.dam

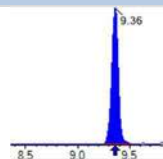
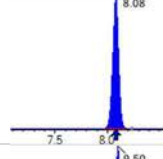
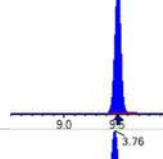
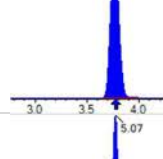
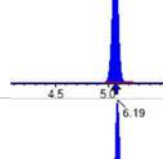
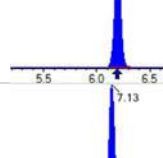
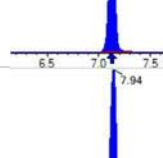
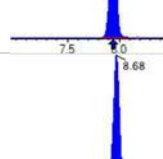
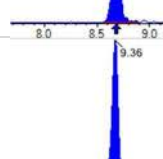
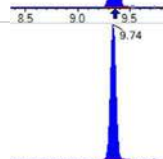
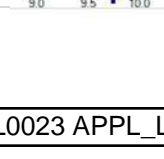
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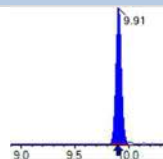
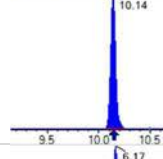
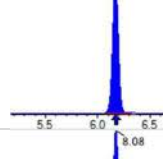
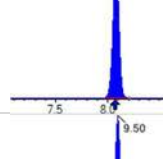
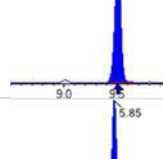
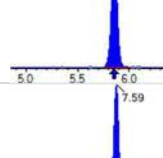
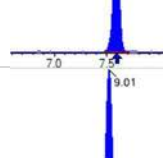
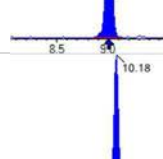
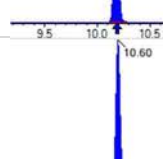
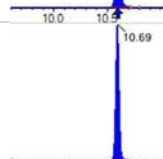
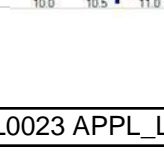
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 1041397	(3.77, 1.00) (0.00, N/A, 0.0)	65.3	N/A 0.0 0.0	18.5151 [ 20.0000 ]	92.6%			
PFPeA	(262.9 / 219.0) 708961 (262.9 / 69.0) 8261	(5.07, 1.00) (0.00, N/A, 0.0)	1006.4 227.0	0.0117 100.1 100.0	9.4765 [ 10.0000 ]	94.8%			
PFHxA	(313.0 / 269.0) 560577 (313.0 / 119.0) 54194	(6.20, 1.00) (0.00, N/A, 0.2)	1041.6 386.4	0.0967 107.6 100.0	4.4095 [ 5.0000 ]	88.2%			
PFHpA	(363.0 / 319.0) 530804 (363.0 / 169.0) 156026	(7.13, 1.00) (0.00, N/A, 0.0)	685.7 645.7	0.2939 102.5 100.0	4.5761 [ 5.0000 ]	91.5%			
PFOA	(413.0 / 369.0) 525252 (413.0 / 169.0) 169149	(7.94, 1.00) (0.00, N/A, 0.1)	779.0 618.6	0.3220 99.5 100.0	4.2835 [ 5.0000 ]	85.7%			
PFNA	(463.0 / 419.0) 429364 (463.0 / 169.0) 84076	(8.68, 1.00) (0.00, N/A, 0.0)	620.9 119.0	0.1958 97.3 100.0	4.8884 [ 5.0000 ]	97.8%			
PFDA	(513.0 / 469.0) 542779 (513.0 / 169.0) 55940	(9.36, 1.00) (0.00, N/A, -0.1)	532.6 578.1	0.1031 116.1 100.0	4.4797 [ 5.0000 ]	89.6%			
PFUnA	(563.0 / 519.0) 710544 (563.0 / 169.0) 66014	(9.74, 1.00) (0.00, N/A, 0.0)	756.8 674.0	0.0929 86.5 100.0	4.8145 [ 5.0000 ]	96.3%			
PFDoA	(613.0 / 569.0) 844539 (613.0 / 169.0) 94366	(9.91, 1.00) (0.00, N/A, 0.1)	766.2 506.4	0.1117 93.8 100.0	4.8591 [ 5.0000 ]	97.2%			
PFTTrDA	(663.0 / 619.0) 762858 (663.0 / 169.0) 146776	(10.03, 1.01) (N/A, 0.00, 0.1)	794.6 667.6	0.1924 103.3 100.0	4.9968 [ 5.0000 ]	99.9%			
PFTTeDA	(713.0 / 669.0) 632637 (713.0 / 169.0) 135067	(10.14, 1.00) (0.00, N/A, 0.1)	671.4 357.6	0.2135 108.5 100.0	4.5551 [ 5.0000 ]	91.1%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 724384 ( 298.9 / 99.0 ) 492216	( 6.17 , 1.00 ) ( 0.00 , N/A , 0.0 )	718.1 788.9	0.6795 100.3 100.0	4.2046 [ 4.4237 ]	95.0%			
PFPeS	( 349.0 / 80.0 ) 1505164 ( 349.0 / 99.0 ) 548745	( 7.21 , 0.89 ) ( N/A , 0.00 , 0.1 )	827.4 945.4	0.3646 100.0 100.0	4.6395 [ 4.6919 ]	98.9%			
PFHxS	( 399.0 / 80.0 ) 1150779 ( 399.0 / 99.0 ) 404559	( 8.08 , 1.00 ) ( 0.00 , N/A , 0.1 )	6330.8 12194281.8	0.3516 102.0 100.0	4.0003 [ 4.5549 ]	87.8%			
PFHpS	( 449.0 / 80.0 ) 1157878 ( 449.0 / 99.0 ) 347094	( 8.85 , 0.93 ) ( N/A , 0.00 , 0.1 )	552.1 1079.7	0.2998 105.5 100.0	4.5146 [ 4.7570 ]	94.9%			
PFOS	( 499.0 / 80.0 ) 1394793 ( 499.0 / 99.0 ) 339922	( 9.50 , 1.00 ) ( 0.00 , N/A , -0.1 )	121.5 198.8	0.2437 94.6 100.0	4.3902 [ 4.6375 ]	94.7%			
PFNS	( 549.0 / 80.0 ) 1850421 ( 549.0 / 99.0 ) 472546	( 9.78 , 1.03 ) ( N/A , 0.00 , 0.0 )	1033.9 537.9	0.2554 106.8 100.0	4.9601 [ 4.7994 ]	103.3%			
PFDS	( 599.0 / 80.0 ) 2458039 ( 599.0 / 99.0 ) 558992	( 9.93 , 1.05 ) ( N/A , 0.00 , 0.1 )	876.5 568.6	0.2274 97.8 100.0	5.2611 [ 4.8155 ]	109.3%			
PFDoS	( 698.9 / 80.0 ) 1241797 ( 698.9 / 99.0 ) 274369	( 10.12 , 1.07 ) ( N/A , 0.00 , 0.1 )	391.0 585.9	0.2209 95.4 100.0	4.4815 [ 4.8478 ]	92.4%			
4:2FTS	( 327.0 / 307.0 ) 916952 ( 327.0 / 81.0 ) 536257	( 5.86 , 1.00 ) ( 0.00 , N/A , 0.1 )	1121.5 746.6	0.5848 97.9 100.0	16.2743 [ 18.6906 ]	87.1%			
6:2FTS	( 427.0 / 407.0 ) 604220 ( 427.0 / 81.0 ) 420875	( 7.59 , 1.00 ) ( 0.00 , N/A , -0.1 )	919.1 916.3	0.6966 96.9 100.0	17.7764 [ 18.9808 ]	93.7%			
8:2FTS	( 527.0 / 507.0 ) 537202 ( 527.0 / 81.0 ) 355753	( 9.01 , 1.00 ) ( 0.00 , N/A , 0.0 )	587.6 720.3	0.6622 106.2 100.0	17.2782 [ 19.1658 ]	90.2%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 2170903 (498.0 / 478.0) 37946	(10.18, 1.00) (0.00, N/A, 0.3)	1256.2 369.5	0.0175 73.2 100.0	4.1266 [ 5.0000 ]	82.5%			
NMeFOSA	(511.9 / 219.0) 2028743 (511.9 / 169.0) 1333403	(10.60, 1.00) (0.00, N/A, 0.0)	841.5 1023.5	0.6573 98.6 100.0	19.0704 [ 20.0000 ]	95.4%			
NEIFOSA	(526.0 / 219.0) 2026484 (526.0 / 169.0) 2241395	(10.70, 1.00) (0.00, N/A, 0.0)	1400.1 1346.0	1.1061 101.5 100.0	17.5739 [ 20.0000 ]	87.9%			
NMeFOSAA	(570.0 / 419.0) 250452 (570.0 / 483.0) 124600	(9.54, 1.00) (0.01, N/A, 0.0)	395.1 384.0	0.4975 107.2 100.0	4.7847 [ 5.0000 ]	95.7%			
NEIFOSAA	(584.0 / 419.0) 232396 (584.0 / 526.0) 154215	(9.71, 1.00) (0.00, N/A, -0.1)	568.2 131617.9	0.6636 109.4 100.0	4.4636 [ 5.0000 ]	89.3%			
NMeFOSE	(616.1 / 59.0) 581645	(10.57, 1.00) (0.01, N/A, 0.0)	1171.4	N/A 0.0 0.0	19.0512 [ 20.0000 ]	95.3%			
NEIFOSE	(630.0 / 59.0) 142180	(10.67, 1.00) (0.01, N/A, 0.0)	1037.3	N/A 0.0 0.0	18.9658 [ 20.0000 ]	94.8%			
HFPO-DA	(285.0 / 169.0) 507686 (285.0 / 185.0) 1467975	(6.55, 1.00) (0.00, N/A, -0.1)	701.1 989.6	2.8915 104.3 100.0	9.1635 [ 10.0000 ]	91.6%			
ADONA	(377.0 / 85.0) 1857516 (377.0 / 251.0) 240393	(7.44, 1.14) (N/A, 0.00, -0.1)	888.8 530.6	0.1294 103.0 100.0	8.2917 [ 9.4270 ]	88.0%			
9CI-Pf3ONS	(531.0 / 351.0) 6150328 (533.0 / 353.0) 1809681	(9.74, 1.49) (N/A, 0.00, 0.0)	1034.3 741.3	0.2942 88.2 100.0	9.9767 [ 9.3325 ]	106.9%			
11CI-PF3OUDS	(631.0 / 451.0) 3376128 (633.0 / 453.0) 1112754	(10.02, 1.53) (N/A, 0.00, 0.0)	1054.9 556.5	0.3296 101.9 100.0	7.9597 [ 9.4321 ]	84.4%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 65687 (241.0 / 117.0) 110728	(4.58, 0.90) (N/A, 0.00, 0.0)	644.6 591.3	1.6857 96.8 100.0	17.8728 [ 20.0000 ]	89.4%			
5:3FTCA	(341.0 / 236.7) 459952 (341.0 / 217.0) 788660	(6.84, 1.10) (N/A, 0.00, 0.0)	559.5 769.5	1.7147 100.4 100.0	17.0295 [ 20.0000 ]	85.1%			
7:3FTCA	(441.0 / 317.0) 588709 (441.0 / 337.0) 499499	(8.66, 1.40) (N/A, 0.00, 0.1)	740.9 599.1	0.8485 102.9 100.0	16.9292 [ 20.0000 ]	84.6%			
PFEESA	(315.0 / 135.0) 1043695 (315.0 / 83.0) 306810	(6.67, 1.08) (N/A, 0.00, 0.1)	593.3 671.9	0.2940 98.9 100.0	8.0287 [ 8.9246 ]	90.0%			
PFMPA	(229.0 / 85.0) 192395	(4.27, 0.84) (N/A, 0.00, 0.0)	900.3	N/A 0.0 0.0	9.3393 [ 10.0000 ]	93.4%			
PFMBA	(279.0 / 85.0) 668483	(5.45, 1.07) (N/A, 0.00, 0.0)	1061.0	N/A 0.0 0.0	10.4117 [ 10.0000 ]	104.1%			
NFDHA	(201.0 / 85.0) 24778 (295.0 / 201.0) 170366	(6.08, 0.98) (N/A, 0.00, 0.2)	403.0 1056.1	6.8756 98.3 100.0	8.0133 [ 10.0000 ]	80.1%			
13C3_PFBA_IIS	(216.0 / 172.0) 84199	(3.77, N/A) (N/A, 0.00, N/A)	807.8	N/A	0.8759 [ 1.0000 ]	87.6% { 100.0% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 116152	(6.20, N/A) (N/A, 0.00, N/A)	547.2	N/A	0.9406 [ 1.0000 ]	94.1% { 100.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 113079	(7.94, N/A) (N/A, 0.00, N/A)	331.9	N/A	0.9538 [ 1.0000 ]	95.4% { 100.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 86343	(8.69, N/A) (N/A, 0.00, N/A)	587.3	N/A	0.9066 [ 1.0000 ]	90.7% { 100.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 95940	(9.36, N/A) (N/A, 0.00, N/A)	242.7	N/A	1.1646 [ 1.0000 ]	116.5% { 100.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 204693	(8.08, N/A) (N/A, 0.00, N/A)	605.0	N/A	0.9537 [ 1.0000 ]	95.4% { 100.0% }			
13C4_PFOS_IIS	(502.8 / 79.9) 182233	(9.50, N/A) (N/A, 0.00, N/A)	342.1	N/A	0.9791 [ 1.0000 ]	97.9% { 100.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 590955	(3.76, N/A) (N/A, 0.00, N/A)	828.1	N/A	7.4862 [ 8.0000 ]	93.6% { 100.0% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 311296	(5.07, N/A) (N/A, 0.00, N/A)	999.0	N/A	3.6740 [ 4.0000 ]	91.9% { 100.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 252261	(6.19, N/A) (N/A, 0.00, N/A)	981.9	N/A	2.1292 [ 2.0000 ]	106.5% { 100.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 229014	(7.13, N/A) (N/A, 0.00, N/A)	748.1	N/A	2.1415 [ 2.0000 ]	107.1% { 100.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 237903	(7.94, N/A) (N/A, 0.00, N/A)	754.9	N/A	2.0684 [ 2.0000 ]	103.4% { 100.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 91106	(8.68, N/A) (N/A, 0.00, N/A)	274.0	N/A	1.0692 [ 1.0000 ]	106.9% { 100.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 119432	(9.36, N/A) (N/A, 0.00, N/A)	265.2	N/A	0.8570 [ 1.0000 ]	85.7% { 100.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 167650	(9.74, N/A) (N/A, 0.00, N/A)	483.6	N/A	0.8962 [ 1.0000 ]	89.6% { 100.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 188895	(9.91, N/A) (N/A, 0.00, N/A)	279.2	N/A	0.8320 [ 1.0000 ]	83.2% { 100.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 140896	(10.14, N/A) (N/A, 0.00, N/A)	638.8	N/A	0.8454 [ 1.0000 ]	84.5% { 100.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 564385	(6.17, N/A) (N/A, 0.00, N/A)	924.0	N/A	1.8761 [ 2.0000 ]	93.8% { 100.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 343160	(8.08, N/A) (N/A, 0.00, N/A)	927.9	N/A	2.0040 [ 2.0000 ]	100.2% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 565986	(9.50, N/A) (N/A, 0.00, N/A)	287.8	N/A	2.0374 [ 2.0000 ]	101.9% { 100.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 64515	(5.85, N/A) (N/A, 0.00, N/A)	426.0	N/A	3.8025 [ 4.0000 ]	95.1% { 100.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 85711	(7.59, N/A) (N/A, 0.00, N/A)	438.9	N/A	3.7654 [ 4.0000 ]	94.1% { 100.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 79193	(9.01, N/A) (N/A, 0.00, N/A)	495.4	N/A	4.0083 [ 4.0000 ]	100.2% { 100.0% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 947412	(10.18, N/A) (N/A, 0.00, N/A)	1065.6	N/A	2.2339 [ 2.0000 ]	111.7% { 100.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 231490	(10.60, N/A) (N/A, 0.00, N/A)	731.4	N/A	1.8446 [ 2.0000 ]	92.2% { 100.0% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 222692	(10.69, N/A) (N/A, 0.00, N/A)	800.6	N/A	1.9570 [ 2.0000 ]	97.9% { 100.0% }			





Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03753-CCV1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 3  
 Acquired: 2022/12/08 - 18:37

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 240089	( 9.53, N/A ) ( N/A, 0.00, N/A )	481.0	N/A	3.8846 [ 4.0000 ]	97.1% { 100.0% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 226940	( 9.70, N/A ) ( N/A, 0.00, N/A )	507.8	N/A	4.2721 [ 4.0000 ]	106.8% { 100.0% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 434313	( 10.57, N/A ) ( N/A, 0.00, N/A )	937.9	N/A	20.2615 [ 20.0000 ]	101.3% { 100.0% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 218960	( 10.67, N/A ) ( N/A, 0.00, N/A )	1311.3	N/A	20.0478 [ 20.0000 ]	100.2% { 100.0% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 667351	( 6.55, N/A ) ( N/A, 0.00, N/A )	864.5	N/A	8.5527 [ 8.0000 ]	106.9% { 100.0% }			

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA 1633

Laboratory: APPL, LLC  
 Client: AECOM  
 Instrument ID: Saphira  
 Standard ID: 22L0180

Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling  
 Calibration: 2250016  
 Sequence: SB03753

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SB03753-CCV2	PFBA	20.0	18.5	92.5	ng/mL	+/- 30.00%
	PFPEA	10.0	9.27	92.7	ng/mL	+/- 30.00%
	PFHXA	5.00	4.32	86.4	ng/mL	+/- 30.00%
	PFHPA	5.00	4.95	99.0	ng/mL	+/- 30.00%
	PFOA	5.00	5.02	100	ng/mL	+/- 30.00%
	PFNA	5.00	5.12	102	ng/mL	+/- 30.00%
	PFDA	5.00	4.73	94.7	ng/mL	+/- 30.00%
	PFUnA	5.00	4.61	92.2	ng/mL	+/- 30.00%
	PFDOA	5.00	3.89	77.9	ng/mL	+/- 30.00%
	PFTRDA	5.00	3.71	74.2	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.09	81.8	ng/mL	+/- 30.00%
	PFBS	4.42	3.80	85.9	ng/mL	+/- 30.00%
	PFPEs	4.70	4.33	92.1	ng/mL	+/- 30.00%
	PFHXS	4.58	4.01	87.6	ng/mL	+/- 30.00%
	PFHPS	4.78	4.22	88.2	ng/mL	+/- 30.00%
	PFOS	4.65	4.62	99.4	ng/mL	+/- 30.00%
	PFNS	4.80	4.86	101	ng/mL	+/- 30.00%
	PFDS	4.82	4.24	88.0	ng/mL	+/- 30.00%
	PFDOS	4.85	4.25	87.7	ng/mL	+/- 30.00%
	4:2FTS	18.8	19.3	103	ng/mL	+/- 30.00%
	6:2FTS	19.0	17.5	92.3	ng/mL	+/- 30.00%
	8:2FTS	19.2	17.2	89.7	ng/mL	+/- 30.00%
	PFOSA	5.00	4.78	95.5	ng/mL	+/- 30.00%
	NMeFOSA	20.0	19.6	98.1	ng/mL	+/- 30.00%
	NEtFOSA	20.0	18.2	91.2	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	4.45	88.9	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	4.61	92.2	ng/mL	+/- 30.00%
	NMeFOSE	20.0	18.9	94.3	ng/mL	+/- 30.00%
	NEtFOSE	20.0	19.1	95.3	ng/mL	+/- 30.00%
	HFPO-DA	10.0	8.95	89.5	ng/mL	+/- 30.00%

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA 1633

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2250016
Standard ID:	22L0180	Sequence:	SB03753

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SB03753-CCV2	ADONA	9.45	8.66	91.7	ng/mL	+/- 30.00%
	PFEESA	8.90	8.51	95.6	ng/mL	+/- 30.00%
	PFMPA	10.0	9.22	92.2	ng/mL	+/- 30.00%
	PFMBA	10.0	10.8	108	ng/mL	+/- 30.00%
	<b>NFDHA</b>	<b>10.0</b>	<b>6.84</b>	<b>68.4</b>	<b>ng/mL</b>	+/- 30.00%
	9CL-PF3ONS	9.35	9.75	104	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	9.31	98.5	ng/mL	+/- 30.00%
	3:3FTCA	20.0	15.8	79.2	ng/mL	+/- 30.00%
	5:3FTCA	20.0	17.8	89.1	ng/mL	+/- 30.00%
	7:3FTCA	20.0	17.6	87.8	ng/mL	+/- 30.00%

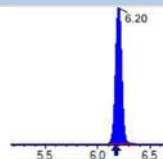
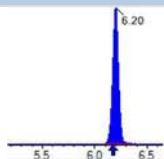
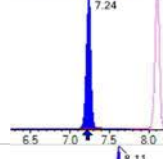
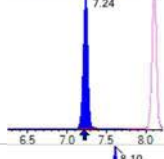
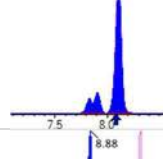
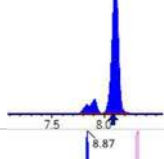
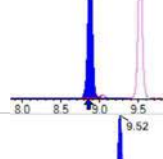
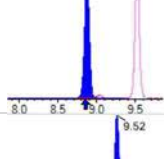
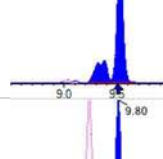
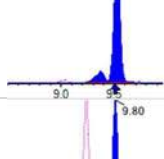
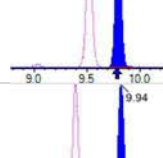
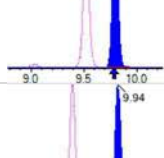
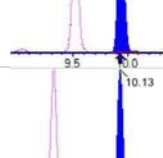
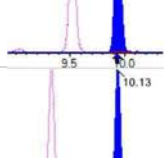
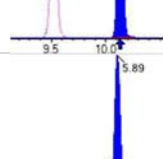
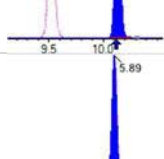
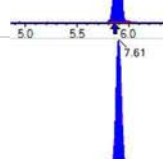
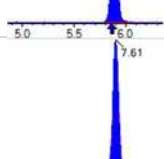
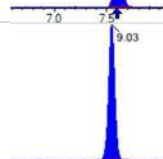
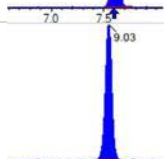
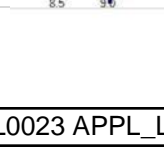
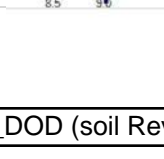


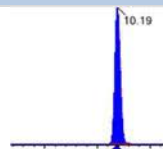
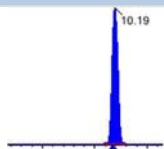
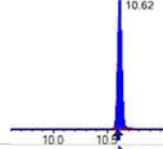
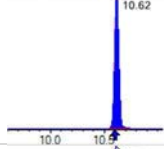
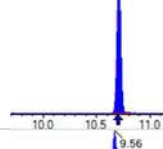
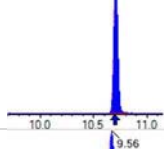
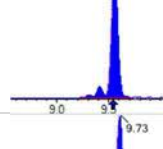
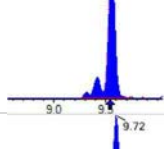
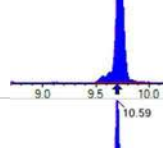
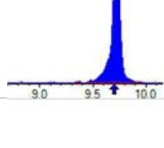
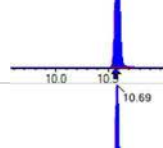
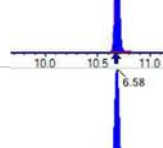
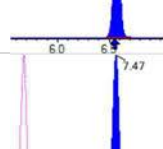
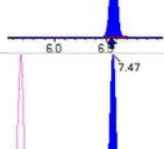
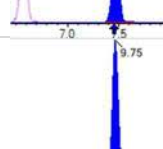
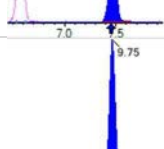
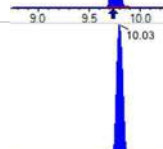
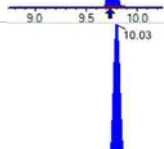
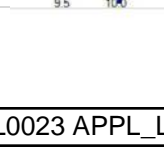
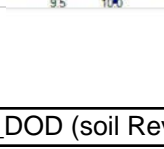
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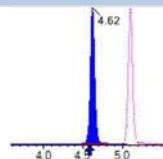
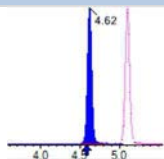
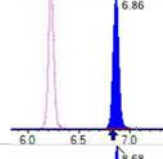
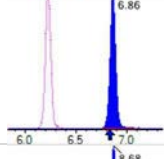
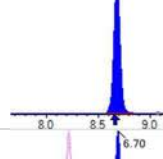
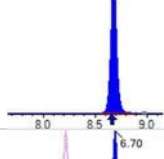
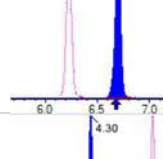
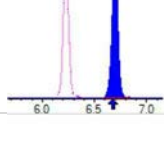
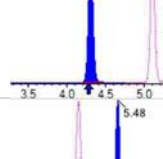
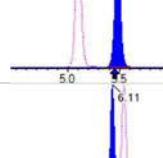
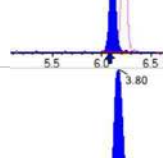
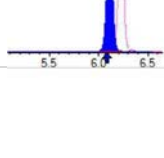
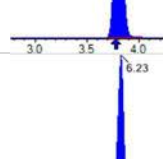
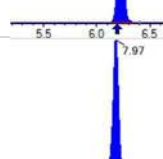
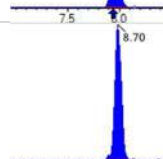
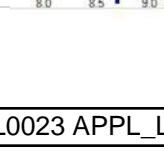
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DF, IV: 1, 10.0µL  
Acquisition Method: 1633 2022-12-07.dam

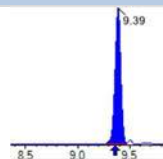
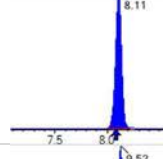
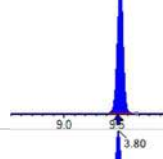
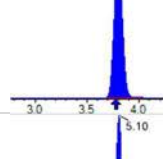
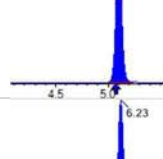
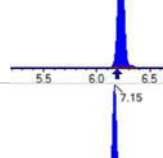
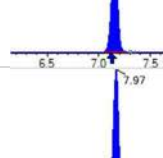
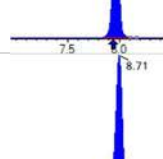
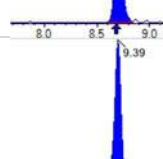
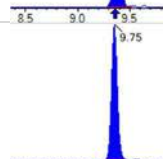
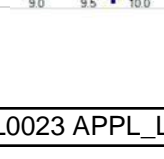
Quant Method: 1633 - 2022-12-07  
Path: S2022-12-08B.wiff- 25  
Acquired: 2022/12/08 - 23:17

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 1020886	(3.80, 1.00) (0.00, N/A, 0.0)	52.4	N/A 0.0 0.0	18.4924 [ 20.0000 ]	92.5%			
PFPeA	(262.9 / 219.0) 666783 (262.9 / 69.0) 8456	(5.10, 1.00) (0.00, N/A, -0.2)	945.2 272.4	0.0127 108.9 108.8	9.2655 [ 10.0000 ]	92.7%			
PFHxA	(313.0 / 269.0) 524220 (313.0 / 119.0) 49309	(6.23, 1.00) (0.00, N/A, 0.1)	792.9 325.9	0.0941 104.7 97.3	4.3220 [ 5.0000 ]	86.4%			
PFHpA	(363.0 / 319.0) 548525 (363.0 / 169.0) 152714	(7.15, 1.00) (0.00, N/A, 0.2)	755.7 822.1	0.2784 97.0 94.7	4.9496 [ 5.0000 ]	99.0%			
PFOA	(413.0 / 369.0) 529806 (413.0 / 169.0) 174553	(7.97, 1.00) (0.00, N/A, -0.1)	620.6 572.0	0.3295 101.8 102.3	5.0227 [ 5.0000 ]	100.5%			
PFNA	(463.0 / 419.0) 374892 (463.0 / 169.0) 81924	(8.71, 1.00) (0.00, N/A, 0.4)	584.5 115.7	0.2185 108.6 111.6	5.1244 [ 5.0000 ]	102.5%			
PFDA	(513.0 / 469.0) 588150 (513.0 / 169.0) 50209	(9.39, 1.00) (0.00, N/A, 0.4)	588.8 576.5	0.0854 96.1 82.8	4.7337 [ 5.0000 ]	94.7%			
PFUnA	(563.0 / 519.0) 806199 (563.0 / 169.0) 74543	(9.75, 1.00) (0.00, N/A, 0.1)	778.2 618.8	0.0925 86.0 99.5	4.6104 [ 5.0000 ]	92.2%			
PFDoA	(613.0 / 569.0) 848249 (613.0 / 169.0) 120795	(9.92, 1.00) (0.00, N/A, 0.2)	945.1 454.6	0.1424 119.6 127.4	3.8947 [ 5.0000 ]	77.9%			
PFTTrDA	(663.0 / 619.0) 710128 (663.0 / 169.0) 154527	(10.04, 1.01) (N/A, 0.01, -0.1)	1056.4 432.5	0.2176 116.8 113.1	3.7120 [ 5.0000 ]	74.2%			
PFTTeDA	(713.0 / 669.0) 623565 (713.0 / 169.0) 118614	(10.15, 1.00) (0.00, N/A, -0.2)	769.4 295.5	0.1902 96.6 89.1	4.0884 [ 5.0000 ]	81.8%			

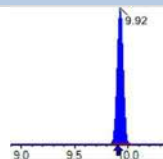
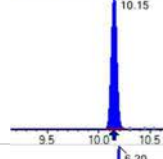
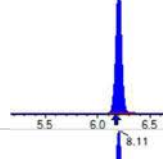
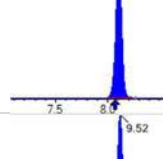
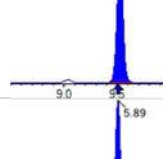
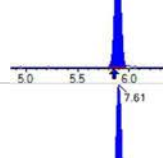
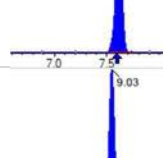
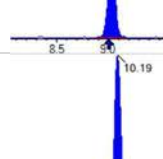
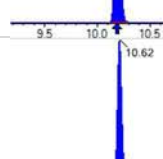
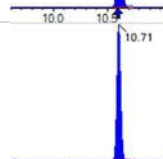
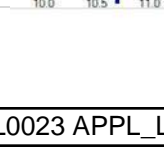
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 746510 (298.9 / 99.0) 471205	(6.20, 1.00) (0.00, N/A, 0.0)	997.7 809.7	0.6312 93.2 92.9	3.7954 [ 4.4237 ]	85.8%			
PFPeS	(349.0 / 80.0) 1388060 (349.0 / 99.0) 493460	(7.24, 0.89) (N/A, 0.03, 0.0)	1031.2 1126.1	0.3555 97.5 97.5	4.3270 [ 4.6919 ]	92.2%			
PFHxS	(399.0 / 80.0) 1141478 (399.0 / 99.0) 385091	(8.11, 1.00) (0.00, N/A, 0.2)	5287.1 730217.5	0.3374 97.8 96.0	4.0130 [ 4.5549 ]	88.1%			
PFHpS	(449.0 / 80.0) 1070886 (449.0 / 99.0) 314661	(8.88, 0.93) (N/A, 0.02, 0.1)	910.0 879.5	0.2938 103.4 98.0	4.2154 [ 4.7570 ]	88.6%			
PFOS	(499.0 / 80.0) 1455058 (499.0 / 99.0) 337596	(9.52, 1.00) (0.00, N/A, 0.0)	144.2 229.6	0.2320 90.1 95.2	4.6237 [ 4.6375 ]	99.7%			
PFNS	(549.0 / 80.0) 1794057 (549.0 / 99.0) 445824	(9.80, 1.03) (N/A, 0.01, 0.0)	865.9 905.9	0.2485 104.0 97.3	4.8551 [ 4.7994 ]	101.2%			
PFDS	(599.0 / 80.0) 1962251 (599.0 / 99.0) 476884	(9.94, 1.04) (N/A, 0.01, 0.1)	670.1 400.8	0.2430 104.5 106.9	4.2401 [ 4.8155 ]	88.1%			
PFDoS	(698.9 / 80.0) 1166949 (698.9 / 99.0) 244572	(10.13, 1.06) (N/A, 0.01, -0.2)	768.5 500.9	0.2096 90.5 94.9	4.2517 [ 4.8478 ]	87.7%			
4:2FTS	(327.0 / 307.0) 1051112 (327.0 / 81.0) 563925	(5.89, 1.00) (0.00, N/A, 0.1)	1158.9 837.1	0.5365 89.8 91.7	19.2989 [ 18.6906 ]	103.3%			
6:2FTS	(427.0 / 407.0) 580885 (427.0 / 81.0) 433303	(7.61, 1.00) (0.00, N/A, -0.1)	1119.1 872.8	0.7459 103.7 107.1	17.5299 [ 18.9808 ]	92.4%			
8:2FTS	(527.0 / 507.0) 593057 (527.0 / 81.0) 341101	(9.03, 1.00) (0.00, N/A, 0.1)	438.5 724.5	0.5752 92.3 86.9	17.2258 [ 19.1658 ]	89.9%			

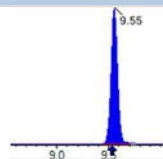
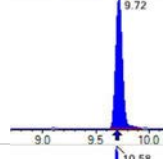
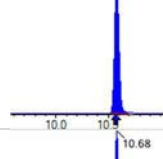
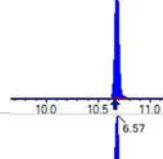
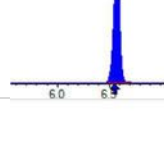
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 2063801 (498.0 / 478.0) 41692	(10.19, 1.00) (0.00, N/A, -0.2)	532.1 70232.7	0.0202 84.6 115.6	4.7759 [ 5.0000 ]	95.5%			
NMeFOSA	(511.9 / 219.0) 1857175 (511.9 / 169.0) 1207373	(10.62, 1.00) (0.00, N/A, 0.0)	790.1 834.0	0.6501 97.5 98.9	19.6268 [ 20.0000 ]	98.1%			
NEIFOSA	(526.0 / 219.0) 1934416 (526.0 / 169.0) 2021529	(10.71, 1.00) (0.00, N/A, 0.1)	1589.3 1528.1	1.0450 95.9 94.5	18.2490 [ 20.0000 ]	91.2%			
NMeFOSAA	(570.0 / 419.0) 260351 (570.0 / 483.0) 128027	(9.56, 1.00) (0.01, N/A, 0.0)	377.2 1419.4	0.4917 106.0 98.8	4.4472 [ 5.0000 ]	88.9%			
NEIFOSAA	(584.0 / 419.0) 272345 (584.0 / 526.0) 163071	(9.73, 1.00) (0.01, N/A, 0.3)	592.9 26314.3	0.5988 98.7 90.2	4.6124 [ 5.0000 ]	92.2%			
NMeFOSE	(616.1 / 59.0) 530384	(10.59, 1.00) (0.01, N/A, 0.0)	919.9	N/A 0.0 0.0	18.8589 [ 20.0000 ]	94.3%			
NEtFOSE	(630.0 / 59.0) 133412	(10.69, 1.00) (0.01, N/A, 0.0)	906.9	N/A 0.0 0.0	19.0668 [ 20.0000 ]	95.3%			
HFPO-DA	(285.0 / 169.0) 470111 (285.0 / 185.0) 1472249	(6.58, 1.00) (0.00, N/A, 0.0)	726.0 962.5	3.1317 113.0 108.3	8.9479 [ 10.0000 ]	89.5%			
ADONA	(377.0 / 85.0) 1840411 (377.0 / 251.0) 236175	(7.47, 1.14) (N/A, 0.02, 0.0)	702.3 549.5	0.1283 102.1 99.2	8.6632 [ 9.4270 ]	91.9%			
9CI-Pf3ONS	(531.0 / 351.0) 5700942 (533.0 / 353.0) 1954198	(9.75, 1.48) (N/A, 0.01, 0.0)	893.1 928.5	0.3428 102.7 116.5	9.7519 [ 9.3325 ]	104.5%			
11CI-PF3OUDS	(631.0 / 451.0) 3744572 (633.0 / 453.0) 1254425	(10.03, 1.52) (N/A, 0.01, -0.1)	934.5 986.5	0.3350 103.5 101.6	9.3097 [ 9.4321 ]	98.7%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 55999 (241.0 / 117.0) 100517	(4.62, 0.91) (N/A, 0.04, -0.1)	574.8 627.6	1.7950 103.1 106.5	15.8400 [ 20.0000 ]	79.2%			
5:3FTCA	(341.0 / 236.7) 459350 (341.0 / 217.0) 752655	(6.86, 1.10) (N/A, 0.03, 0.1)	513.6 660.0	1.6385 95.9 95.6	17.8258 [ 20.0000 ]	89.1%			
7:3FTCA	(441.0 / 317.0) 582481 (441.0 / 337.0) 476896	(8.68, 1.39) (N/A, 0.02, 0.2)	710.6 564.8	0.8187 99.3 96.5	17.5563 [ 20.0000 ]	87.8%			
PFEESA	(315.0 / 135.0) 1055476 (315.0 / 83.0) 278582	(6.70, 1.08) (N/A, 0.03, 0.0)	827.5 686.2	0.2639 88.8 89.8	8.5101 [ 8.9246 ]	95.4%			
PFMPA	(229.0 / 85.0) 182622	(4.30, 0.84) (N/A, 0.03, 0.0)	927.4	N/A 0.0 0.0	9.2158 [ 10.0000 ]	92.2%			
PFMBA	(279.0 / 85.0) 667853	(5.48, 1.07) (N/A, 0.03, 0.0)	1031.3	N/A 0.0 0.0	10.8137 [ 10.0000 ]	108.1%			
NFDHA	(201.0 / 85.0) 20214 (295.0 / 201.0) 161260	(6.11, 0.98) (N/A, 0.03, -0.1)	2717932.2 642.6	7.9774 114.0 116.0	6.8365 [ 10.0000 ]	68.4%			QC,
13C3_PFBA_IIS	(216.0 / 172.0) 84751	(3.80, N/A) (N/A, 0.03, N/A)	780.0	N/A	0.8817 [ 1.0000 ]	88.2% { 100.7% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 127200	(6.23, N/A) (N/A, 0.03, N/A)	652.6	N/A	1.0301 [ 1.0000 ]	103.0% { 109.5% }			
13C4_PFOA_IIS	(417.0 / 372.0) 107491	(7.97, N/A) (N/A, 0.02, N/A)	775.9	N/A	0.9067 [ 1.0000 ]	90.7% { 95.1% }			
13C5_PFNA_IIS	(468.0 / 423.0) 83703	(8.70, N/A) (N/A, 0.01, N/A)	401.1	N/A	0.8789 [ 1.0000 ]	87.9% { 96.9% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 92882	(9.39, N/A) (N/A, 0.03, N/A)	155.3	N/A	1.1274 [ 1.0000 ]	112.7% { 96.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 197816	(8.11, N/A) (N/A, 0.03, N/A)	987.1	N/A	0.9217 [ 1.0000 ]	92.2% { 96.6% }			
13C4_PFOS_IIS	(502.8 / 79.9) 191816	(9.52, N/A) (N/A, 0.02, N/A)	687.2	N/A	1.0306 [ 1.0000 ]	103.1% { 105.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 580026	(3.80, N/A) (N/A, 0.03, N/A)	803.0	N/A	7.2998 [ 8.0000 ]	91.2% { 98.2% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 299443	(5.10, N/A) (N/A, 0.03, N/A)	987.1	N/A	3.2272 [ 4.0000 ]	80.7% { 96.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 240677	(6.23, N/A) (N/A, 0.03, N/A)	737.5	N/A	1.8550 [ 2.0000 ]	92.8% { 95.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 218802	(7.15, N/A) (N/A, 0.03, N/A)	672.4	N/A	1.8683 [ 2.0000 ]	93.4% { 95.5% }			
13C8_PFOA_EIS	(421.0 / 376.0) 204650	(7.97, N/A) (N/A, 0.02, N/A)	475.9	N/A	1.8718 [ 2.0000 ]	93.6% { 86.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 75884	(8.71, N/A) (N/A, 0.03, N/A)	299.3	N/A	0.9187 [ 1.0000 ]	91.9% { 83.3% }			
13C6_PFDA_EIS	(519.0 / 474.0) 122471	(9.39, N/A) (N/A, 0.03, N/A)	305.6	N/A	0.9078 [ 1.0000 ]	90.8% { 102.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 198642	(9.75, N/A) (N/A, 0.01, N/A)	578.5	N/A	1.0969 [ 1.0000 ]	109.7% { 118.5% }			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 236704	(9.92, N/A) (N/A, 0.02, N/A)	1563.4	N/A	1.0770 [ 1.0000 ]	107.7% { 125.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 154730	(10.15, N/A) (N/A, 0.01, N/A)	293.2	N/A	0.9590 [ 1.0000 ]	95.9% { 109.8% }			
13C3_PFBs_EIS	(302.0 / 80.0) 644342	(6.20, N/A) (N/A, 0.03, N/A)	906.1	N/A	2.2163 [ 2.0000 ]	110.8% { 114.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 339310	(8.11, N/A) (N/A, 0.03, N/A)	777.7	N/A	2.0504 [ 2.0000 ]	102.5% { 98.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 560618	(9.52, N/A) (N/A, 0.02, N/A)	389.0	N/A	1.9172 [ 2.0000 ]	95.9% { 99.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 62363	(5.89, N/A) (N/A, 0.04, N/A)	607.0	N/A	3.8034 [ 4.0000 ]	95.1% { 96.7% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 83560	(7.61, N/A) (N/A, 0.02, N/A)	636.1	N/A	3.7985 [ 4.0000 ]	95.0% { 97.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 87693	(9.03, N/A) (N/A, 0.03, N/A)	537.4	N/A	4.5928 [ 4.0000 ]	114.8% { 110.7% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 778214	(10.19, N/A) (N/A, 0.01, N/A)	718.7	N/A	1.7433 [ 2.0000 ]	87.2% { 82.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 205905	(10.62, N/A) (N/A, 0.01, N/A)	786.2	N/A	1.5587 [ 2.0000 ]	77.9% { 88.9% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 204711	(10.71, N/A) (N/A, 0.01, N/A)	762.3	N/A	1.7091 [ 2.0000 ]	85.5% { 91.9% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 268520	( 9.55, N/A ) ( N/A, 0.02, N/A )	591.3	N/A	4.1275 [ 4.0000 ]	103.2% { 111.8% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 257373	( 9.72, N/A ) ( N/A, 0.01, N/A )	459.3	N/A	4.6030 [ 4.0000 ]	115.1% { 113.4% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 400074	( 10.58, N/A ) ( N/A, 0.01, N/A )	796.4	N/A	17.7317 [ 20.0000 ]	88.7% { 92.1% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 204370	( 10.68, N/A ) ( N/A, 0.01, N/A )	1148.5	N/A	17.7771 [ 20.0000 ]	88.9% { 93.3% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 632850	( 6.57, N/A ) ( N/A, 0.03, N/A )	955.1	N/A	7.4061 [ 8.0000 ]	92.6% { 94.8% }			

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA 1633

Laboratory: APPL, LLC  
 Client: AECOM  
 Instrument ID: Saphira  
 Standard ID: 22L0180

Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling  
 Calibration: 2250016  
 Sequence: SB03753

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SB03753-CCV3	PFBA	20.0	18.5	92.7	ng/mL	+/- 30.00%
	PFPEA	10.0	9.46	94.6	ng/mL	+/- 30.00%
	PFHXA	5.00	4.41	88.2	ng/mL	+/- 30.00%
	PFHPA	5.00	4.40	88.1	ng/mL	+/- 30.00%
	PFOA	5.00	4.55	91.0	ng/mL	+/- 30.00%
	PFNA	5.00	5.22	104	ng/mL	+/- 30.00%
	PFDA	5.00	4.31	86.2	ng/mL	+/- 30.00%
	PFUnA	5.00	4.53	90.5	ng/mL	+/- 30.00%
	PFDOA	5.00	4.67	93.4	ng/mL	+/- 30.00%
	PFTRDA	5.00	4.97	99.4	ng/mL	+/- 30.00%
	PFTEDA	5.00	5.08	102	ng/mL	+/- 30.00%
	PFBS	4.42	4.32	97.7	ng/mL	+/- 30.00%
	PFPEs	4.70	4.20	89.4	ng/mL	+/- 30.00%
	PFHXS	4.58	4.00	87.3	ng/mL	+/- 30.00%
	PFHPS	4.78	4.38	91.7	ng/mL	+/- 30.00%
	PFOS	4.65	4.06	87.3	ng/mL	+/- 30.00%
	PFNS	4.80	4.28	89.2	ng/mL	+/- 30.00%
	PFDS	4.82	4.42	91.8	ng/mL	+/- 30.00%
	PFDOS	4.85	3.81	78.6	ng/mL	+/- 30.00%
	4:2FTS	18.8	17.7	94.3	ng/mL	+/- 30.00%
	6:2FTS	19.0	18.4	97.1	ng/mL	+/- 30.00%
	8:2FTS	19.2	19.5	101	ng/mL	+/- 30.00%
	PFOSA	5.00	4.81	96.2	ng/mL	+/- 30.00%
	NMeFOSA	20.0	19.1	95.7	ng/mL	+/- 30.00%
	NEtFOSA	20.0	18.4	92.0	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	4.56	91.2	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	5.19	104	ng/mL	+/- 30.00%
	NMeFOSE	20.0	17.8	89.2	ng/mL	+/- 30.00%
	NEtFOSE	20.0	19.3	96.5	ng/mL	+/- 30.00%
	HFPO-DA	10.0	9.09	90.9	ng/mL	+/- 30.00%

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA 1633

Laboratory: APPL, LLC

Work Order: 22L0023

Client: AECOM

Project: Red Hill AFFF Assessment Sampling

Instrument ID: Saphira

Calibration: 2250016

Standard ID: 22L0180

Sequence: SB03753

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SB03753-CCV3	ADONA	9.45	9.22	97.5	ng/mL	+/- 30.00%
	PFEESA	8.90	7.89	88.6	ng/mL	+/- 30.00%
	PFMPA	10.0	8.96	89.6	ng/mL	+/- 30.00%
	PFMBA	10.0	9.21	92.1	ng/mL	+/- 30.00%
	NFDHA	10.0	7.64	76.4	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	10.6	113	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	9.47	100	ng/mL	+/- 30.00%
	3:3FTCA	20.0	16.8	84.0	ng/mL	+/- 30.00%
	5:3FTCA	20.0	17.1	85.5	ng/mL	+/- 30.00%
	7:3FTCA	20.0	17.5	87.7	ng/mL	+/- 30.00%



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03753-CCV3  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 45  
 Acquired: 2022/12/09 - 03:31

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	( 212.9 / 169.0 ) 1050628	( 3.78 , 1.00 ) ( 0.00 , N/A , 0.0 )	62.2	N/A 0.0 0.0	18.5464 [ 20.0000 ]	92.7%			
PFPeA	( 262.9 / 219.0 ) 781780 ( 262.9 / 69.0 ) 9643	( 5.10 , 1.00 ) ( 0.00 , N/A , 0.0 )	898.1 284.1	0.0123 105.9 105.9	9.4557 [ 10.0000 ]	94.6%			
PFHxA	( 313.0 / 269.0 ) 585002 ( 313.0 / 119.0 ) 52274	( 6.24 , 1.00 ) ( 0.00 , N/A , -0.1 )	819.9 503.9	0.0894 99.4 92.4	4.4095 [ 5.0000 ]	88.2%			
PFHpA	( 363.0 / 319.0 ) 532374 ( 363.0 / 169.0 ) 171949	( 7.17 , 1.00 ) ( 0.00 , N/A , 0.0 )	835.1 944.4	0.3230 112.6 109.9	4.4037 [ 5.0000 ]	88.1%			
PFOA	( 413.0 / 369.0 ) 595897 ( 413.0 / 169.0 ) 197271	( 7.98 , 1.00 ) ( 0.00 , N/A , 0.0 )	732.4 486.4	0.3310 102.3 102.8	4.5497 [ 5.0000 ]	91.0%			
PFNA	( 463.0 / 419.0 ) 495822 ( 463.0 / 169.0 ) 103686	( 8.72 , 1.00 ) ( 0.00 , N/A , 0.0 )	648.4 148.6	0.2091 103.9 106.8	5.2199 [ 5.0000 ]	104.4%			
PFDA	( 513.0 / 469.0 ) 623861 ( 513.0 / 169.0 ) 63771	( 9.39 , 1.00 ) ( 0.00 , N/A , 0.3 )	524.5 319.8	0.1022 115.1 99.2	4.3122 [ 5.0000 ]	86.2%			
PFUnA	( 563.0 / 519.0 ) 884379 ( 563.0 / 169.0 ) 85234	( 9.75 , 1.00 ) ( 0.00 , N/A , 0.1 )	636.0 388.6	0.0964 89.7 103.7	4.5253 [ 5.0000 ]	90.5%			
PFDoA	( 613.0 / 569.0 ) 884645 ( 613.0 / 169.0 ) 104246	( 9.92 , 1.00 ) ( 0.00 , N/A , 0.1 )	770.8 231.1	0.1178 99.0 105.5	4.6686 [ 5.0000 ]	93.4%			
PFTrDA	( 663.0 / 619.0 ) 826859 ( 663.0 / 169.0 ) 151731	( 10.04 , 1.01 ) ( N/A , 0.00 , -0.2 )	726.7 419.4	0.1835 98.5 95.4	4.9678 [ 5.0000 ]	99.4%			
PFTeDA	( 713.0 / 669.0 ) 705890 ( 713.0 / 169.0 ) 127982	( 10.14 , 1.00 ) ( 0.00 , N/A , -0.2 )	738.6 400.2	0.1813 92.1 84.9	5.0779 [ 5.0000 ]	101.6%			

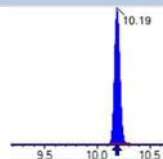
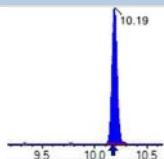
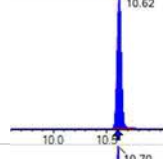
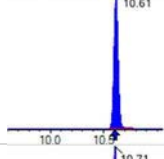
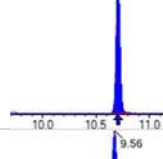
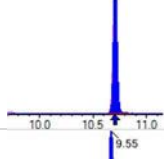
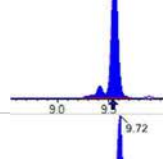
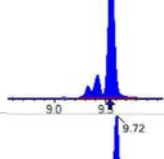
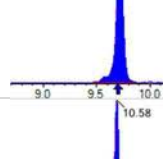
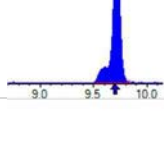
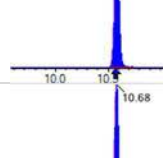
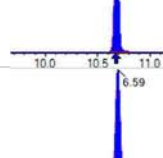
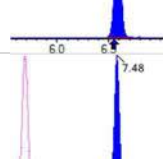
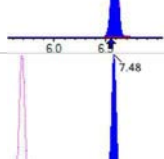
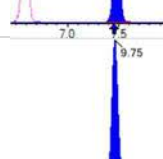
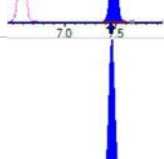
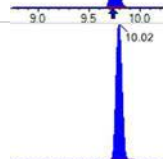
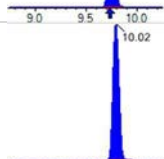
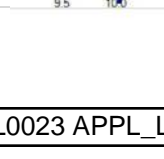
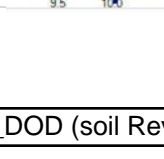


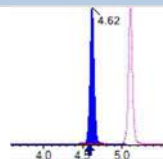
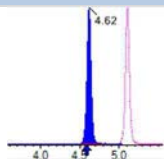
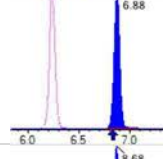
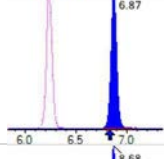
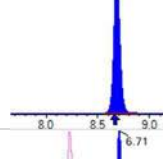
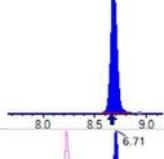
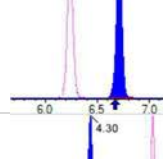
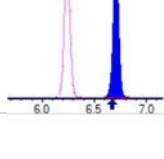
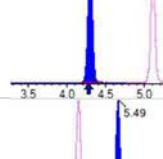
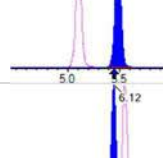
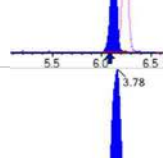
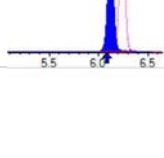
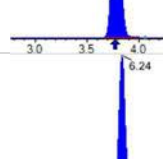
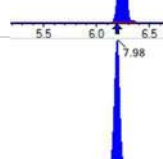
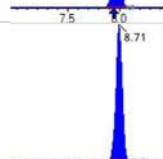
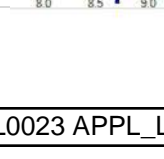
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 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03753-CCV3  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

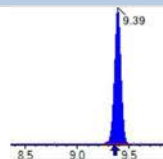
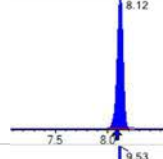
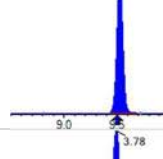
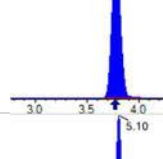
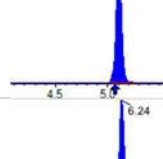
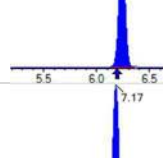
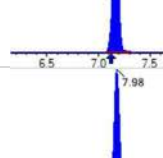
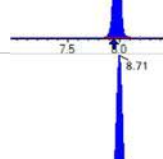
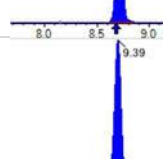
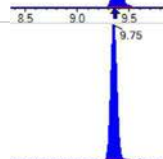
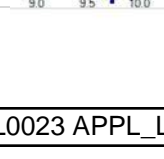
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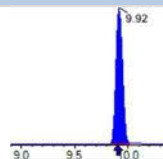
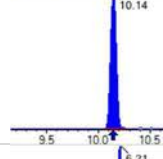
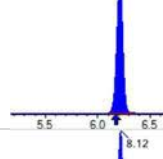
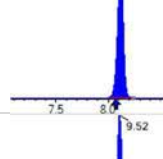
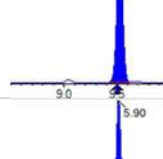
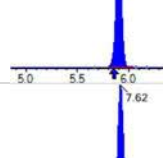
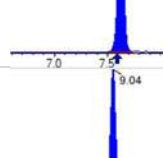
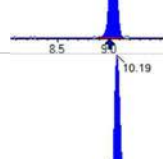
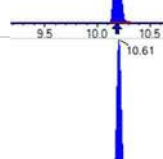
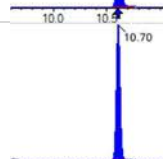
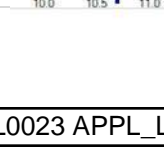
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 842878 ( 298.9 / 99.0 ) 535979	( 6.21 , 1.00 ) ( 0.00 , N/A , 0.0 )	1112.8 994.3	0.6359 93.9 93.6	4.3184 [ 4.4237 ]	97.6%			
PFPeS	( 349.0 / 80.0 ) 1502147 ( 349.0 / 99.0 ) 541148	( 7.25 , 0.89 ) ( N/A , 0.04 , 0.0 )	894.7 805.7	0.3602 98.8 98.8	4.1998 [ 4.6919 ]	89.5%			
PFHxS	( 399.0 / 80.0 ) 1267751 ( 399.0 / 99.0 ) 442701	( 8.12 , 1.00 ) ( 0.00 , N/A , 0.3 )	18990.7 8822.7	0.3492 101.3 99.3	3.9973 [ 4.5549 ]	87.8%			
PFHpS	( 449.0 / 80.0 ) 1320258 ( 449.0 / 99.0 ) 368072	( 8.88 , 0.93 ) ( N/A , 0.03 , 0.0 )	1183.6 661.8	0.2788 98.1 93.0	4.3841 [ 4.7570 ]	92.2%			
PFOS	( 499.0 / 80.0 ) 1515072 ( 499.0 / 99.0 ) 384272	( 9.53 , 1.00 ) ( 0.00 , N/A , 0.2 )	113.8 233.0	0.2536 98.5 104.1	4.0613 [ 4.6375 ]	87.6%			
PFNS	( 549.0 / 80.0 ) 1876035 ( 549.0 / 99.0 ) 482250	( 9.79 , 1.03 ) ( N/A , 0.01 , -0.1 )	740.8 923.0	0.2571 107.6 100.7	4.2828 [ 4.7994 ]	89.2%			
PFDS	( 599.0 / 80.0 ) 2426950 ( 599.0 / 99.0 ) 530125	( 9.94 , 1.04 ) ( N/A , 0.01 , 0.1 )	550.7 660.8	0.2184 93.9 96.1	4.4240 [ 4.8155 ]	91.9%			
PFDoS	( 698.9 / 80.0 ) 1240017 ( 698.9 / 99.0 ) 294924	( 10.13 , 1.06 ) ( N/A , 0.01 , 0.0 )	894.6 689.5	0.2378 102.7 107.6	3.8112 [ 4.8478 ]	78.6%			
4:2FTS	( 327.0 / 307.0 ) 1008953 ( 327.0 / 81.0 ) 587887	( 5.90 , 1.00 ) ( 0.00 , N/A , 0.0 )	1050.3 803.2	0.5827 97.5 99.6	17.7233 [ 18.6906 ]	94.8%			
6:2FTS	( 427.0 / 407.0 ) 685410 ( 427.0 / 81.0 ) 519666	( 7.62 , 1.00 ) ( 0.00 , N/A , 0.0 )	924.2 963.6	0.7582 105.4 108.8	18.4465 [ 18.9808 ]	97.2%			
8:2FTS	( 527.0 / 507.0 ) 606774 ( 527.0 / 81.0 ) 416881	( 9.04 , 1.00 ) ( 0.00 , N/A , 0.0 )	396.1 348.3	0.6870 110.2 103.7	19.4831 [ 19.1658 ]	101.7%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 2273828 (498.0 / 478.0) 39922	(10.19, 1.00) (0.00, N/A, -0.1)	1402.4 663.1	0.0176 73.5 100.4	4.8085 [ 5.0000 ]	96.2%			
NMeFOSA	(511.9 / 219.0) 1684982 (511.9 / 169.0) 1092639	(10.62, 1.00) (0.00, N/A, 0.1)	1291.2 947.7	0.6485 97.2 98.7	19.1321 [ 20.0000 ]	95.7%			
NEIFOSA	(526.0 / 219.0) 1759189 (526.0 / 169.0) 1928084	(10.70, 1.00) (0.00, N/A, -0.1)	1416.4 1718.7	1.0960 100.6 99.1	18.4008 [ 20.0000 ]	92.0%			
NMeFOSAA	(570.0 / 419.0) 321715 (570.0 / 483.0) 162818	(9.56, 1.00) (0.00, N/A, 0.2)	622.7 392.4	0.5061 109.1 101.7	4.5584 [ 5.0000 ]	91.2%			
NEIFOSAA	(584.0 / 419.0) 405494 (584.0 / 526.0) 218248	(9.72, 1.00) (0.00, N/A, 0.2)	742.5 4306.3	0.5382 88.7 81.1	5.1911 [ 5.0000 ]	103.8%			
NMeFOSE	(616.1 / 59.0) 509583	(10.58, 1.00) (0.01, N/A, 0.0)	798.2	N/A 0.0 0.0	17.8409 [ 20.0000 ]	89.2%			
NEtFOSE	(630.0 / 59.0) 137589	(10.68, 1.00) (0.01, N/A, 0.0)	881.4	N/A 0.0 0.0	19.2991 [ 20.0000 ]	96.5%			
HFPO-DA	(285.0 / 169.0) 507739 (285.0 / 185.0) 1471859	(6.59, 1.00) (0.00, N/A, 0.1)	668.3 1076.4	2.8989 104.6 100.3	9.0881 [ 10.0000 ]	90.9%			
ADONA	(377.0 / 85.0) 2081721 (377.0 / 251.0) 265686	(7.48, 1.14) (N/A, 0.04, 0.0)	913.8 717.4	0.1276 101.5 98.6	9.2150 [ 9.4270 ]	97.8%			
9CI-Pf3ONS	(531.0 / 351.0) 6564685 (533.0 / 353.0) 2102487	(9.75, 1.48) (N/A, 0.01, 0.1)	1103.5 1180.9	0.3203 95.9 108.8	10.5601 [ 9.3325 ]	113.2%			
11CI-PF3OUDS	(631.0 / 451.0) 4052370 (633.0 / 453.0) 1195339	(10.02, 1.52) (N/A, 0.00, 0.0)	670.0 693.1	0.2950 91.2 89.5	9.4744 [ 9.4321 ]	100.4%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 68204 (241.0 / 117.0) 116818	(4.62, 0.90) (N/A, 0.03, 0.0)	549.6 730.8	1.7128 98.4 101.6	16.7920 [ 20.0000 ]	84.0%			
5:3FTCA	(341.0 / 236.7) 482124 (341.0 / 217.0) 786619	(6.88, 1.10) (N/A, 0.04, 0.1)	600.7 687.7	1.6316 95.5 95.2	17.1049 [ 20.0000 ]	85.5%			
7:3FTCA	(441.0 / 317.0) 636508 (441.0 / 337.0) 532009	(8.68, 1.39) (N/A, 0.03, 0.0)	693.7 610.2	0.8358 101.3 98.5	17.5393 [ 20.0000 ]	87.7%			
PFEESA	(315.0 / 135.0) 1069916 (315.0 / 83.0) 335127	(6.71, 1.08) (N/A, 0.04, 0.1)	1235.4 979.3	0.3132 105.3 106.6	7.8867 [ 8.9246 ]	88.4%			
PFMPA	(229.0 / 85.0) 203883	(4.30, 0.84) (N/A, 0.03, 0.0)	763.7	N/A 0.0 0.0	8.9553 [ 10.0000 ]	89.6%			
PFMBA	(279.0 / 85.0) 653653	(5.49, 1.08) (N/A, 0.04, 0.0)	1067.6	N/A 0.0 0.0	9.2121 [ 10.0000 ]	92.1%			
NFDHA	(201.0 / 85.0) 24673 (295.0 / 201.0) 173632	(6.12, 0.98) (N/A, 0.04, 0.1)	504.5 685.7	7.0374 100.6 102.4	7.6411 [ 10.0000 ]	76.4%			
13C3_PFBA_IIS	(216.0 / 172.0) 80972	(3.78, N/A) (N/A, 0.02, N/A)	756.8	N/A	0.8423 [ 1.0000 ]	84.2% { 96.2% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 130035	(6.24, N/A) (N/A, 0.04, N/A)	1161.7	N/A	1.0531 [ 1.0000 ]	105.3% { 112.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 123451	(7.98, N/A) (N/A, 0.03, N/A)	743.0	N/A	1.0413 [ 1.0000 ]	104.1% { 109.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 109318	(8.71, N/A) (N/A, 0.03, N/A)	398.5	N/A	1.1478 [ 1.0000 ]	114.8% { 126.6% }			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 112212	(9.39, N/A) (N/A, 0.03, N/A)	482.7	N/A	1.3621 [ 1.0000 ]	136.2% { 117.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 247370	(8.12, N/A) (N/A, 0.04, N/A)	1086.1	N/A	1.1525 [ 1.0000 ]	115.3% { 120.8% }			
13C4_PFOS_IIS	(502.8 / 79.9) 223289	(9.53, N/A) (N/A, 0.02, N/A)	530.9	N/A	1.1997 [ 1.0000 ]	120.0% { 122.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 595185	(3.78, N/A) (N/A, 0.02, N/A)	865.3	N/A	7.8403 [ 8.0000 ]	98.0% { 100.7% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 344027	(5.10, N/A) (N/A, 0.04, N/A)	870.4	N/A	3.6268 [ 4.0000 ]	90.7% { 110.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 263256	(6.24, N/A) (N/A, 0.04, N/A)	901.2	N/A	1.9848 [ 2.0000 ]	99.2% { 104.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 238683	(7.17, N/A) (N/A, 0.04, N/A)	912.1	N/A	1.9936 [ 2.0000 ]	99.7% { 104.2% }			
13C8_PFOA_EIS	(421.0 / 376.0) 254110	(7.98, N/A) (N/A, 0.03, N/A)	522.1	N/A	2.0237 [ 2.0000 ]	101.2% { 106.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 98525	(8.71, N/A) (N/A, 0.03, N/A)	753.2	N/A	0.9133 [ 1.0000 ]	91.3% { 108.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 142605	(9.39, N/A) (N/A, 0.03, N/A)	587.2	N/A	0.8749 [ 1.0000 ]	87.5% { 119.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 222002	(9.75, N/A) (N/A, 0.01, N/A)	237.8	N/A	1.0147 [ 1.0000 ]	101.5% { 132.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 205940	(9.92, N/A) (N/A, 0.01, N/A)	351.0	N/A	0.7756 [ 1.0000 ]	77.6% { 109.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 141026	(10.14, N/A) (N/A, 0.00, N/A)	309.0	N/A	0.7235 [ 1.0000 ]	72.4% { 100.1% }			
13C3_PFBs_EIS	(302.0 / 80.0) 639407	(6.21, N/A) (N/A, 0.04, N/A)	986.7	N/A	1.7588 [ 2.0000 ]	87.9% { 113.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 378322	(8.12, N/A) (N/A, 0.04, N/A)	984.9	N/A	1.8281 [ 2.0000 ]	91.4% { 110.2% }			
13C8_PFOS_EIS	(507.0 / 80.0) 664567	(9.52, N/A) (N/A, 0.02, N/A)	353.4	N/A	1.9524 [ 2.0000 ]	97.6% { 117.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 65184	(5.90, N/A) (N/A, 0.05, N/A)	595.1	N/A	3.1791 [ 4.0000 ]	79.5% { 101.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 93697	(7.62, N/A) (N/A, 0.04, N/A)	638.0	N/A	3.4061 [ 4.0000 ]	85.2% { 109.3% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 79327	(9.04, N/A) (N/A, 0.03, N/A)	388.3	N/A	3.3224 [ 4.0000 ]	83.1% { 100.2% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 851608	(10.19, N/A) (N/A, 0.01, N/A)	696.6	N/A	1.6388 [ 2.0000 ]	81.9% { 89.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 191645	(10.61, N/A) (N/A, 0.01, N/A)	542.9	N/A	1.2463 [ 2.0000 ]	62.3% { 82.8% }			
D5_NeIFOSA_EIS	(531.1 / 169.0) 184631	(10.70, N/A) (N/A, 0.01, N/A)	590.0	N/A	1.3242 [ 2.0000 ]	66.2% { 82.9% }			



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03753-CCV3  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 45  
 Acquired: 2022/12/09 - 03:31

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 323718	( 9.55, N/A ) ( N/A, 0.02, N/A )	681.6	N/A	4.2746 [ 4.0000 ]	106.9% { 134.8% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 340480	( 9.72, N/A ) ( N/A, 0.01, N/A )	236.6	N/A	5.2310 [ 4.0000 ]	130.8% { 150.0% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 406316	( 10.58, N/A ) ( N/A, 0.01, N/A )	785.3	N/A	15.4701 [ 20.0000 ]	77.4% { 93.6% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 208231	( 10.67, N/A ) ( N/A, 0.01, N/A )	1167.2	N/A	15.5599 [ 20.0000 ]	77.8% { 95.1% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 672961	( 6.59, N/A ) ( N/A, 0.04, N/A )	759.2	N/A	7.7038 [ 8.0000 ]	96.3% { 100.8% }			

## ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03724  
 Calibration: 2250016

SDG:  
 Project: Red Hill AFFF Assessment Sam  
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SB03724-ICB1	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.00	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.0279	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPEs	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.00	ng/mL	0.10	U
	PFNS	0.00	ng/mL	0.10	U
	PFDS	0.00	ng/mL	0.10	U
	PFDOS	0.00	ng/mL	0.10	U
	4:2FTS	0.00	ng/mL	0.40	U
	6:2FTS	0.00	ng/mL	0.40	U
	8:2FTS	0.00	ng/mL	0.40	U
	PFOSA	0.0135	ng/mL	0.10	U
	NMeFOSA	0.00	ng/mL	0.40	U
	NEtFOSA	0.00	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.0151	ng/mL	0.10	U
	NMeFOSE	0.0824	ng/mL	0.40	U
	NEtFOSE	0.0947	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
	PFMPA	0.00	ng/mL	0.20	U

## ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03724  
 Calibration: 2250016

SDG:  
 Project: Red Hill AFFF Assessment Sam  
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SB03724-ICB1	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	8.47	ng/mL		
	13C5-PFPEA	4.23	ng/mL		
	13C5-PFHXA	2.09	ng/mL		
	13C4-PFHPA	2.05	ng/mL		
	13C8-PFOA	2.21	ng/mL		
	13C9-PFNA	1.06	ng/mL		
	13C6-PFDA	0.960	ng/mL		
	13C7-PFUnA	1.20	ng/mL		
	13C2-PFDOA	1.17	ng/mL		
	13C2-PFTEDA	1.05	ng/mL		
	13C3-PFBS	2.07	ng/mL		
	13C3-PFHXS	2.05	ng/mL		
	13C8-PFOS	2.04	ng/mL		
	13C2-4:2FTS	3.95	ng/mL		
	13C2-6:2FTS	3.92	ng/mL		
	13C2-8:2FTS	4.35	ng/mL		
	13C8-PFOSA	2.04	ng/mL		
	D5-NETFOSA	2.18	ng/mL		
	D3-NMEFOSA	2.04	ng/mL		
	D3-NMEFOSAA	4.11	ng/mL		
	D5-NETFOSAA	3.79	ng/mL		
	D7-NMEFOSE	21.8	ng/mL		
	D9-NETFOSE	21.3	ng/mL		
	13C3-HFPO-DA	8.78	ng/mL		



Chemist: ABK  
Instrument: Saphira  
Type: Sciex Q3 5500

Sample I.D.: SB03724-ICB1  
DF, IV: 1, 10.0µL  
Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
Path: S2022-12-07A21.wif- 0  
Acquired: 2022/12/07 - 15:53

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(262.9 / 219.0) N/A (262.9 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) 3867 (713.0 / 169.0) 1009	(10.17, 1.00) (-0.01, N/A, -1.6)	38.3 25.7	0.2610 132.6 132.6	0.0279	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) N/A ( 298.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) N/A ( 499.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) N/A ( 427.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03724-ICB1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-07A21.wiff- 0  
 Acquired: 2022/12/07 - 15:53

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 6522 ( 498.0 / 478.0 ) N/A	( 10.24 , 1.00 ) ( 0.01 , N/A , #Value)	18.2 N/A	N/A 0.0 0.0	0.0135	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSAA	( 584.0 / 419.0 ) 700 ( 584.0 / 526.0 ) 1387	( 9.79 , 1.00 ) ( 0.02 , N/A , 2.1 )	540.2 465.8	1.9824 326.7 326.7	0.0151	N/A			IR2,
NMeFOSE	( 616.1 / 59.0 ) 2715	( 10.61 , 1.00 ) ( 0.00 , N/A , 0.0 )	36.5	N/A 0.0 0.0	0.0824	N/A			
NEIFOSE	( 630.0 / 59.0 ) 757	( 10.71 , 1.00 ) ( 0.01 , N/A , 0.0 )	42.9	N/A 0.0 0.0	0.0947	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-PF3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



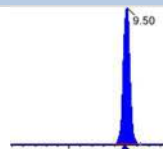
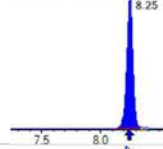
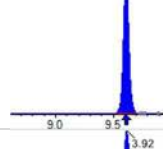
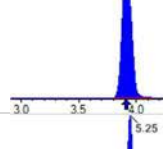
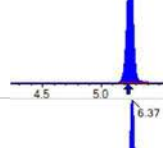
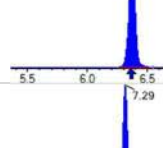
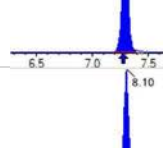
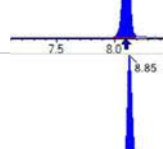
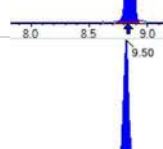
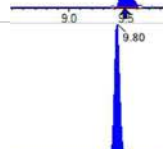
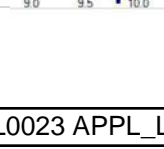


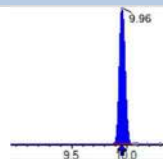
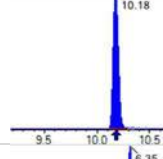
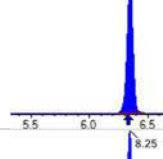
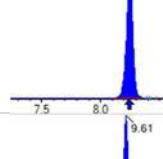
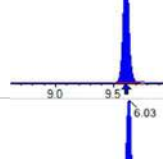
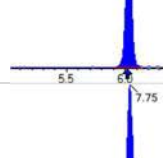
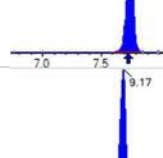
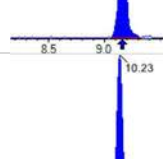
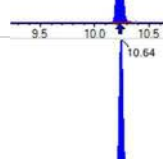
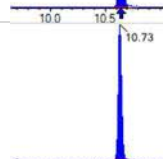
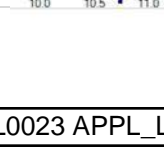
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

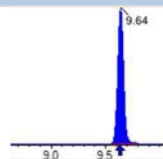
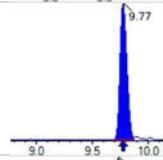
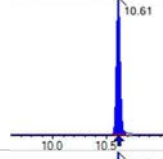
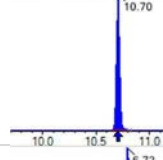
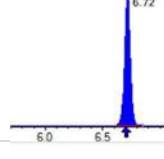
Sample I.D.: SB03724-ICB1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-07A21.wiff-0  
 Acquired: 2022/12/07 - 15:53

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBa_IIS	(216.0 / 172.0) 84862	(3.92, N/A) (N/A, 0.02, N/A)	1693.9	N/A	0.8828 [ 1.0000 ]	88.3% { 83.1% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 111696	(6.37, N/A) (N/A, 0.01, N/A)	1206.7	N/A	0.9045 [ 1.0000 ]	90.5% { 90.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 103375	(8.11, N/A) (N/A, 0.01, N/A)	961.8	N/A	0.8720 [ 1.0000 ]	87.2% { 91.8% }			
13C5_PFNAl_IIS	(468.0 / 423.0) 81151	(8.85, N/A) (N/A, 0.01, N/A)	348.3	N/A	0.8521 [ 1.0000 ]	85.2% { 79.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 76991	(9.50, N/A) (N/A, 0.01, N/A)	147.4	N/A	0.9345 [ 1.0000 ]	93.5% { 87.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 199676	(8.25, N/A) (N/A, 0.01, N/A)	1476.2	N/A	0.9303 [ 1.0000 ]	93.0% { 90.3% }			
13C4_PFOS_IIS	(502.8 / 79.9) 182797	(9.61, N/A) (N/A, 0.01, N/A)	1064.1	N/A	0.9821 [ 1.0000 ]	98.2% { 90.1% }			
13C4_PFBA_EIS	(217.0 / 172.0) 674000	(3.92, N/A) (N/A, 0.02, N/A)	3124.5	N/A	8.4715 [ 8.0000 ]	105.9% { 86.0% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 344779	(5.25, N/A) (N/A, 0.02, N/A)	2487.2	N/A	4.2316 [ 4.0000 ]	105.8% { 92.7% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 238218	(6.37, N/A) (N/A, 0.01, N/A)	1572.8	N/A	2.0909 [ 2.0000 ]	104.5% { 89.8% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 210968	(7.29, N/A) (N/A, 0.01, N/A)	1142.9	N/A	2.0515 [ 2.0000 ]	102.6% { 93.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 232369	(8.10, N/A) (N/A, 0.01, N/A)	999.2	N/A	2.2100 [ 2.0000 ]	110.5% { 91.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 84497	(8.85, N/A) (N/A, 0.01, N/A)	575.1	N/A	1.0551 [ 1.0000 ]	105.5% { 92.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 107409	(9.50, N/A) (N/A, 0.01, N/A)	1896.7	N/A	0.9604 [ 1.0000 ]	96.0% { 87.1% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 179839	(9.80, N/A) (N/A, 0.00, N/A)	548.7	N/A	1.1980 [ 1.0000 ]	119.8% { 108.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 213076	(9.96, N/A) (N/A, 0.00, N/A)	668.9	N/A	1.1696 [ 1.0000 ]	117.0% { 92.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 140516	(10.18, N/A) (N/A, 0.00, N/A)	440.8	N/A	1.0507 [ 1.0000 ]	105.1% { 94.4% }			
13C3_PFBs_EIS	(302.0 / 80.0) 607740	(6.35, N/A) (N/A, 0.01, N/A)	2491.5	N/A	2.0710 [ 2.0000 ]	103.5% { 94.1% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 342458	(8.25, N/A) (N/A, 0.01, N/A)	1464.0	N/A	2.0501 [ 2.0000 ]	102.5% { 92.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 568776	(9.61, N/A) (N/A, 0.01, N/A)	1090.7	N/A	2.0411 [ 2.0000 ]	102.1% { 92.3% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 65432	(6.03, N/A) (N/A, 0.01, N/A)	693.0	N/A	3.9534 [ 4.0000 ]	98.8% { 90.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 87103	(7.75, N/A) (N/A, 0.01, N/A)	1132.8	N/A	3.9227 [ 4.0000 ]	98.1% { 91.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 83786	(9.17, N/A) (N/A, 0.01, N/A)	566.3	N/A	4.3473 [ 4.0000 ]	108.7% { 94.6% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 868881	(10.23, N/A) (N/A, 0.01, N/A)	1049.5	N/A	2.0425 [ 2.0000 ]	102.1% { 97.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 257174	(10.64, N/A) (N/A, 0.00, N/A)	945.5	N/A	2.0429 [ 2.0000 ]	102.1% { 98.9% }			
D5_NeIFOSA_EIS	(531.1 / 169.0) 248544	(10.73, N/A) (N/A, 0.00, N/A)	1775.5	N/A	2.1775 [ 2.0000 ]	108.9% { 102.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 254775	(9.64, N/A) (N/A, 0.01, N/A)	1002.2	N/A	4.1095 [ 4.0000 ]	102.7% { 93.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 202193	(9.77, N/A) (N/A, 0.00, N/A)	642.4	N/A	3.7945 [ 4.0000 ]	94.9% { 87.6% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 468469	(10.61, N/A) (N/A, 0.00, N/A)	1898.9	N/A	21.7875 [ 20.0000 ]	108.9% { 102.9% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 233543	(10.70, N/A) (N/A, 0.01, N/A)	2868.6	N/A	21.3171 [ 20.0000 ]	106.6% { 98.3% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 659030	(6.72, N/A) (N/A, 0.01, N/A)	1491.7	N/A	8.7830 [ 8.0000 ]	109.8% { 98.1% }			

## ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03753  
 Calibration: 2250016

SDG:  
 Project: Red Hill AFFF Assessment Sam  
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SB03753-CCB1	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.00	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPEs	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.00	ng/mL	0.10	U
	PFNS	0.00	ng/mL	0.10	U
	PFDS	0.00	ng/mL	0.10	U
	PFDOS	0.00	ng/mL	0.10	U
	4:2FTS	0.00	ng/mL	0.40	U
	6:2FTS	0.00	ng/mL	0.40	U
	8:2FTS	0.00	ng/mL	0.40	U
	PFOSA	0.00	ng/mL	0.10	U
	NMeFOSA	0.00	ng/mL	0.40	U
	NEtFOSA	0.00	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.00	ng/mL	0.40	U
	NEtFOSE	0.00	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
	PFMPA	0.00	ng/mL	0.20	U

## ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03753  
 Calibration: 2250016

SDG:  
 Project: Red Hill AFFF Assessment Sam  
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SB03753-CCB1	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	8.34	ng/mL		
	13C5-PFPEA	3.97	ng/mL		
	13C5-PFHXA	2.06	ng/mL		
	13C4-PFHPA	2.06	ng/mL		
	13C8-PFOA	1.93	ng/mL		
	13C9-PFNA	0.977	ng/mL		
	13C6-PFDA	0.939	ng/mL		
	13C7-PFUnA	0.950	ng/mL		
	13C2-PFDOA	0.978	ng/mL		
	13C2-PFTEDA	0.727	ng/mL		
	13C3-PFBS	2.01	ng/mL		
	13C3-PFHXS	1.98	ng/mL		
	13C8-PFOS	2.22	ng/mL		
	13C2-4:2FTS	3.71	ng/mL		
	13C2-6:2FTS	3.49	ng/mL		
	13C2-8:2FTS	4.14	ng/mL		
	13C8-PFOSA	2.16	ng/mL		
	D5-NETFOSA	2.07	ng/mL		
	D3-NMEFOSA	1.81	ng/mL		
	D3-NMEFOSAA	4.37	ng/mL		
	D5-NETFOSAA	4.43	ng/mL		
	D7-NMEFOSE	22.4	ng/mL		
	D9-NETFOSE	20.7	ng/mL		
	13C3-HFPO-DA	8.36	ng/mL		



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03753-CCB1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff-1  
 Acquired: 2022/12/08 - 18:12

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(262.9 / 219.0) N/A (262.9 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) N/A ( 298.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) N/A ( 499.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) N/A ( 427.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



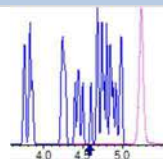
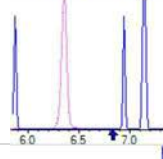
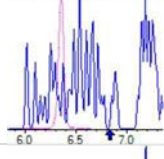
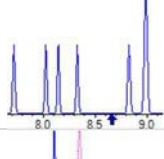
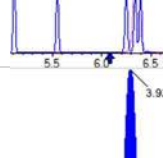
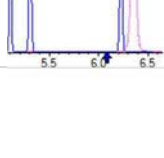
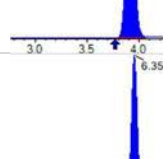
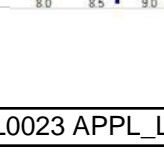


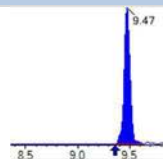
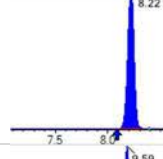
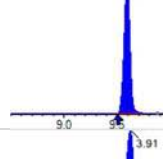
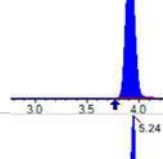
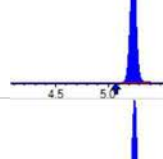
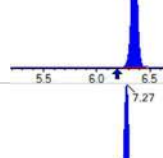
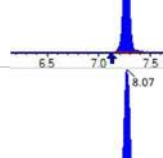
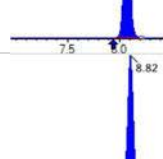
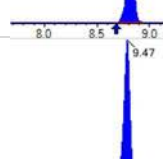
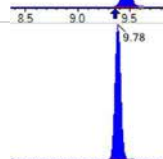
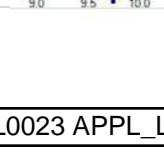
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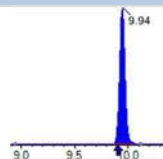
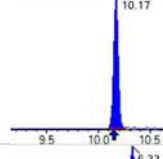
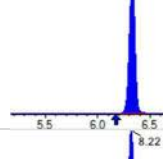
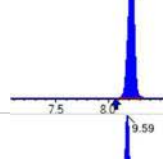
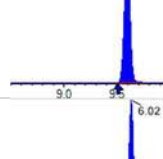
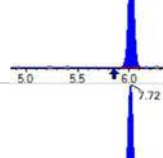
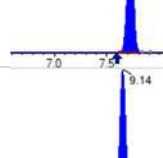
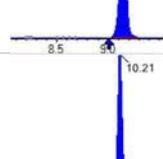
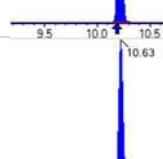
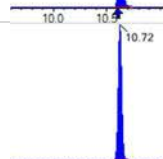
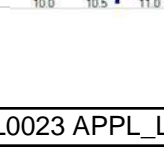
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Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
Path: S2022-12-08B.wiff- 1  
Acquired: 2022/12/08 - 18:12

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(511.9 / 219.0) N/A (511.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.1 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-PF3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 83302	(3.92, N/A) (N/A, 0.15, N/A)	698.1	N/A	0.8666 [ 1.0000 ]	86.7% { 98.9% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 120090	(6.35, N/A) (N/A, 0.16, N/A)	678.1	N/A	0.9725 [ 1.0000 ]	97.3% { 103.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 129732	(8.08, N/A) (N/A, 0.13, N/A)	347.6	N/A	1.0943 [ 1.0000 ]	109.4% { 114.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 101608	(8.82, N/A) (N/A, 0.13, N/A)	582.1	N/A	1.0669 [ 1.0000 ]	106.7% { 117.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-Imin, $\Delta$ RT-CVmin, $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 101292	(9.47, N/A) (N/A, 0.11, N/A)	158.9	N/A	1.2295 [1.0000]	123.0% {105.6%}			
18O2_PFHxS_IIS	(403.0 / 83.9) 216024	(8.22, N/A) (N/A, 0.14, N/A)	1018.3	N/A	1.0065 [1.0000]	100.6% {105.5%}			
13C4_PFOS_IIS	(502.8 / 79.9) 188499	(9.59, N/A) (N/A, 0.09, N/A)	315.2	N/A	1.0128 [1.0000]	101.3% {103.4%}			
13C4_PFBA_EIS	(217.0 / 172.0) 651525	(3.91, N/A) (N/A, 0.15, N/A)	1083.0	N/A	8.3423 [8.0000]	104.3% {110.2%}			
13C5_PFPeA_EIS	(267.9 / 223.0) 347856	(5.24, N/A) (N/A, 0.17, N/A)	1070.0	N/A	3.9709 [4.0000]	99.3% {111.7%}			
13C5_PFHxA_EIS	(318.0 / 273.0) 252077	(6.36, N/A) (N/A, 0.16, N/A)	759.6	N/A	2.0579 [2.0000]	102.9% {99.9%}			
13C4_PFHpA_EIS	(367.0 / 322.0) 227379	(7.27, N/A) (N/A, 0.14, N/A)	744.8	N/A	2.0565 [2.0000]	102.8% {99.3%}			
13C8_PFOA_EIS	(421.0 / 376.0) 254987	(8.07, N/A) (N/A, 0.13, N/A)	447.3	N/A	1.9324 [2.0000]	96.6% {107.2%}			
13C9_PFNA_EIS	(472.0 / 427.0) 97934	(8.82, N/A) (N/A, 0.13, N/A)	3064.4	N/A	0.9767 [1.0000]	97.7% {107.5%}			
13C6_PFDA_EIS	(519.0 / 474.0) 138138	(9.47, N/A) (N/A, 0.11, N/A)	340.4	N/A	0.9389 [1.0000]	93.9% {115.7%}			
13C7_PFUnA_EIS	(570.0 / 525.0) 187524	(9.78, N/A) (N/A, 0.05, N/A)	541.6	N/A	0.9495 [1.0000]	95.0% {111.9%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-lmin, $\Delta$ RT-CVmin, $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 234312	(9.94, N/A) (N/A, 0.04, N/A)	346.6	N/A	0.9776 [1.0000]	97.8% {124.0%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 127838	(10.17, N/A) (N/A, 0.03, N/A)	430.7	N/A	0.7265 [1.0000]	72.7% {90.7%}			
13C3_PFBs_EIS	(302.0 / 80.0) 638169	(6.33, N/A) (N/A, 0.16, N/A)	1216.4	N/A	2.0101 [2.0000]	100.5% {113.1%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 357095	(8.22, N/A) (N/A, 0.14, N/A)	1309.7	N/A	1.9760 [2.0000]	98.8% {104.1%}			
13C8_PFOS_EIS	(507.0 / 80.0) 638520	(9.59, N/A) (N/A, 0.09, N/A)	377.6	N/A	2.2221 [2.0000]	111.1% {112.8%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 66503	(6.02, N/A) (N/A, 0.17, N/A)	465.5	N/A	3.7141 [4.0000]	92.9% {103.1%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 83853	(7.72, N/A) (N/A, 0.13, N/A)	792.8	N/A	3.4906 [4.0000]	87.3% {97.8%}			
13C2_8:2FTS_EIS	(529.0 / 81.0) 86268	(9.14, N/A) (N/A, 0.13, N/A)	449.1	N/A	4.1374 [4.0000]	103.4% {108.9%}			
13C8_PFOsa_EIS	(506.0 / 78.0) 948451	(10.21, N/A) (N/A, 0.03, N/A)	655.0	N/A	2.1621 [2.0000]	108.1% {100.1%}			
D3_NMeFOSA_EIS	(515.0 / 169.0) 234499	(10.63, N/A) (N/A, 0.03, N/A)	688.4	N/A	1.8064 [2.0000]	90.3% {101.3%}			
D5_NEiFOSA_EIS	(531.1 / 169.0) 244017	(10.72, N/A) (N/A, 0.02, N/A)	905.7	N/A	2.0732 [2.0000]	103.7% {109.6%}			



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03753-CCB1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 1  
 Acquired: 2022/12/08 - 18:12

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-lmin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 279092	( 9.62, N/A ) ( N/A, 0.08, N/A )	333.2	N/A	4.3655 [ 4.0000 ]	109.1% { 116.2% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 243537	( 9.76, N/A ) ( N/A, 0.05, N/A )	561.4	N/A	4.4322 [ 4.0000 ]	110.8% { 107.3% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 496070	( 10.60, N/A ) ( N/A, 0.03, N/A )	841.7	N/A	22.3733 [ 20.0000 ]	111.9% { 114.2% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 233885	( 10.69, N/A ) ( N/A, 0.02, N/A )	1516.6	N/A	20.7024 [ 20.0000 ]	103.5% { 106.8% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 674086	( 6.70, N/A ) ( N/A, 0.15, N/A )	868.1	N/A	8.3557 [ 8.0000 ]	104.4% { 101.0% }			

## ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03753  
 Calibration: 2250016

SDG:  
 Project: Red Hill AFFF Assessment Sam  
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SB03753-CCB2	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.00	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPEs	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.00	ng/mL	0.10	U
	PFNS	0.00	ng/mL	0.10	U
	PFDS	0.00	ng/mL	0.10	U
	PFDOS	0.00	ng/mL	0.10	U
	4:2FTS	0.00	ng/mL	0.40	U
	6:2FTS	0.00	ng/mL	0.40	U
	8:2FTS	0.00	ng/mL	0.40	U
	PFOSA	0.00	ng/mL	0.10	U
	NMeFOSA	0.00	ng/mL	0.40	U
	NEtFOSA	0.00	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.00	ng/mL	0.40	U
	NEtFOSE	0.00	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
	PFMPA	0.00	ng/mL	0.20	U

## ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03753  
 Calibration: 2250016

SDG:  
 Project: Red Hill AFFF Assessment Sam  
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SB03753-CCB2	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	7.75	ng/mL		
	13C5-PFPEA	3.81	ng/mL		
	13C5-PFHXA	2.17	ng/mL		
	13C4-PFHPA	2.04	ng/mL		
	13C8-PFOA	1.97	ng/mL		
	13C9-PFNA	1.01	ng/mL		
	13C6-PFDA	0.948	ng/mL		
	13C7-PFUnA	1.07	ng/mL		
	13C2-PFDOA	0.926	ng/mL		
	13C2-PFTEDA	0.884	ng/mL		
	13C3-PFBS	2.05	ng/mL		
	13C3-PFHXS	1.85	ng/mL		
	13C8-PFOS	1.98	ng/mL		
	13C2-4:2FTS	3.63	ng/mL		
	13C2-6:2FTS	3.34	ng/mL		
	13C2-8:2FTS	3.86	ng/mL		
	13C8-PFOSA	1.79	ng/mL		
	D5-NETFOSA	1.76	ng/mL		
	D3-NMEFOSA	1.62	ng/mL		
	D3-NMEFOSAA	3.34	ng/mL		
	D5-NETFOSAA	3.97	ng/mL		
	D7-NMEFOSE	17.9	ng/mL		
	D9-NETFOSAE	18.3	ng/mL		
	13C3-HFPO-DA	7.54	ng/mL		



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03753-CCB2  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff-6  
 Acquired: 2022/12/08 - 19:15

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(262.9 / 219.0) N/A (262.9 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) N/A ( 298.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) N/A ( 499.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) N/A ( 427.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

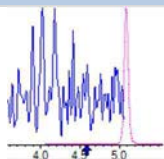
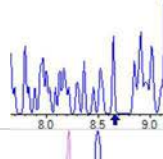
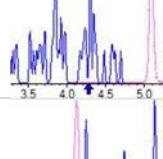
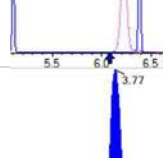
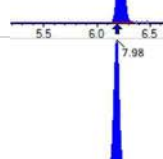
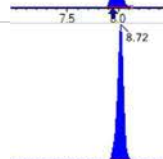


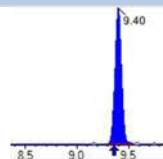
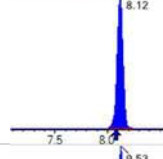
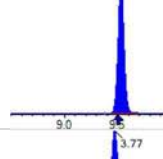
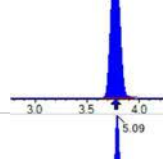
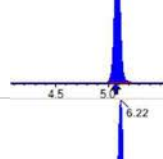
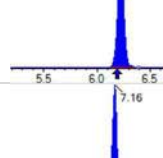
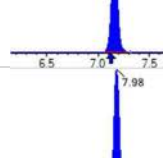
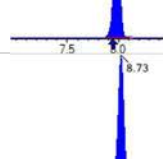
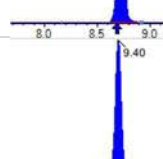
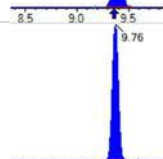
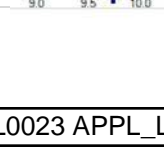
Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

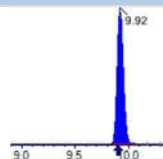
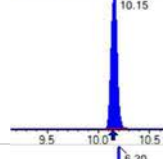
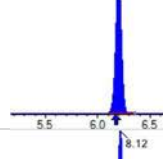
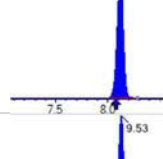
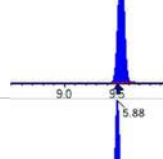
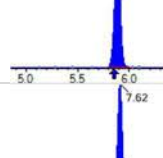
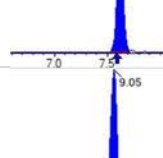
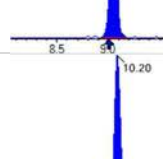
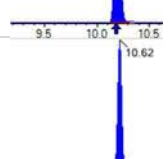
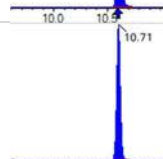
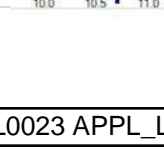
Sample I.D.: SB03753-CCB2  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff\_6  
 Acquired: 2022/12/08 - 19:15

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) N/A ( 498.0 / 478.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 85732	(3.77, N/A) (N/A, 0.00, N/A)	643.8	N/A	0.8919 [ 1.0000 ]	89.2% { 101.8% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 116150	(6.22, N/A) (N/A, 0.03, N/A)	599.2	N/A	0.9406 [ 1.0000 ]	94.1% { 100.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 119333	(7.98, N/A) (N/A, 0.04, N/A)	893.2	N/A	1.0066 [ 1.0000 ]	100.7% { 105.5% }			
13C5_PFNA_IIS	(468.0 / 423.0) 95225	(8.72, N/A) (N/A, 0.04, N/A)	1013.8	N/A	0.9998 [ 1.0000 ]	100.0% { 110.3% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 91298	(9.40, N/A) (N/A, 0.04, N/A)	269.9	N/A	1.1082 [ 1.0000 ]	110.8% { 95.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 222451	(8.12, N/A) (N/A, 0.04, N/A)	974.0	N/A	1.0364 [ 1.0000 ]	103.6% { 108.7% }			
13C4_PFOS_IIS	(502.8 / 79.9) 207443	(9.53, N/A) (N/A, 0.03, N/A)	533.6	N/A	1.1145 [ 1.0000 ]	111.5% { 113.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 623221	(3.77, N/A) (N/A, 0.00, N/A)	914.6	N/A	7.7538 [ 8.0000 ]	96.9% { 105.5% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 322760	(5.09, N/A) (N/A, 0.02, N/A)	1243.3	N/A	3.8094 [ 4.0000 ]	95.2% { 103.7% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 256753	(6.22, N/A) (N/A, 0.03, N/A)	739.6	N/A	2.1672 [ 2.0000 ]	108.4% { 101.8% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 218190	(7.16, N/A) (N/A, 0.03, N/A)	884.1	N/A	2.0403 [ 2.0000 ]	102.0% { 95.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 238850	(7.98, N/A) (N/A, 0.04, N/A)	478.6	N/A	1.9678 [ 2.0000 ]	98.4% { 100.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 95058	(8.73, N/A) (N/A, 0.04, N/A)	455.1	N/A	1.0115 [ 1.0000 ]	101.2% { 104.3% }			
13C6_PFDA_EIS	(519.0 / 474.0) 125662	(9.40, N/A) (N/A, 0.04, N/A)	689.6	N/A	0.9476 [ 1.0000 ]	94.8% { 105.2% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 190186	(9.76, N/A) (N/A, 0.02, N/A)	585.4	N/A	1.0684 [ 1.0000 ]	106.8% { 113.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 199981	(9.92, N/A) (N/A, 0.01, N/A)	272.4	N/A	0.9257 [ 1.0000 ]	92.6% { 105.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 140194	(10.15, N/A) (N/A, 0.01, N/A)	689.7	N/A	0.8840 [ 1.0000 ]	88.4% { 99.5% }			
13C3_PFBs_EIS	(302.0 / 80.0) 669988	(6.20, N/A) (N/A, 0.03, N/A)	931.5	N/A	2.0493 [ 2.0000 ]	102.5% { 118.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 344866	(8.12, N/A) (N/A, 0.04, N/A)	843.7	N/A	1.8532 [ 2.0000 ]	92.7% { 100.5% }			
13C8_PFOS_EIS	(507.0 / 80.0) 624756	(9.53, N/A) (N/A, 0.03, N/A)	546.0	N/A	1.9756 [ 2.0000 ]	98.8% { 110.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 66973	(5.88, N/A) (N/A, 0.03, N/A)	561.8	N/A	3.6322 [ 4.0000 ]	90.8% { 103.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 82634	(7.62, N/A) (N/A, 0.03, N/A)	680.9	N/A	3.3405 [ 4.0000 ]	83.5% { 96.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 82837	(9.05, N/A) (N/A, 0.05, N/A)	261.9	N/A	3.8580 [ 4.0000 ]	96.5% { 104.6% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 863883	(10.20, N/A) (N/A, 0.02, N/A)	920.9	N/A	1.7894 [ 2.0000 ]	89.5% { 91.2% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 231987	(10.62, N/A) (N/A, 0.02, N/A)	962.7	N/A	1.6239 [ 2.0000 ]	81.2% { 100.2% }			
D5_NEiFOsa_EIS	(531.1 / 169.0) 228362	(10.71, N/A) (N/A, 0.01, N/A)	893.0	N/A	1.7630 [ 2.0000 ]	88.1% { 102.5% }			



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03753-CCB2  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 6  
 Acquired: 2022/12/08 - 19:15

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 235223	( 9.56, N/A ) ( N/A, 0.03, N/A )	293.3	N/A	3.3433 [ 4.0000 ]	83.6% { 98.0% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 240270	( 9.73, N/A ) ( N/A, 0.02, N/A )	438.5	N/A	3.9734 [ 4.0000 ]	99.3% { 105.9% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 435723	( 10.58, N/A ) ( N/A, 0.02, N/A )	700.3	N/A	17.8570 [ 20.0000 ]	89.3% { 100.3% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 227289	( 10.68, N/A ) ( N/A, 0.01, N/A )	1224.6	N/A	18.2814 [ 20.0000 ]	91.4% { 103.8% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 587997	( 6.58, N/A ) ( N/A, 0.03, N/A )	864.0	N/A	7.5359 [ 8.0000 ]	94.2% { 88.1% }			

## ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03753  
 Calibration: 2250016

SDG:  
 Project: Red Hill AFFF Assessment Sam  
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SB03753-CCB3	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.0159	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPEs	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.0131	ng/mL	0.10	U
	PFNS	0.00	ng/mL	0.10	U
	PFDS	0.00	ng/mL	0.10	U
	PFDOS	0.00	ng/mL	0.10	U
	4:2FTS	0.00	ng/mL	0.40	U
	6:2FTS	0.00	ng/mL	0.40	U
	8:2FTS	0.00	ng/mL	0.40	U
	PFOSA	0.00	ng/mL	0.10	U
	NMeFOSA	0.00	ng/mL	0.40	U
	NEtFOSA	0.00	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.00	ng/mL	0.40	U
	NEtFOSE	0.00	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
	PFMPA	0.00	ng/mL	0.20	U

## ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03753  
 Calibration: 2250016

SDG:  
 Project: Red Hill AFFF Assessment Sam  
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SB03753-CCB3	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.0321	ng/mL	0.40	U
	13C4-PFBA	7.85	ng/mL		
	13C5-PFPEA	3.78	ng/mL		
	13C5-PFHXA	2.01	ng/mL		
	13C4-PFHPA	2.21	ng/mL		
	13C8-PFOA	2.04	ng/mL		
	13C9-PFNA	0.912	ng/mL		
	13C6-PFDA	1.04	ng/mL		
	13C7-PFUnA	1.12	ng/mL		
	13C2-PFDOA	0.882	ng/mL		
	13C2-PFTEDA	0.911	ng/mL		
	13C3-PFBS	2.08	ng/mL		
	13C3-PFHXS	1.83	ng/mL		
	13C8-PFOS	2.01	ng/mL		
	13C2-4:2FTS	3.74	ng/mL		
	13C2-6:2FTS	3.75	ng/mL		
	13C2-8:2FTS	4.27	ng/mL		
	13C8-PFOSA	1.96	ng/mL		
	D5-NETFOSA	2.01	ng/mL		
	D3-NMEFOSA	1.81	ng/mL		
	D3-NMEFOSAA	4.37	ng/mL		
	D5-NETFOSAA	4.60	ng/mL		
	D7-NMEFOSE	20.1	ng/mL		
	D9-NETFOSE	19.3	ng/mL		
	13C3-HFPO-DA	8.44	ng/mL		





Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03753-CCB3  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 26  
 Acquired: 2022/12/08 - 23:30

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(262.9 / 219.0) N/A (262.9 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) 1944 (413.0 / 169.0) 507	(7.98, 1.00) (0.01, N/A, 1.1)	14.7 27.1	0.2605 80.5 80.9	0.0159	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03753-CCB3  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 26  
 Acquired: 2022/12/08 - 23:30

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) N/A ( 298.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 4239 ( 499.0 / 99.0 ) 531	( 9.51 , 1.00 ) ( -0.01 , N/A , -0.1 )	22.6 21.8	0.1254 48.7 51.4	0.0131	N/A			IR1,
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) N/A ( 427.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

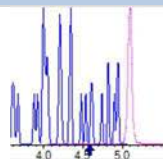
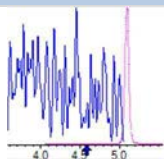
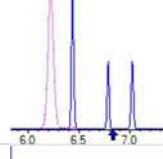
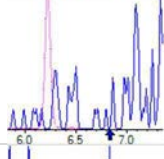
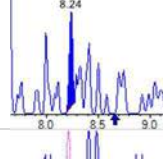
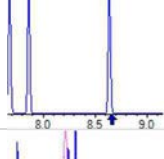
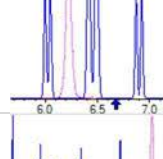
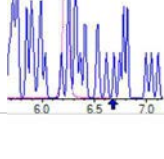
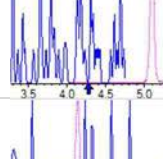
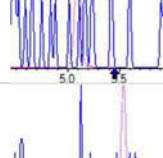
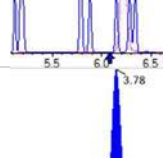
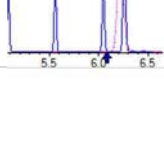
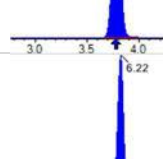
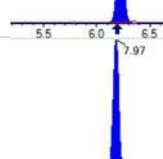
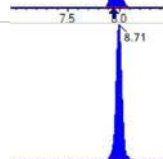
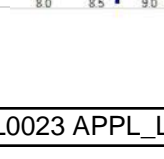


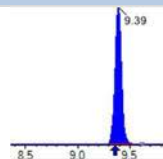
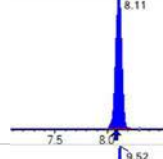
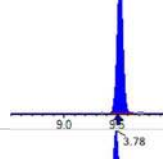
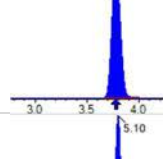
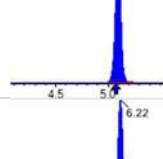
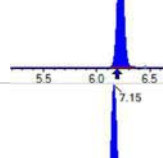
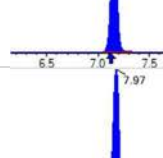
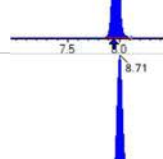
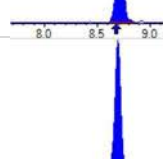
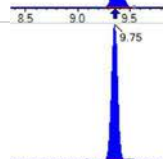
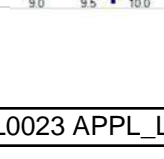
Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

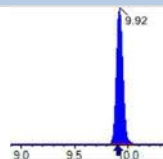
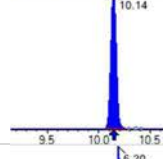
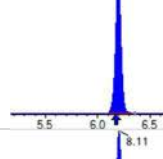
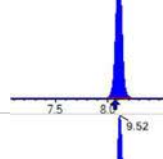
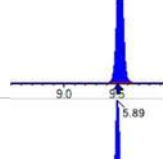
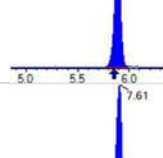
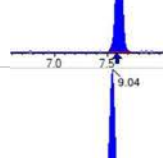
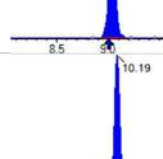
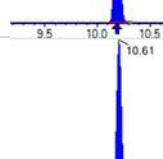
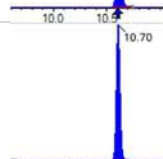
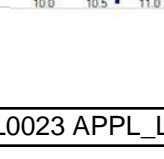
Sample I.D.: SB03753-CCB3  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wif- 26  
 Acquired: 2022/12/08 - 23:30

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) N/A ( 498.0 / 478.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) 278	( N/A , N/A ) ( N/A , N/A , N/A )	N/A 39262.8	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) 1062 (441.0 / 337.0) N/A	(8.24, 1.32) (N/A, -0.42, #Value!)	8.4 N/A	N/A 0.0 0.0	0.0321	N/A			RT,IR1,
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 81739	(3.78, N/A) (N/A, 0.01, N/A)	1006.4	N/A	0.8503 [ 1.0000 ]	85.0% { 97.1% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 116978	(6.22, N/A) (N/A, 0.03, N/A)	483.6	N/A	0.9473 [ 1.0000 ]	94.7% { 100.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 114334	(7.97, N/A) (N/A, 0.02, N/A)	493.2	N/A	0.9644 [ 1.0000 ]	96.4% { 101.1% }			
13C5_PFNA_IIS	(468.0 / 423.0) 102654	(8.71, N/A) (N/A, 0.02, N/A)	783.0	N/A	1.0778 [ 1.0000 ]	107.8% { 118.9% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 92452	(9.39, N/A) (N/A, 0.03, N/A)	427.3	N/A	1.1222 [ 1.0000 ]	112.2% { 96.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 212559	(8.11, N/A) (N/A, 0.03, N/A)	873.9	N/A	0.9903 [ 1.0000 ]	99.0% { 103.8% }			
13C4_PFOS_IIS	(502.8 / 79.9) 188437	(9.52, N/A) (N/A, 0.02, N/A)	443.3	N/A	1.0124 [ 1.0000 ]	101.2% { 103.4% }			
13C4_PFBA_EIS	(217.0 / 172.0) 601952	(3.78, N/A) (N/A, 0.01, N/A)	911.4	N/A	7.8550 [ 8.0000 ]	98.2% { 101.9% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 322939	(5.10, N/A) (N/A, 0.03, N/A)	941.4	N/A	3.7845 [ 4.0000 ]	94.6% { 103.7% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 240296	(6.22, N/A) (N/A, 0.03, N/A)	395.7	N/A	2.0139 [ 2.0000 ]	100.7% { 95.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 237945	(7.15, N/A) (N/A, 0.03, N/A)	853.2	N/A	2.2093 [ 2.0000 ]	110.5% { 103.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 237571	(7.97, N/A) (N/A, 0.02, N/A)	852.2	N/A	2.0429 [ 2.0000 ]	102.1% { 99.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 92387	(8.71, N/A) (N/A, 0.03, N/A)	393.2	N/A	0.9120 [ 1.0000 ]	91.2% { 101.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 139557	(9.39, N/A) (N/A, 0.03, N/A)	428.8	N/A	1.0392 [ 1.0000 ]	103.9% { 116.9% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 201835	(9.75, N/A) (N/A, 0.01, N/A)	340.6	N/A	1.1197 [ 1.0000 ]	112.0% { 120.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 192980	(9.92, N/A) (N/A, 0.01, N/A)	14123.2	N/A	0.8821 [ 1.0000 ]	88.2% { 102.2% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 146360	(10.14, N/A) (N/A, 0.00, N/A)	321.8	N/A	0.9114 [ 1.0000 ]	91.1% { 103.9% }			
13C3_PFBs_EIS	(302.0 / 80.0) 649096	(6.20, N/A) (N/A, 0.03, N/A)	936.0	N/A	2.0778 [ 2.0000 ]	103.9% { 115.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 325984	(8.11, N/A) (N/A, 0.03, N/A)	960.6	N/A	1.8332 [ 2.0000 ]	91.7% { 95.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 576582	(9.52, N/A) (N/A, 0.02, N/A)	973.9	N/A	2.0072 [ 2.0000 ]	100.4% { 101.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 65826	(5.89, N/A) (N/A, 0.03, N/A)	588.5	N/A	3.7362 [ 4.0000 ]	93.4% { 102.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 88696	(7.61, N/A) (N/A, 0.03, N/A)	496.8	N/A	3.7524 [ 4.0000 ]	93.8% { 103.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 87647	(9.04, N/A) (N/A, 0.03, N/A)	453.1	N/A	4.2720 [ 4.0000 ]	106.8% { 110.7% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 858875	(10.19, N/A) (N/A, 0.01, N/A)	631.2	N/A	1.9585 [ 2.0000 ]	97.9% { 90.7% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 234281	(10.61, N/A) (N/A, 0.01, N/A)	746.8	N/A	1.8053 [ 2.0000 ]	90.3% { 101.2% }			
D5_NEiFOsa_EIS	(531.1 / 169.0) 235992	(10.70, N/A) (N/A, 0.01, N/A)	708.7	N/A	2.0056 [ 2.0000 ]	100.3% { 106.0% }			



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03753-CCB3  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 26  
 Acquired: 2022/12/08 - 23:30

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 279373	( 9.55, N/A ) ( N/A, 0.01, N/A )	341.5	N/A	4.3714 [ 4.0000 ]	109.3% { 116.4% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 252451	( 9.72, N/A ) ( N/A, 0.01, N/A )	506.2	N/A	4.5959 [ 4.0000 ]	114.9% { 111.2% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 446374	( 10.58, N/A ) ( N/A, 0.01, N/A )	833.8	N/A	20.1386 [ 20.0000 ]	100.7% { 102.8% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 217515	( 10.67, N/A ) ( N/A, 0.01, N/A )	1256.6	N/A	19.2598 [ 20.0000 ]	96.3% { 99.3% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 663423	( 6.57, N/A ) ( N/A, 0.03, N/A )	941.9	N/A	8.4423 [ 8.0000 ]	105.5% { 99.4% }			

## ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03753  
 Calibration: 2250016

SDG:  
 Project: Red Hill AFFF Assessment Sam  
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SB03753-CCB4	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.0158	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.0147	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPEs	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.00	ng/mL	0.10	U
	PFNS	0.00	ng/mL	0.10	U
	PFDS	0.00	ng/mL	0.10	U
	PFDOS	0.00	ng/mL	0.10	U
	4:2FTS	0.00	ng/mL	0.40	U
	6:2FTS	0.00	ng/mL	0.40	U
	8:2FTS	0.00	ng/mL	0.40	U
	PFOSA	0.00	ng/mL	0.10	U
	NMeFOSA	0.00	ng/mL	0.40	U
	NEtFOSA	0.00	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.00	ng/mL	0.40	U
	NEtFOSE	0.00	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
	PFMPA	0.00	ng/mL	0.20	U



## ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03753  
 Calibration: 2250016

SDG:  
 Project: Red Hill AFFF Assessment Sam  
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SB03753-CCB4	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	7.85	ng/mL		
	13C5-PFPEA	4.13	ng/mL		
	13C5-PFHXA	2.19	ng/mL		
	13C4-PFHPA	2.03	ng/mL		
	13C8-PFOA	1.96	ng/mL		
	13C9-PFNA	0.994	ng/mL		
	13C6-PFDA	0.931	ng/mL		
	13C7-PFUnA	1.23	ng/mL		
	13C2-PFDOA	0.790	ng/mL		
	13C2-PFTEDA	0.870	ng/mL		
	13C3-PFBS	2.21	ng/mL		
	13C3-PFHXS	1.98	ng/mL		
	13C8-PFOS	2.05	ng/mL		
	13C2-4:2FTS	3.77	ng/mL		
	13C2-6:2FTS	3.97	ng/mL		
	13C2-8:2FTS	4.59	ng/mL		
	13C8-PFOSA	1.82	ng/mL		
	D5-NETFOSA	1.61	ng/mL		
	D3-NMEFOSA	1.47	ng/mL		
	D3-NMEFOSAA	4.09	ng/mL		
	D5-NETFOSAA	5.68	ng/mL		
	D7-NMEFOSE	18.4	ng/mL		
	D9-NETFOSSE	19.2	ng/mL		
	13C3-HFPO-DA	8.27	ng/mL		



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03753-CCB4  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 46  
 Acquired: 2022/12/09 - 03:44

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(262.9 / 219.0) N/A (262.9 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) 1999 (413.0 / 169.0) 567	(8.05, 1.00) (-0.01, N/A, -1.6)	10.4 13.2	0.2837 87.7 88.1	0.0158	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) 2103 (713.0 / 169.0) 771	(10.16, 1.00) (0.00, N/A, -0.9)	68.5 130.6	0.3666 186.2 171.7	0.0147	N/A			IR2,

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) N/A ( 298.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) N/A ( 499.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) N/A ( 427.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03753-CCB4  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wif- 46  
 Acquired: 2022/12/09 - 03:44

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) N/A ( 498.0 / 478.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEIFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-PF3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

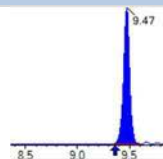
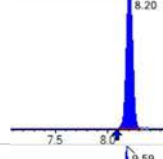
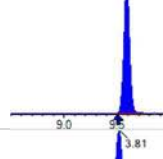
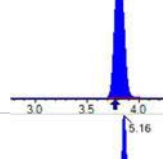
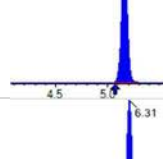
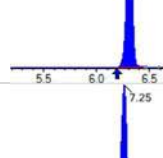
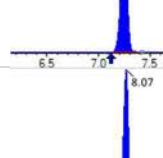
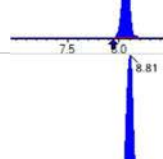
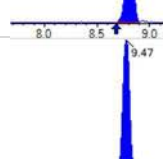
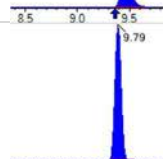
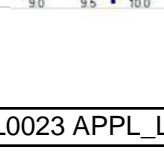


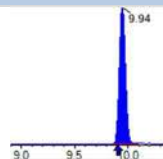
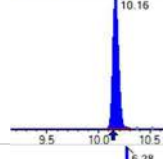
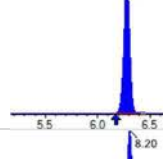
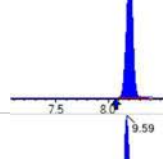
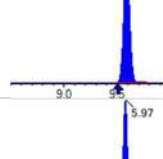
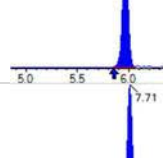
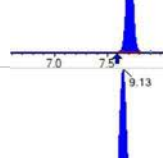
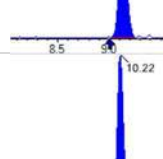
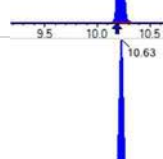
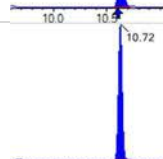
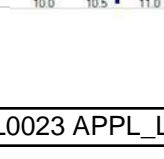
Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

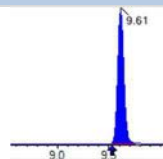
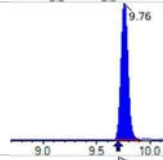
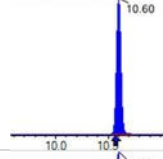
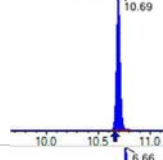
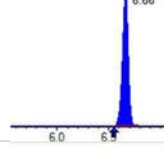
Sample I.D.: SB03753-CCB4  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 46  
 Acquired: 2022/12/09 - 03:44

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 85283	(3.81, N/A) (N/A, 0.05, N/A)	786.0	N/A	0.8872 [ 1.0000 ]	88.7% { 101.3% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 117745	(6.31, N/A) (N/A, 0.11, N/A)	691.3	N/A	0.9535 [ 1.0000 ]	95.4% { 101.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 122930	(8.07, N/A) (N/A, 0.12, N/A)	584.1	N/A	1.0369 [ 1.0000 ]	103.7% { 108.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 98634	(8.81, N/A) (N/A, 0.13, N/A)	296.6	N/A	1.0356 [ 1.0000 ]	103.6% { 114.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 96006	(9.47, N/A) (N/A, 0.11, N/A)	170.5	N/A	1.1654 [ 1.0000 ]	116.5% { 100.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 199460	(8.20, N/A) (N/A, 0.12, N/A)	575.8	N/A	0.9293 [ 1.0000 ]	92.9% { 97.4% }			
13C4_PFOS_IIS	(502.8 / 79.9) 208218	(9.59, N/A) (N/A, 0.08, N/A)	611.9	N/A	1.1187 [ 1.0000 ]	111.9% { 114.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 627821	(3.81, N/A) (N/A, 0.05, N/A)	1276.0	N/A	7.8521 [ 8.0000 ]	98.2% { 106.2% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 354409	(5.16, N/A) (N/A, 0.09, N/A)	957.2	N/A	4.1263 [ 4.0000 ]	103.2% { 113.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 263472	(6.31, N/A) (N/A, 0.11, N/A)	668.8	N/A	2.1938 [ 2.0000 ]	109.7% { 104.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 219831	(7.25, N/A) (N/A, 0.12, N/A)	519.8	N/A	2.0278 [ 2.0000 ]	101.4% { 96.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 244849	(8.07, N/A) (N/A, 0.12, N/A)	789.7	N/A	1.9582 [ 2.0000 ]	97.9% { 102.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 96707	(8.81, N/A) (N/A, 0.13, N/A)	521.8	N/A	0.9935 [ 1.0000 ]	99.4% { 106.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 129808	(9.47, N/A) (N/A, 0.11, N/A)	1275.0	N/A	0.9308 [ 1.0000 ]	93.1% { 108.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 230378	(9.79, N/A) (N/A, 0.05, N/A)	574.5	N/A	1.2307 [ 1.0000 ]	123.1% { 137.4% }			

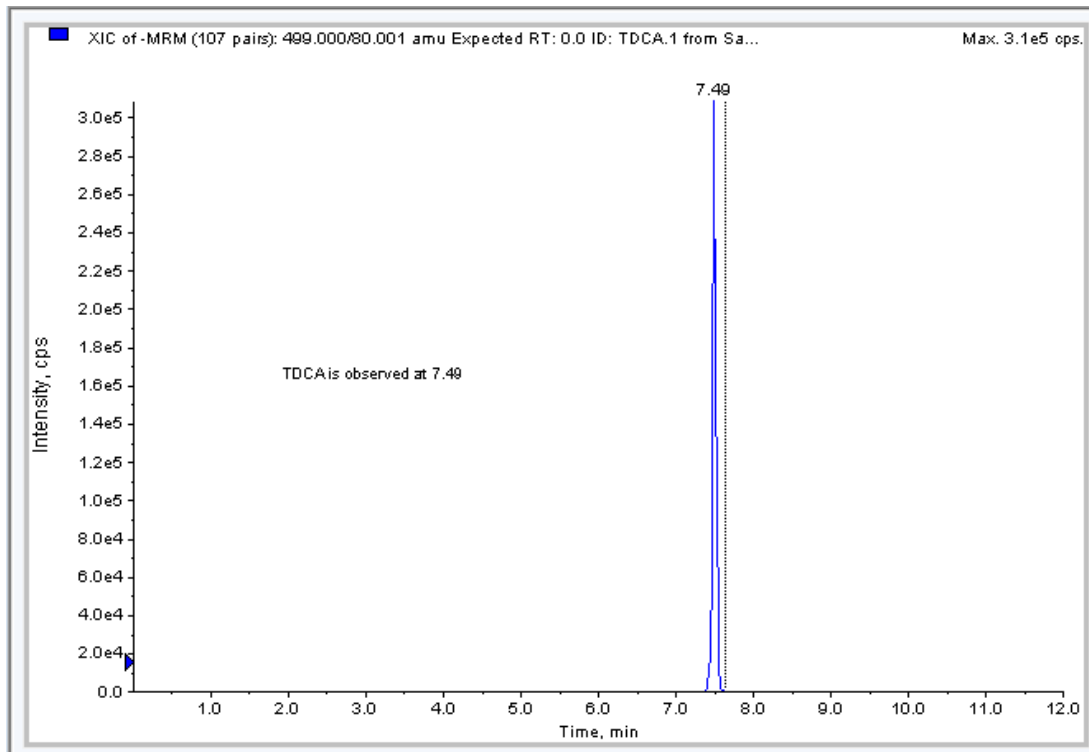
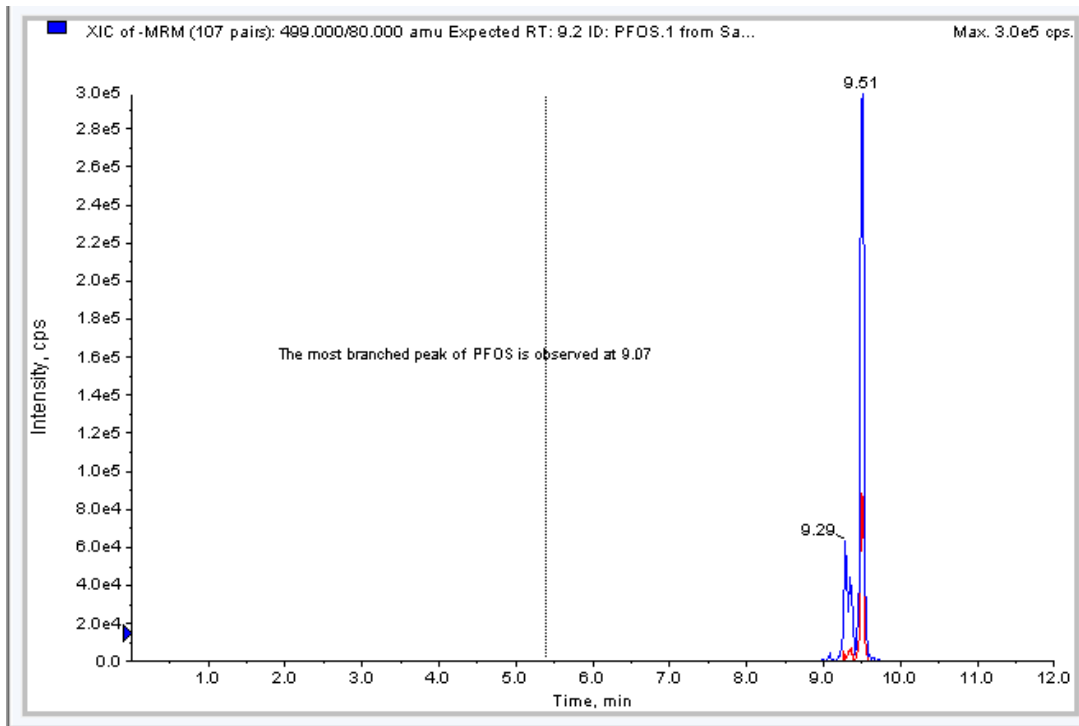
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 179406	(9.94, N/A) (N/A, 0.04, N/A)	205.4	N/A	0.7897 [ 1.0000 ]	79.0% { 95.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 145169	(10.16, N/A) (N/A, 0.02, N/A)	271.8	N/A	0.8705 [ 1.0000 ]	87.0% { 103.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 647188	(6.28, N/A) (N/A, 0.11, N/A)	793.8	N/A	2.2078 [ 2.0000 ]	110.4% { 114.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 329702	(8.20, N/A) (N/A, 0.13, N/A)	572.7	N/A	1.9759 [ 2.0000 ]	98.8% { 96.1% }			
13C8_PFOS_EIS	(507.0 / 80.0) 649231	(9.59, N/A) (N/A, 0.09, N/A)	1015.1	N/A	2.0454 [ 2.0000 ]	102.3% { 114.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 62388	(5.97, N/A) (N/A, 0.11, N/A)	507.6	N/A	3.7736 [ 4.0000 ]	94.3% { 96.7% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 88152	(7.71, N/A) (N/A, 0.12, N/A)	742.0	N/A	3.9743 [ 4.0000 ]	99.4% { 102.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 88407	(9.13, N/A) (N/A, 0.12, N/A)	307.2	N/A	4.5921 [ 4.0000 ]	114.8% { 111.6% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 879784	(10.22, N/A) (N/A, 0.04, N/A)	646.7	N/A	1.8156 [ 2.0000 ]	90.8% { 92.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 210784	(10.63, N/A) (N/A, 0.03, N/A)	572.1	N/A	1.4700 [ 2.0000 ]	73.5% { 91.1% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 209682	(10.72, N/A) (N/A, 0.03, N/A)	833.1	N/A	1.6127 [ 2.0000 ]	80.6% { 94.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 289014	( 9.61 , N/A ) ( N/A , 0.08 , N/A )	650.2	N/A	4.0926 [ 4.0000 ]	102.3% { 120.4% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 344902	( 9.76 , N/A ) ( N/A , 0.06 , N/A )	472.9	N/A	5.6825 [ 4.0000 ]	142.1% { 152.0% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 450977	( 10.60 , N/A ) ( N/A , 0.03 , N/A )	969.0	N/A	18.4134 [ 20.0000 ]	92.1% { 103.8% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 239802	( 10.69 , N/A ) ( N/A , 0.03 , N/A )	998.0	N/A	19.2160 [ 20.0000 ]	96.1% { 109.5% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 654424	( 6.66 , N/A ) ( N/A , 0.12 , N/A )	878.7	N/A	8.2736 [ 8.0000 ]	103.4% { 98.1% }			



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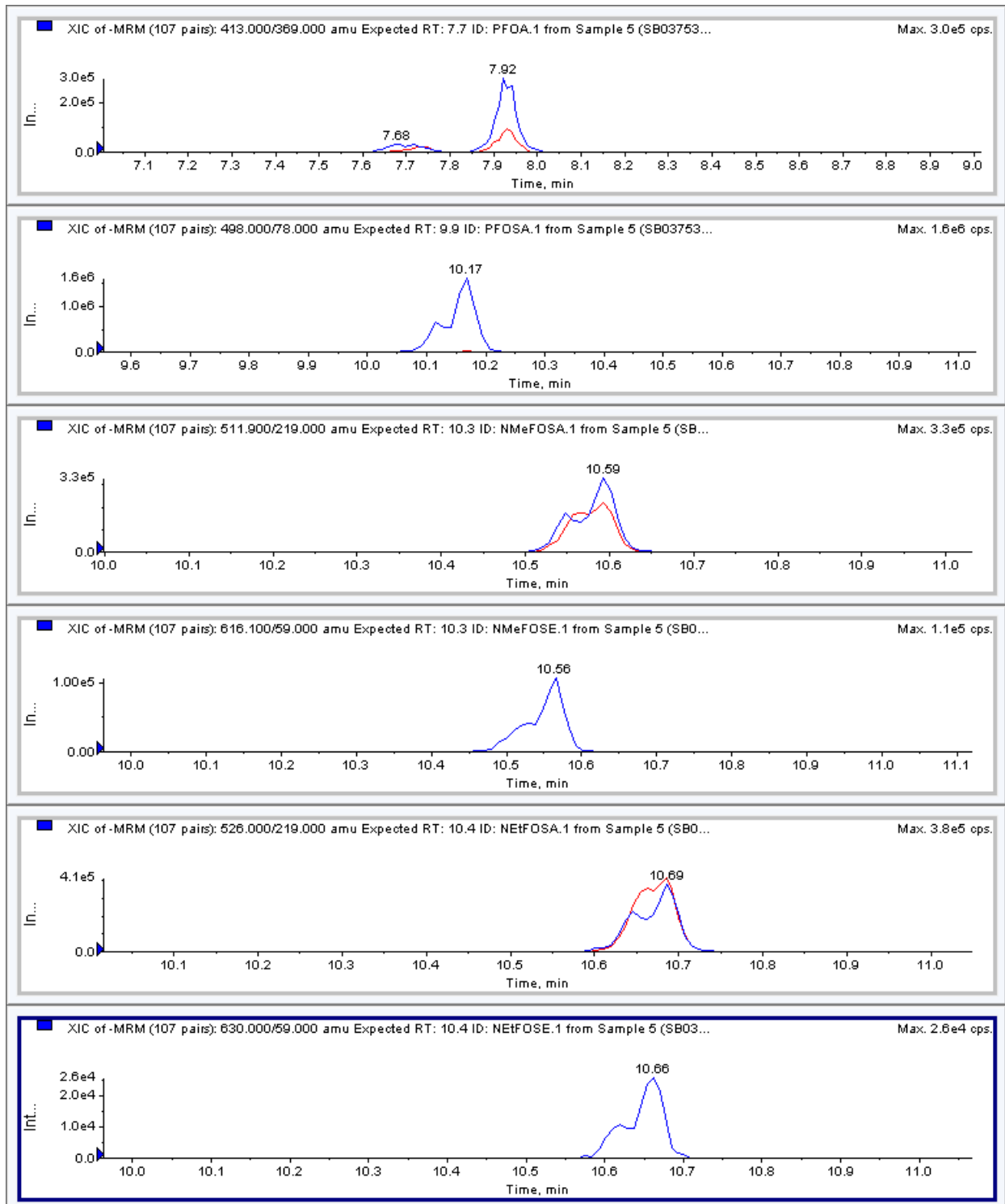
TDCA vs PFOS- S2022-12-08B



9.07-7.49= 1.58

1.58 > 1 Pass

## Column RES2022-12-08B



# QUALITY CONTROL RAW DATA

# ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0100-BLK1
Sampled:		File ID:	S2022-12-08B (17)
		Prepared:	12/07/22 10:00
		Analyzed:	12/08/22 21:35
Solids:		Preparation:	EPA 1633
		Dilution:	1
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016
		Instrument:	Saphira
Column:	1		

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
PFBA	0.20 U	0.30	0.20	0.15	U
PFPEA	0.040 U	0.080	0.040	0.022	U
PFHXA	0.020 U	0.040	0.020	0.015	U
PFHPA	0.020 U	0.040	0.020	0.015	U
PFOA	0.030 U	0.040	0.030	0.021	U
PFNA	0.030 U	0.040	0.030	0.022	U
PFDA	0.030 U	0.040	0.030	0.022	U
PFUnA	0.020 U	0.040	0.020	0.020	U
PFDOA	0.030 U	0.040	0.030	0.023	U
PFTRDA	0.020 U	0.040	0.020	0.016	U
PFTEDA	0.030 U	0.040	0.030	0.025	U
PFBS	0.020 U	0.040	0.020	0.016	U
PFPEs	0.020 U	0.040	0.020	0.012	U
PFHXS	0.020 U	0.040	0.020	0.015	U
PFHPS	0.020 U	0.040	0.020	0.011	U
PFOS	0.528	0.040	0.020	0.0097	B
PFNS	0.020 U	0.040	0.020	0.015	U
PFDS	0.020 U	0.040	0.020	0.014	U
PFDOS	0.020 U	0.040	0.020	0.013	U
4:2FTS	0.080 U	0.16	0.080	0.045	U
6:2FTS	0.144 J	0.16	0.080	0.061	B, J
8:2FTS	0.080 U	0.16	0.080	0.051	IR2, U
PFOSA	0.020 U	0.040	0.020	0.012	U
NMeFOSA	0.080 U	0.16	0.080	0.066	U
NEtFOSA	0.080 U	0.16	0.080	0.027	U
NMeFOSAA	0.020 U	0.040	0.020	0.010	U
NEtFOSAA	0.020 U	0.040	0.020	0.018	U
NMeFOSE	0.080 U	0.16	0.080	0.054	U
NEtFOSE	0.080 U	0.16	0.080	0.047	U
HFPO-DA	0.040	0.080	0.040	0.020	U

**ANALYSIS DATA SHEET**

Blank

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0100-BLK1
Sampled:		File ID:	S2022-12-08B (17)
		Prepared:	12/07/22 10:00
Solids:		Analyzed:	12/08/22 21:35
		Preparation:	EPA 1633
Batch:	BBL0100	Dilution:	1
Column:	1	Sequence:	SB03753
		Calibration:	2250016
		Instrument:	Saphira

COMPOUND	CONC. (ug/kg Dry)	LOQ	LOD	DL	Q
ADONA	0.040 U	0.080	0.040	0.026	U
PFEESA	0.040 U	0.080	0.040	0.017	U
PFMPA	0.040 U	0.080	0.040	0.028	U
PFMBA	0.040 U	0.080	0.040	0.032	U
NFDHA	0.060 U	0.080	0.060	0.049	U
9CL-PF3ONS	0.040 U	0.080	0.040	0.024	U
11CL-PF3OUDS	0.040 U	0.080	0.040	0.027	U
3:3FTCA	0.080 U	0.16	0.080	0.064	U
5:3FTCA	0.080 U	0.16	0.080	0.065	U
7:3FTCA	0.080 U	0.16	0.080	0.050	U



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0100-BLK1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 17  
 Acquired: 2022/12/08 - 21:35

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(262.9 / 219.0) N/A (262.9 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) 4303 (313.0 / 119.0) 414	(6.16, 1.00) (-0.01, N/A, 0.3)	21.9 66.4	0.0962 107.0 99.5	0.0304	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) 5389 (413.0 / 169.0) 1544	(7.92, 1.00) (-0.01, N/A, -0.5)	23.7 57.9	0.2866 88.6 89.0	0.0391	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: DAG  
Instrument: Saphira  
Type: Sciex Q3 5500

Sample I.D.: BBL0100-BLK1  
DF, IV: 1, 10.0µL  
Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
Path: S2022-12-08B.wiff- 17  
Acquired: 2022/12/08 - 21:35

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) N/A ( 298.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 502187 ( 499.0 / 99.0 ) 122489	( 9.49 , 1.00 ) ( 0.00 , N/A , 0.0 )	181.3 290.7	0.2439 94.7 100.1	1.3198	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) 13226 ( 427.0 / 81.0 ) 11612	( 7.58 , 1.00 ) ( 0.01 , N/A , 0.6 )	126.3 131.1	0.8780 122.1 126.0	0.3591	N/A			
8:2FTS	( 527.0 / 507.0 ) 1550 ( 527.0 / 81.0 ) 1827	( 9.00 , 1.00 ) ( 0.00 , N/A , 1.1 )	1247.3 23.3	1.1790 189.1 178.0	0.0492	N/A			IR2,



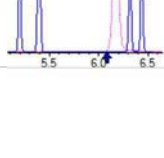
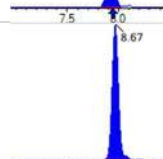


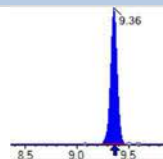
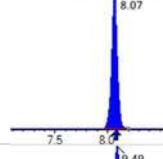
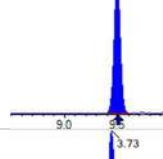
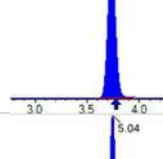
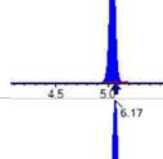
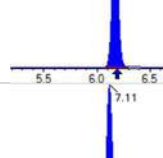
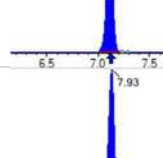
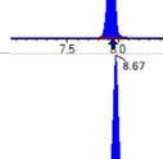
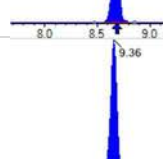
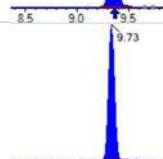
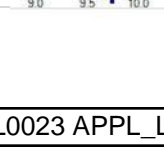
Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

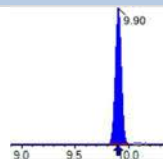
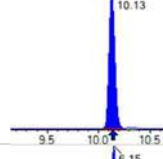
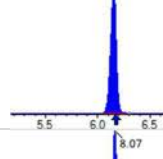
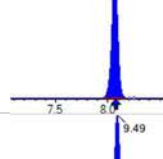
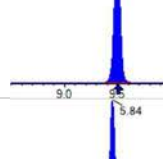
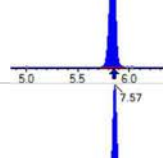
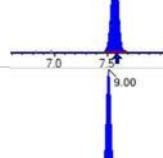
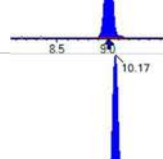
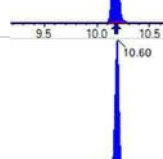
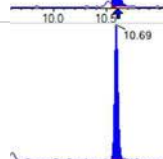
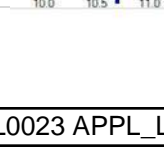
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 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

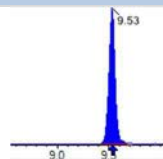
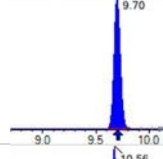
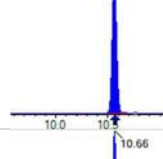
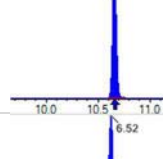
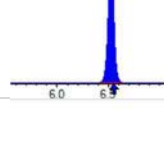
Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wif- 17  
 Acquired: 2022/12/08 - 21:35

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) N/A ( 498.0 / 478.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOFA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOFA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 87254	(3.74, N/A) (N/A, -0.03, N/A)	688.0	N/A	0.9077 [ 1.0000 ]	90.8% { 103.6% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 132195	(6.17, N/A) (N/A, -0.02, N/A)	794.0	N/A	1.0705 [ 1.0000 ]	107.1% { 113.8% }			
13C4_PFOA_IIS	(417.0 / 372.0) 138153	(7.93, N/A) (N/A, -0.01, N/A)	646.4	N/A	1.1654 [ 1.0000 ]	116.5% { 122.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 108377	(8.67, N/A) (N/A, -0.02, N/A)	294.0	N/A	1.1379 [ 1.0000 ]	113.8% { 125.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 85119	(9.36, N/A) (N/A, 0.00, N/A)	291.4	N/A	1.0332 [ 1.0000 ]	103.3% { 88.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 256324	(8.07, N/A) (N/A, -0.01, N/A)	955.0	N/A	1.1943 [ 1.0000 ]	119.4% { 125.2% }			
13C4_PFOS_IIS	(502.8 / 79.9) 218272	(9.49, N/A) (N/A, -0.01, N/A)	250.8	N/A	1.1727 [ 1.0000 ]	117.3% { 119.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 656960	(3.73, N/A) (N/A, -0.03, N/A)	1007.8	N/A	8.0309 [ 8.0000 ]	100.4% { 111.2% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 385416	(5.04, N/A) (N/A, -0.03, N/A)	1010.2	N/A	3.9968 [ 4.0000 ]	99.9% { 123.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 281070	(6.17, N/A) (N/A, -0.02, N/A)	623.6	N/A	2.0845 [ 2.0000 ]	104.2% { 111.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 244829	(7.11, N/A) (N/A, -0.02, N/A)	507.6	N/A	2.0116 [ 2.0000 ]	100.6% { 106.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 267085	(7.93, N/A) (N/A, -0.01, N/A)	830.1	N/A	1.9007 [ 2.0000 ]	95.0% { 112.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 112941	(8.67, N/A) (N/A, -0.01, N/A)	407.6	N/A	1.0560 [ 1.0000 ]	105.6% { 124.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 135883	(9.36, N/A) (N/A, 0.00, N/A)	242.8	N/A	1.0990 [ 1.0000 ]	109.9% { 113.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 216461	(9.73, N/A) (N/A, -0.01, N/A)	463.7	N/A	1.3043 [ 1.0000 ]	130.4% { 129.1% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 203063	(9.90, N/A) (N/A, 0.00, N/A)	305.9	N/A	1.0082 [ 1.0000 ]	100.8% { 107.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 123113	(10.13, N/A) (N/A, -0.01, N/A)	253.9	N/A	0.8326 [ 1.0000 ]	83.3% { 87.4% }			
13C3_PFBs_EIS	(302.0 / 80.0) 749856	(6.15, N/A) (N/A, -0.02, N/A)	836.3	N/A	1.9905 [ 2.0000 ]	99.5% { 132.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 402891	(8.07, N/A) (N/A, -0.01, N/A)	888.0	N/A	1.8789 [ 2.0000 ]	93.9% { 117.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 677850	(9.49, N/A) (N/A, -0.01, N/A)	827.4	N/A	2.0372 [ 2.0000 ]	101.9% { 119.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 89965	(5.84, N/A) (N/A, -0.02, N/A)	618.4	N/A	4.2344 [ 4.0000 ]	105.9% { 139.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 92884	(7.57, N/A) (N/A, -0.02, N/A)	561.1	N/A	3.2586 [ 4.0000 ]	81.5% { 108.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 80233	(9.00, N/A) (N/A, -0.01, N/A)	472.6	N/A	3.2429 [ 4.0000 ]	81.1% { 101.3% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 900317	(10.17, N/A) (N/A, -0.01, N/A)	830.6	N/A	1.7724 [ 2.0000 ]	88.6% { 95.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 44879	(10.60, N/A) (N/A, -0.01, N/A)	423.2	N/A	0.2986 [ 2.0000 ]	14.9% { 19.4% }			S1,
D5_NEiFOSA_EIS	(531.1 / 169.0) 32183	(10.69, N/A) (N/A, -0.01, N/A)	342.8	N/A	0.2361 [ 2.0000 ]	11.8% { 14.5% }			S1,

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 271186	( 9.53 , N/A ) ( N/A , -0.01 , N/A )	480.5	N/A	3.6633 [ 4.0000 ]	91.6% { 113.0% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 251485	( 9.70 , N/A ) ( N/A , -0.01 , N/A )	427.2	N/A	3.9525 [ 4.0000 ]	98.8% { 110.8% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 228048	( 10.56 , N/A ) ( N/A , 0.00 , N/A )	780.1	N/A	8.8823 [ 20.0000 ]	44.4% { 52.5% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 108562	( 10.66 , N/A ) ( N/A , -0.01 , N/A )	969.0	N/A	8.2986 [ 20.0000 ]	41.5% { 49.6% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 703783	( 6.52 , N/A ) ( N/A , -0.02 , N/A )	813.6	N/A	7.9250 [ 8.0000 ]	99.1% { 105.5% }			

## ANALYSIS DATA SHEET

## LCS

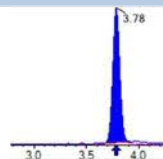
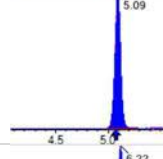
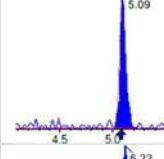
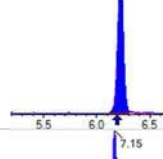
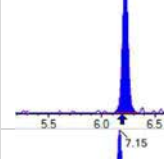
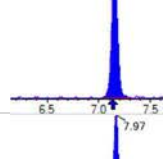
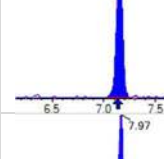
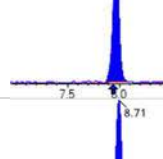
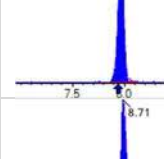
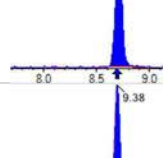
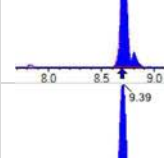
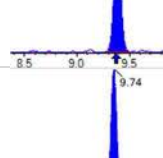
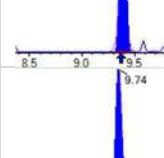
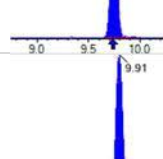
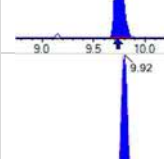
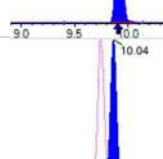
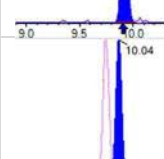
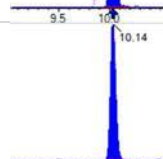
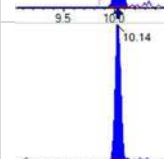
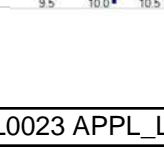
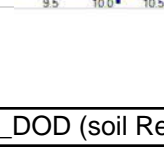
Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0100-BS1
Sampled:		File ID:	S2022-12-08B (18)
		Prepared:	12/07/22 10:00
Solids:		Analyzed:	12/08/22 21:48
		Preparation:	EPA 1633
Batch:	BBL0100	Dilution:	1
Column:	1	Sequence:	SB03753
		Calibration:	2250016
		Instrument:	Saphira

COMPOUND	CONC. (ug/kg Dry)	LOQ	DL	Q
PFBA	1.55	0.30	0.15	
PFPEA	0.787	0.080	0.022	
PFHXA	0.382	0.040	0.015	
PFHPA	0.376	0.040	0.015	
PFOA	0.401	0.040	0.021	
PFNA	0.392	0.040	0.022	
PFDA	0.403	0.040	0.022	
PFUnA	0.429	0.040	0.020	
PFDOA	0.400	0.040	0.023	
PFTRDA	0.330	0.040	0.016	
PFTEDA	0.401	0.040	0.025	
PFBS	0.324	0.040	0.016	
PFPEs	0.380	0.040	0.012	
PFHXS	0.361	0.040	0.015	
PFHPS	0.346	0.040	0.011	
PFOS	0.363	0.040	0.0097	
PFNS	0.387	0.040	0.015	
PFDS	0.341	0.040	0.014	
PFDOS	0.300	0.040	0.013	
4:2FTS	1.39	0.16	0.045	
6:2FTS	1.52	0.16	0.061	
8:2FTS	1.48	0.16	0.051	
PFOSA	0.348	0.040	0.012	
NMeFOSA	1.74	0.16	0.066	
NEtFOSA	1.30	0.16	0.027	
NMeFOSAA	0.380	0.040	0.010	
NEtFOSAA	0.352	0.040	0.018	
NMeFOSE	1.53	0.16	0.054	
NEtFOSE	1.47	0.16	0.047	
HFPO-DA	0.841	0.080	0.022	

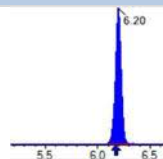
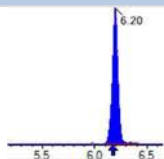
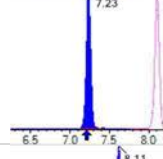
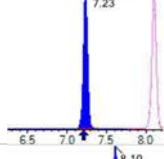
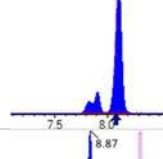
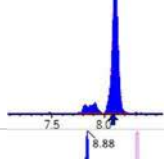
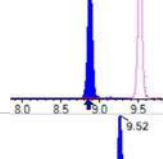
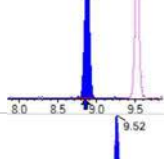
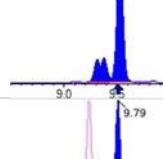
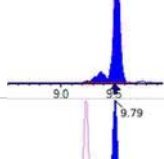
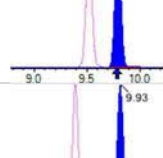
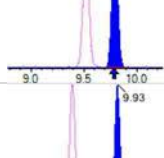
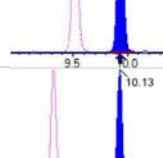
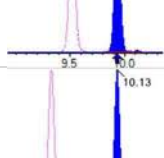
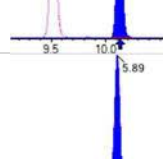
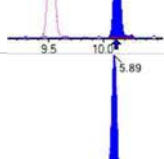
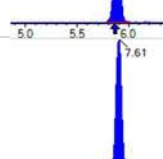
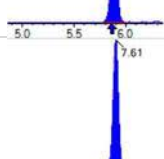
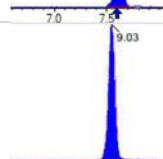
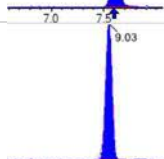
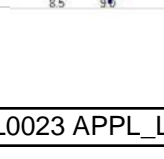
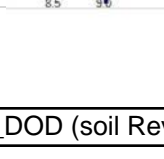
**ANALYSIS DATA SHEET****LCS**

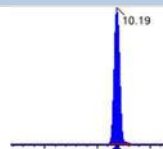
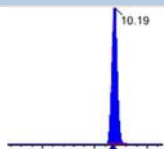
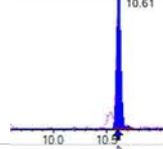
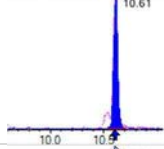
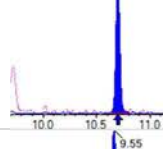
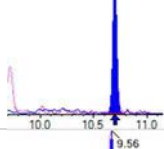
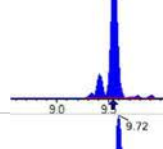
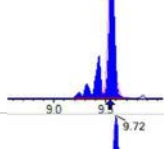
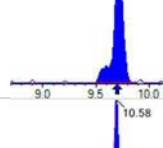
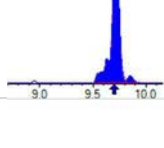
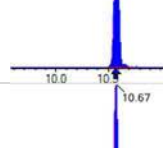
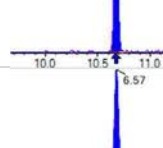
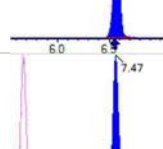
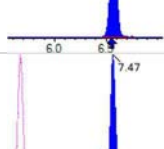
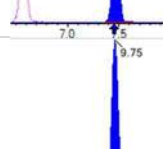
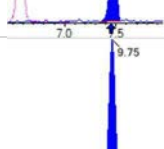
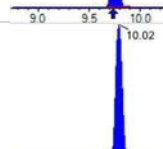
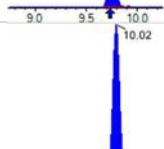
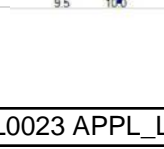
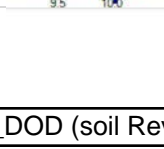
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Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0100-BS1
Sampled:		File ID:	S2022-12-08B (18)
Solids:		Prepared:	12/07/22 10:00
Batch:	BBL0100	Analyzed:	12/08/22 21:48
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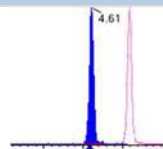
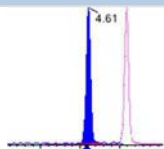
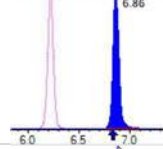
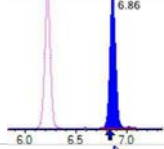
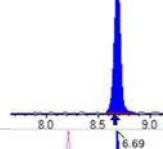
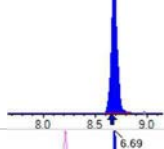
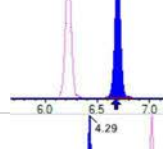
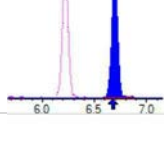
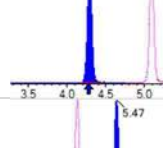
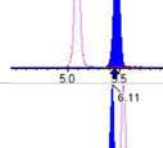
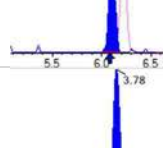
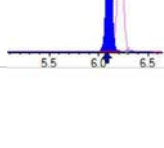
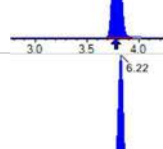
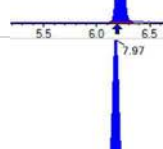
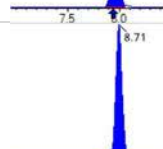
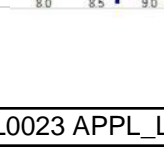
COMPOUND	CONC. (ug/kg Dry)	LOQ	DL	Q
ADONA	0.752	0.080	0.026	
PFEESA	0.650	0.080	0.017	
PFMPA	0.738	0.080	0.028	
PFMBA	0.850	0.080	0.032	
NFDHA	0.614	0.080	0.049	
9CL-PF3ONS	0.831	0.080	0.024	
11CL-PF3OUDS	0.711	0.080	0.027	
3:3FTCA	1.45	0.16	0.064	
5:3FTCA	1.43	0.16	0.065	
7:3FTCA	1.37	0.16	0.050	

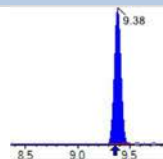
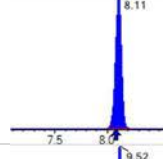
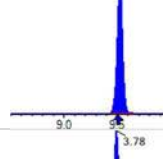
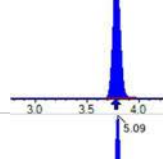
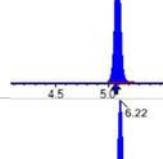
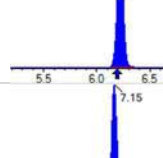
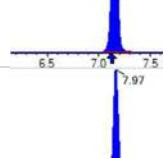
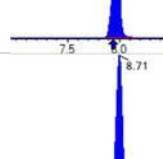
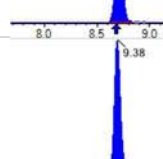
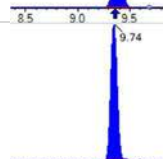
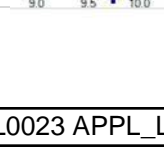
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 259930	(3.78, 1.00) (0.00, N/A, 0.0)	50.7	N/A 0.0 0.0	3.8724 [ 4.0000 ]	96.8%			
PFPeA	(262.9 / 219.0) 173754 (262.9 / 69.0) 2091	(5.09, 1.00) (0.00, N/A, -0.1)	746.7 69.1	0.0120 103.3 103.3	1.9665 [ 2.0000 ]	98.3%			
PFHxA	(313.0 / 269.0) 142918 (313.0 / 119.0) 13051	(6.22, 1.00) (0.00, N/A, 0.2)	526.0 176.9	0.0913 101.6 94.5	0.9549 [ 1.0000 ]	95.5%			
PFHpA	(363.0 / 319.0) 122626 (363.0 / 169.0) 36876	(7.15, 1.00) (0.00, N/A, 0.0)	321.1 216.0	0.3007 104.8 102.3	0.9394 [ 1.0000 ]	93.9%			
PFOA	(413.0 / 369.0) 140364 (413.0 / 169.0) 49437	(7.97, 1.00) (0.00, N/A, 0.0)	298.5 414.5	0.3522 108.9 109.4	1.0017 [ 1.0000 ]	100.2%			
PFNA	(463.0 / 419.0) 112960 (463.0 / 169.0) 20998	(8.71, 1.00) (0.00, N/A, 0.2)	273.8 91.2	0.1859 92.3 94.9	0.9806 [ 1.0000 ]	98.1%			
PFDA	(513.0 / 469.0) 141568 (513.0 / 169.0) 13861	(9.38, 1.00) (0.00, N/A, -0.2)	304.9 171.0	0.0979 110.3 95.0	1.0064 [ 1.0000 ]	100.6%			
PFUnA	(563.0 / 519.0) 208887 (563.0 / 169.0) 18312	(9.74, 1.00) (0.00, N/A, 0.2)	494.0 3752.7	0.0877 81.6 94.4	1.0725 [ 1.0000 ]	107.2%			
PFDoA	(613.0 / 569.0) 206750 (613.0 / 169.0) 29778	(9.91, 1.00) (0.00, N/A, -0.1)	505.0 177.0	0.1440 120.9 128.9	0.9996 [ 1.0000 ]	100.0%			
PFTTrDA	(663.0 / 619.0) 149880 (663.0 / 169.0) 34959	(10.04, 1.01) (N/A, 0.00, -0.1)	520.4 127.1	0.2332 125.2 121.2	0.8250 [ 1.0000 ]	82.5%			
PFTeDA	(713.0 / 669.0) 136057 (713.0 / 169.0) 23844	(10.14, 1.00) (0.00, N/A, 0.0)	348.7 275.8	0.1753 89.0 82.1	1.0026 [ 1.0000 ]	100.3%			

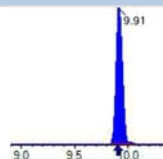
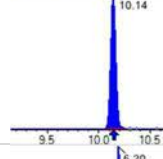
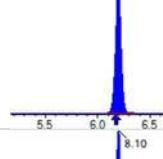
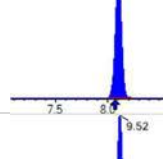
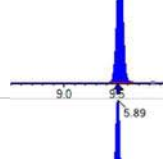
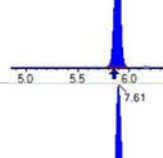
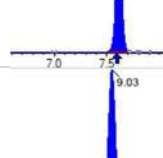
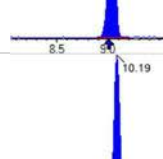
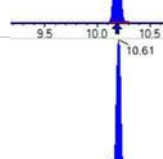
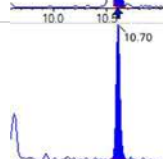
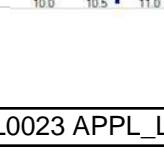


Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 179890 (298.9 / 99.0) 119144	(6.20, 1.00) (0.00, N/A, 0.1)	847.2 492.0	0.6623 97.8 97.5	0.8093 [0.8847]	91.5%			
PFPeS	(349.0 / 80.0) 356115 (349.0 / 99.0) 125615	(7.23, 0.89) (N/A, 0.02, 0.0)	769.2 693.0	0.3527 96.7 96.8	0.9494 [0.9384]	101.2%			
PFHxS	(399.0 / 80.0) 300255 (399.0 / 99.0) 107350	(8.11, 1.00) (0.01, N/A, 0.3)	8933.3 329680.7	0.3575 103.7 101.7	0.9028 [0.9110]	99.1%			
PFHpS	(449.0 / 80.0) 276813 (449.0 / 99.0) 80553	(8.87, 0.93) (N/A, 0.02, -0.1)	571.4 441.6	0.2910 102.4 97.1	0.8646 [0.9514]	90.9%			
PFOS	(499.0 / 80.0) 359550 (499.0 / 99.0) 82570	(9.52, 1.00) (0.00, N/A, 0.1)	129.1 96.9	0.2296 89.2 94.2	0.9066 [0.9275]	97.7%			
PFNS	(549.0 / 80.0) 450504 (549.0 / 99.0) 115207	(9.79, 1.03) (N/A, 0.01, 0.0)	712.0 523.4	0.2557 107.0 100.1	0.9674 [0.9599]	100.8%			
PFDS	(599.0 / 80.0) 497068 (599.0 / 99.0) 136645	(9.93, 1.04) (N/A, 0.00, 0.0)	508.7 422.4	0.2749 118.2 120.9	0.8523 [0.9631]	88.5%			
PFDoS	(698.9 / 80.0) 259368 (698.9 / 99.0) 53490	(10.13, 1.06) (N/A, 0.00, -0.1)	8811.1 254.3	0.2062 89.0 93.3	0.7498 [0.9696]	77.3%			
4:2FTS	(327.0 / 307.0) 278806 (327.0 / 81.0) 177695	(5.89, 1.00) (0.00, N/A, 0.0)	769.8 649.9	0.6373 106.7 109.0	3.4689 [3.7381]	92.8%			
6:2FTS	(427.0 / 407.0) 151353 (427.0 / 81.0) 115289	(7.61, 1.00) (0.00, N/A, -0.1)	656.7 467.5	0.7617 105.9 109.4	3.7985 [3.7962]	100.1%			
8:2FTS	(527.0 / 507.0) 141088 (527.0 / 81.0) 103866	(9.03, 1.00) (0.00, N/A, -0.1)	615.4 405.6	0.7362 118.1 111.2	3.6990 [3.8332]	96.5%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 507204 (498.0 / 478.0) 11272	(10.19, 1.00) (0.00, N/A, -0.2)	581.3 216.4	0.0222 93.1 127.1	0.8695 [ 1.0000 ]	86.9%			
NMeFOSA	(511.9 / 219.0) 37554 (511.9 / 169.0) 22929	(10.61, 1.00) (0.00, N/A, 0.0)	392.8 409.6	0.6106 91.5 92.9	4.3426 [ 4.0000 ]	108.6%			
NEIFOSA	(526.0 / 219.0) 13788 (526.0 / 169.0) 15031	(10.70, 1.00) (0.00, N/A, 0.0)	310.1 170.8	1.0902 100.0 98.6	3.2553 [ 4.0000 ]	81.4%			
NMeFOSAA	(570.0 / 419.0) 60762 (570.0 / 483.0) 31313	(9.55, 1.00) (0.00, N/A, -0.5)	773.3 4232.5	0.5153 111.1 103.6	0.9499 [ 1.0000 ]	95.0%			
NEIFOSAA	(584.0 / 419.0) 61815 (584.0 / 526.0) 40482	(9.72, 1.00) (0.00, N/A, -0.2)	440.8 2063.1	0.6549 107.9 98.7	0.8792 [ 1.0000 ]	87.9%			
NMeFOSE	(616.1 / 59.0) 51349	(10.58, 1.00) (0.01, N/A, 0.0)	686.0	N/A 0.0 0.0	3.8223 [ 4.0000 ]	95.6%			
NEtFOSE	(630.0 / 59.0) 11375	(10.67, 1.00) (0.01, N/A, 0.0)	296.6	N/A 0.0 0.0	3.6765 [ 4.0000 ]	91.9%			
HFPO-DA	(285.0 / 169.0) 132755 (285.0 / 185.0) 369585	(6.57, 1.00) (0.00, N/A, -0.1)	619.1 826.9	2.7840 100.4 96.3	2.1027 [ 2.0000 ]	105.1%			
ADONA	(377.0 / 85.0) 479638 (377.0 / 251.0) 58485	(7.47, 1.14) (N/A, 0.02, -0.2)	836.9 252.6	0.1219 97.0 94.2	1.8789 [ 1.8854 ]	99.7%			
9CI-Pf3ONS	(531.0 / 351.0) 1459706 (533.0 / 353.0) 423608	(9.75, 1.48) (N/A, 0.01, -0.1)	1135.2 545.3	0.2902 86.9 98.6	2.0779 [ 1.8665 ]	111.3%			
11CI-PF3OUDS	(631.0 / 451.0) 858672 (633.0 / 453.0) 289480	(10.02, 1.52) (N/A, 0.00, -0.2)	492.7 648.6	0.3371 104.2 102.3	1.7765 [ 1.8864 ]	94.2%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 15701 (241.0 / 117.0) 27069	(4.61, 0.90) (N/A, 0.02, 0.1)	506.1 366.4	1.7240 99.0 102.3	3.6174 [ 4.0000 ]	90.4%			
5:3FTCA	(341.0 / 236.7) 113552 (341.0 / 217.0) 185380	(6.86, 1.10) (N/A, 0.03, 0.1)	450.0 437.7	1.6326 95.6 95.2	3.5711 [ 4.0000 ]	89.3%			
7:3FTCA	(441.0 / 317.0) 140094 (441.0 / 337.0) 120538	(8.69, 1.40) (N/A, 0.03, 0.2)	343.1 520.7	0.8604 104.3 101.4	3.4219 [ 4.0000 ]	85.5%			
PFEESA	(315.0 / 135.0) 248735 (315.0 / 83.0) 73941	(6.69, 1.08) (N/A, 0.02, 0.0)	1034.3 387.3	0.2973 100.0 101.1	1.6253 [ 1.7849 ]	91.1%			
PFMPA	(229.0 / 85.0) 44869	(4.29, 0.84) (N/A, 0.02, 0.0)	677.3	N/A 0.0 0.0	1.8442 [ 2.0000 ]	92.2%			
PFMBA	(279.0 / 85.0) 161157	(5.47, 1.07) (N/A, 0.02, 0.0)	765.7	N/A 0.0 0.0	2.1253 [ 2.0000 ]	106.3%			
NFDHA	(201.0 / 85.0) 5940 (295.0 / 201.0) 48101	(6.11, 0.98) (N/A, 0.02, 0.0)	154.0 550.6	8.0972 115.7 117.8	1.5361 [ 2.0000 ]	76.8%			
13C3_PFBA_IIS	(216.0 / 172.0) 91872	(3.78, N/A) (N/A, 0.02, N/A)	791.6	N/A	0.9557 [ 1.0000 ]	95.6% { 109.1% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 146157	(6.22, N/A) (N/A, 0.03, N/A)	379.7	N/A	1.1836 [ 1.0000 ]	118.4% { 125.8% }			
13C4_PFOA_IIS	(417.0 / 372.0) 143784	(7.97, N/A) (N/A, 0.02, N/A)	684.9	N/A	1.2129 [ 1.0000 ]	121.3% { 127.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 105769	(8.71, N/A) (N/A, 0.02, N/A)	579.1	N/A	1.1105 [ 1.0000 ]	111.1% { 122.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 117479	(9.38, N/A) (N/A, 0.02, N/A)	364.7	N/A	1.4260 [ 1.0000 ]	142.6% { 122.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 225712	(8.11, N/A) (N/A, 0.03, N/A)	964.4	N/A	1.0516 [ 1.0000 ]	105.2% { 110.3% }			
13C4_PFOS_IIS	(502.8 / 79.9) 221630	(9.52, N/A) (N/A, 0.02, N/A)	320.3	N/A	1.1908 [ 1.0000 ]	119.1% { 121.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 705240	(3.78, N/A) (N/A, 0.02, N/A)	1175.0	N/A	8.1878 [ 8.0000 ]	102.3% { 119.3% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 367649	(5.09, N/A) (N/A, 0.02, N/A)	962.2	N/A	3.4483 [ 4.0000 ]	86.2% { 118.1% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 296987	(6.22, N/A) (N/A, 0.03, N/A)	787.4	N/A	1.9921 [ 2.0000 ]	99.6% { 117.7% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 257723	(7.15, N/A) (N/A, 0.02, N/A)	735.8	N/A	1.9152 [ 2.0000 ]	95.8% { 112.5% }			
13C8_PFOA_EIS	(421.0 / 376.0) 271869	(7.97, N/A) (N/A, 0.02, N/A)	678.9	N/A	1.8590 [ 2.0000 ]	92.9% { 114.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 119484	(8.71, N/A) (N/A, 0.03, N/A)	471.3	N/A	1.1447 [ 1.0000 ]	114.5% { 131.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 138656	(9.38, N/A) (N/A, 0.02, N/A)	304.4	N/A	0.8126 [ 1.0000 ]	81.3% { 116.1% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 221256	(9.74, N/A) (N/A, 0.01, N/A)	395.9	N/A	0.9659 [ 1.0000 ]	96.6% { 132.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 224791	(9.91, N/A) (N/A, 0.00, N/A)	9810.2	N/A	0.8086 [ 1.0000 ]	80.9% { 119.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 137668	(10.14, N/A) (N/A, 0.00, N/A)	301.3	N/A	0.6746 [ 1.0000 ]	67.5% { 97.7% }			
13C3_PFBs_EIS	(302.0 / 80.0) 728127	(6.20, N/A) (N/A, 0.03, N/A)	1197.6	N/A	2.1950 [ 2.0000 ]	109.7% { 129.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 396753	(8.10, N/A) (N/A, 0.03, N/A)	895.8	N/A	2.1012 [ 2.0000 ]	105.1% { 115.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 706531	(9.52, N/A) (N/A, 0.02, N/A)	660.8	N/A	2.0912 [ 2.0000 ]	104.6% { 124.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 92029	(5.89, N/A) (N/A, 0.03, N/A)	768.6	N/A	4.9190 [ 4.0000 ]	123.0% { 142.6% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 100478	(7.61, N/A) (N/A, 0.02, N/A)	567.7	N/A	4.0031 [ 4.0000 ]	100.1% { 117.2% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 97153	(9.03, N/A) (N/A, 0.03, N/A)	367.1	N/A	4.4594 [ 4.0000 ]	111.5% { 122.7% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1050556	(10.19, N/A) (N/A, 0.01, N/A)	593.9	N/A	2.0368 [ 2.0000 ]	101.8% { 110.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 18818	(10.61, N/A) (N/A, 0.01, N/A)	203.2	N/A	0.1233 [ 2.0000 ]	6.2% { 8.1% }			S1,
D5_NeIFOSA_EIS	(531.1 / 169.0) 8180	(10.70, N/A) (N/A, 0.01, N/A)	100.0	N/A	0.0591 [ 2.0000 ]	3.0% { 3.7% }			S1,



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0100-BS1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 18  
 Acquired: 2022/12/08 - 21:48

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 293402	( 9.55, N/A ) ( N/A, 0.02, N/A )	283.4	N/A	3.9033 [ 4.0000 ]	97.6% { 122.2% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 306470	( 9.71, N/A ) ( N/A, 0.01, N/A )	405.4	N/A	4.7437 [ 4.0000 ]	118.6% { 135.0% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 191108	( 10.57, N/A ) ( N/A, 0.00, N/A )	862.9	N/A	7.3307 [ 20.0000 ]	36.7% { 44.0% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 90364	( 10.67, N/A ) ( N/A, 0.00, N/A )	994.1	N/A	6.8029 [ 20.0000 ]	34.0% { 41.3% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 760475	( 6.57, N/A ) ( N/A, 0.03, N/A )	823.3	N/A	7.7453 [ 8.0000 ]	96.8% { 114.0% }			

# ANALYSIS DATA SHEET

## LCS Dup

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0100-BSD1
Sampled:		File ID:	S2022-12-08B (19)
		Prepared:	12/07/22 10:00
		Analyzed:	12/08/22 22:01
Solids:		Preparation:	EPA 1633
		Dilution:	1
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016
		Instrument:	Saphira
Column:	1		

COMPOUND	CONC. (ug/kg Dry)	LOQ	DL	Q
PFBA	1.47	0.30	0.15	
PFPEA	0.786	0.080	0.022	
PFHXA	0.383	0.040	0.015	
PFHPA	0.393	0.040	0.015	
PFOA	0.381	0.040	0.021	
PFNA	0.368	0.040	0.022	
PFDA	0.383	0.040	0.022	IR2
PFUnA	0.361	0.040	0.020	
PFDOA	0.359	0.040	0.023	
PFTRDA	0.351	0.040	0.016	
PFTEDA	0.345	0.040	0.025	
PFBS	0.355	0.040	0.016	
PFPEs	0.357	0.040	0.012	
PFHXS	0.349	0.040	0.015	
PFHPS	0.345	0.040	0.011	
PFOS	0.419	0.040	0.0097	
PFNS	0.415	0.040	0.015	
PFDS	0.375	0.040	0.014	
PFDOS	0.305	0.040	0.013	
4:2FTS	1.39	0.16	0.045	
6:2FTS	1.66	0.16	0.061	
8:2FTS	1.52	0.16	0.051	
PFOSA	0.391	0.040	0.012	
NMeFOSA	1.86	0.16	0.066	
NEtFOSA	2.03	0.16	0.027	BS3
NMeFOSAA	0.395	0.040	0.010	
NEtFOSAA	0.479	0.040	0.018	BS3
NMeFOSE	1.29	0.16	0.054	
NEtFOSE	1.58	0.16	0.047	
HFPO-DA	0.804	0.080	0.022	

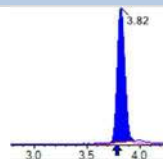
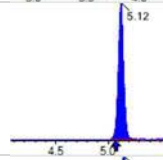
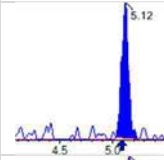
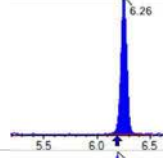
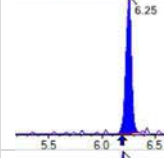
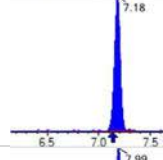
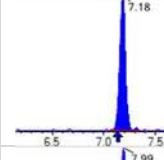
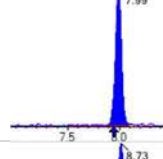
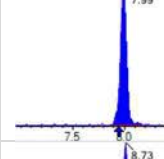
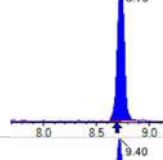
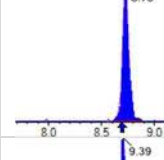
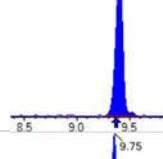
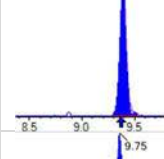
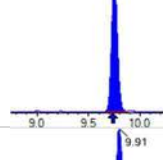
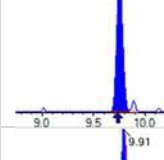
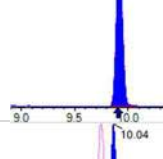
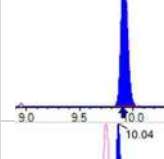
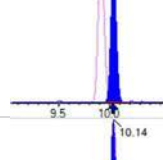
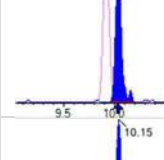
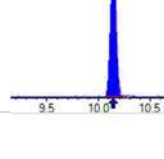
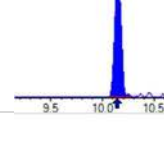
**ANALYSIS DATA SHEET**

## LCS Dup

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0100-BSD1
Sampled:		File ID:	S2022-12-08B (19)
		Prepared:	12/07/22 10:00
Solids:		Analyzed:	12/08/22 22:01
		Preparation:	EPA 1633
Batch:	BBL0100	Dilution:	1
Column:	1	Sequence:	SB03753
		Calibration:	2250016
		Instrument:	Saphira

COMPOUND	CONC. (ug/kg Dry)	LOQ	DL	Q
ADONA	0.828	0.080	0.026	
PFEESA	0.698	0.080	0.017	
PFMPA	0.798	0.080	0.028	
PFMBA	0.812	0.080	0.032	
NFDHA	0.662	0.080	0.049	
9CL-PF3ONS	0.914	0.080	0.024	
11CL-PF3OUDS	0.780	0.080	0.027	
3:3FTCA	1.41	0.16	0.064	
5:3FTCA	1.31	0.16	0.065	
7:3FTCA	1.38	0.16	0.050	



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 254283	(3.82, 1.00) (0.00, N/A, 0.0)	51.4	N/A 0.0 0.0	3.6739 [ 4.0000 ]	91.8%			
PFPeA	(262.9 / 219.0) 173140 (262.9 / 69.0) 1821	(5.12, 1.00) (0.00, N/A, 0.4)	661.7 48.3	0.0105 90.3 90.3	1.9646 [ 2.0000 ]	98.2%			
PFHxA	(313.0 / 269.0) 135142 (313.0 / 119.0) 12788	(6.26, 1.00) (0.00, N/A, 0.1)	349.5 142.5	0.0946 105.3 97.9	0.9571 [ 1.0000 ]	95.7%			
PFHpA	(363.0 / 319.0) 121812 (363.0 / 169.0) 33868	(7.18, 1.00) (0.00, N/A, -0.2)	412.9 292.4	0.2780 96.9 94.6	0.9831 [ 1.0000 ]	98.3%			
PFOA	(413.0 / 369.0) 123444 (413.0 / 169.0) 44681	(7.99, 1.00) (0.00, N/A, 0.0)	259.9 265.8	0.3620 111.9 112.4	0.9530 [ 1.0000 ]	95.3%			
PFNA	(463.0 / 419.0) 92815 (463.0 / 169.0) 24044	(8.73, 1.00) (0.00, N/A, 0.2)	289.6 130.3	0.2591 128.7 132.3	0.9204 [ 1.0000 ]	92.0%			
PFDA	(513.0 / 469.0) 120666 (513.0 / 169.0) 16801	(9.40, 1.00) (0.01, N/A, 0.8)	301.1 1018.4	0.1392 156.8 135.1	0.9584 [ 1.0000 ]	95.8%			IR2,
PFUnA	(563.0 / 519.0) 161017 (563.0 / 169.0) 19271	(9.75, 1.00) (0.00, N/A, -0.2)	388.8 337.2	0.1197 111.4 128.8	0.9036 [ 1.0000 ]	90.4%			
PFDoA	(613.0 / 569.0) 173307 (613.0 / 169.0) 26200	(9.91, 1.00) (0.00, N/A, 0.1)	307.1 1042.9	0.1512 126.9 135.3	0.8973 [ 1.0000 ]	89.7%			
PFTTrDA	(663.0 / 619.0) 148910 (663.0 / 169.0) 29752	(10.04, 1.01) (N/A, 0.00, 0.1)	407.5 135.9	0.1998 107.3 103.8	0.8777 [ 1.0000 ]	87.8%			
PFTTeDA	(713.0 / 669.0) 109555 (713.0 / 169.0) 20523	(10.14, 1.00) (-0.01, N/A, -0.5)	598.9 122.7	0.1873 95.2 87.7	0.8635 [ 1.0000 ]	86.3%			

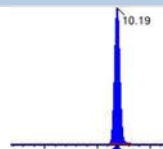
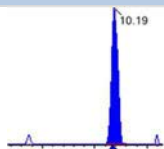
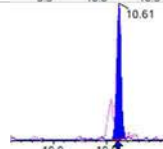
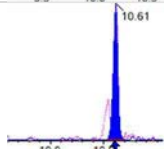
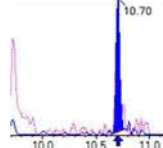
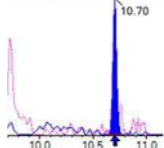
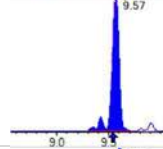
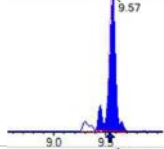
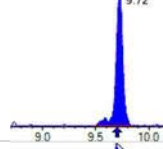
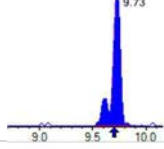
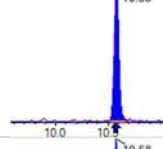
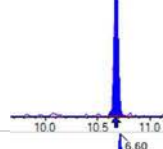
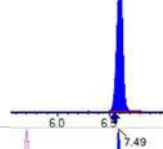
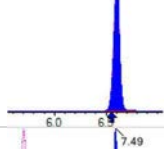
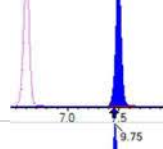
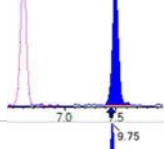
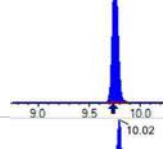
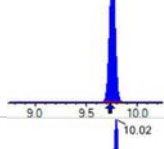
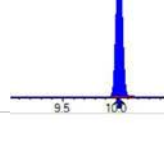
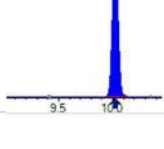


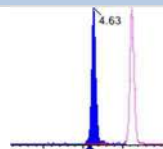
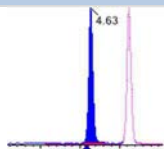
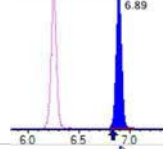
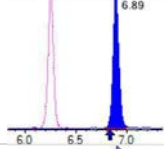
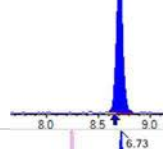
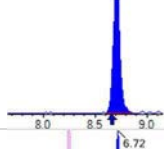
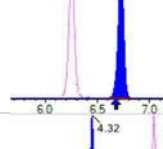
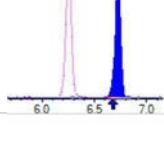
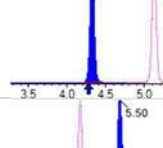
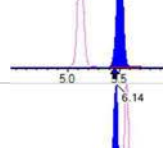
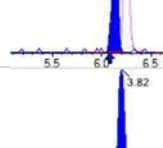
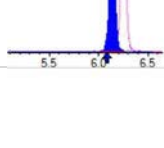
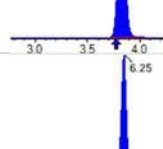
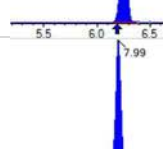
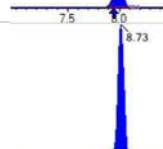
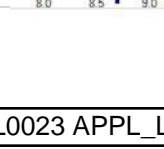
Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

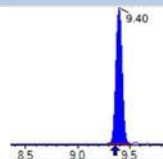
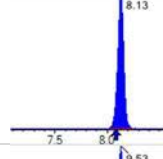
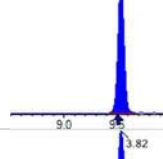
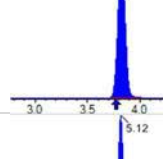
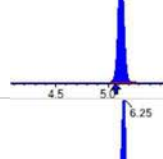
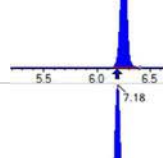
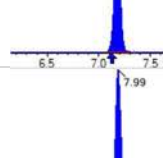
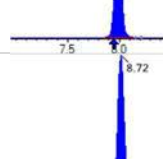
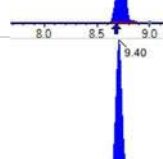
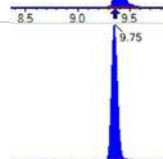
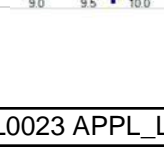
Sample I.D.: BBL0100-BSD1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

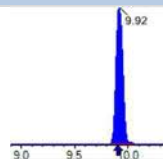
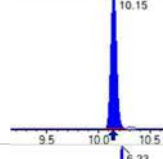
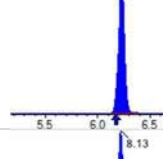
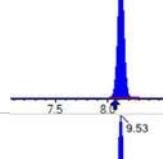
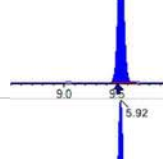
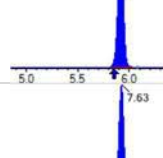
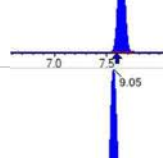
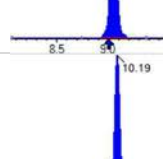
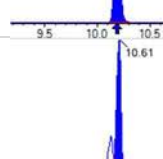
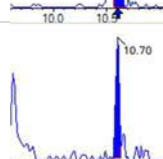
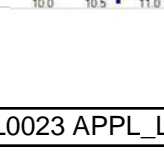
Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 19  
 Acquired: 2022/12/08 - 22:01

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 172245 ( 298.9 / 99.0 ) 112807	( 6.23 , 1.00 ) ( 0.00 , N/A , 0.0 )	1078.1 578.2	0.6549 96.7 96.4	0.8876 [ 0.8847 ]	100.3%			
PFPeS	( 349.0 / 80.0 ) 323450 ( 349.0 / 99.0 ) 126694	( 7.26 , 0.89 ) ( N/A , 0.05 , 0.1 )	777.1 696.2	0.3917 107.4 107.4	0.8927 [ 0.9384 ]	95.1%			
PFHxS	( 399.0 / 80.0 ) 279962 ( 399.0 / 99.0 ) 95945	( 8.13 , 1.00 ) ( 0.00 , N/A , 0.0 )	5638.9 5045.2	0.3427 99.4 97.5	0.8714 [ 0.9110 ]	95.7%			
PFHpS	( 449.0 / 80.0 ) 239289 ( 449.0 / 99.0 ) 75635	( 8.89 , 0.93 ) ( N/A , 0.04 , -0.3 )	564.3 540.1	0.3161 111.2 105.4	0.8637 [ 0.9514 ]	90.8%			
PFOS	( 499.0 / 80.0 ) 359740 ( 499.0 / 99.0 ) 73494	( 9.53 , 1.00 ) ( 0.00 , N/A , 0.1 )	131.0 135.3	0.2043 79.3 83.8	1.0483 [ 0.9275 ]	113.0%			
PFNS	( 549.0 / 80.0 ) 417842 ( 549.0 / 99.0 ) 88203	( 9.80 , 1.03 ) ( N/A , 0.01 , 0.2 )	599.6 396.4	0.2111 88.3 82.7	1.0369 [ 0.9599 ]	108.0%			
PFDS	( 599.0 / 80.0 ) 472707 ( 599.0 / 99.0 ) 97938	( 9.94 , 1.04 ) ( N/A , 0.01 , -0.1 )	690.5 327.3	0.2072 89.1 91.1	0.9367 [ 0.9631 ]	97.3%			
PFDoS	( 698.9 / 80.0 ) 228403 ( 698.9 / 99.0 ) 52840	( 10.13 , 1.06 ) ( N/A , 0.00 , 0.0 )	525.7 913.9	0.2313 99.9 104.7	0.7631 [ 0.9696 ]	78.7%			
4:2FTS	( 327.0 / 307.0 ) 242235 ( 327.0 / 81.0 ) 145011	( 5.91 , 1.00 ) ( 0.00 , N/A , 0.0 )	1036.6 626.2	0.5986 100.2 102.4	3.4686 [ 3.7381 ]	92.8%			
6:2FTS	( 427.0 / 407.0 ) 161356 ( 427.0 / 81.0 ) 118966	( 7.64 , 1.00 ) ( 0.00 , N/A , 0.0 )	652.2 801.0	0.7373 102.5 105.8	4.1530 [ 3.7962 ]	109.4%			
8:2FTS	( 527.0 / 507.0 ) 122428 ( 527.0 / 81.0 ) 98061	( 9.05 , 1.00 ) ( 0.00 , N/A , 0.1 )	755.8 455.1	0.8010 128.5 120.9	3.8075 [ 3.8332 ]	99.3%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 453606 (498.0 / 478.0) 7952	(10.19, 1.00) (0.00, N/A, -0.1)	644.3 689.8	0.0175 73.4 100.3	0.9764 [ 1.0000 ]	97.6%			
NMeFOSA	(511.9 / 219.0) 16797 (511.9 / 169.0) 12707	(10.61, 1.00) (0.00, N/A, 0.2)	239.5 174.0	0.7565 113.4 115.1	4.6446 [ 4.0000 ]	116.1%			
NEIFOSA	(526.0 / 219.0) 5388 (526.0 / 169.0) 6759	(10.70, 1.00) (0.00, N/A, 0.0)	17.5 78.1	1.2544 115.1 113.4	5.0639 [ 4.0000 ]	126.6%			
NMeFOSAA	(570.0 / 419.0) 57793 (570.0 / 483.0) 23958	(9.57, 1.00) (0.01, N/A, 0.1)	1187.6 62.2	0.4145 89.4 83.3	0.9863 [ 1.0000 ]	98.6%			
NEIFOSAA	(584.0 / 419.0) 62445 (584.0 / 526.0) 27195	(9.72, 1.00) (0.00, N/A, -0.3)	583.0 338.5	0.4355 71.8 65.6	1.1982 [ 1.0000 ]	119.8%			
NMeFOSE	(616.1 / 59.0) 28875	(10.58, 1.00) (0.01, N/A, 0.0)	229.6	N/A 0.0 0.0	3.2298 [ 4.0000 ]	80.7%			
NEtFOSE	(630.0 / 59.0) 8132	(10.68, 1.00) (0.00, N/A, 0.0)	217.5	N/A 0.0 0.0	3.9406 [ 4.0000 ]	98.5%			
HFPO-DA	(285.0 / 169.0) 109724 (285.0 / 185.0) 310214	(6.60, 1.00) (0.00, N/A, 0.1)	535.7 717.5	2.8272 102.0 97.8	2.0100 [ 2.0000 ]	100.5%			
ADONA	(377.0 / 85.0) 456911 (377.0 / 251.0) 55590	(7.49, 1.14) (N/A, 0.05, 0.0)	984.1 253.7	0.1217 96.8 94.0	2.0700 [ 1.8854 ]	109.8%			
9CI-Pf3ONS	(531.0 / 351.0) 1388210 (533.0 / 353.0) 463535	(9.75, 1.48) (N/A, 0.01, -0.2)	975.8 569.9	0.3339 100.0 113.5	2.2854 [ 1.8665 ]	122.4%			
11Cl-PF3OUDS	(631.0 / 451.0) 814737 (633.0 / 453.0) 270590	(10.02, 1.52) (N/A, 0.01, 0.0)	824.6 550.3	0.3321 102.7 100.8	1.9495 [ 1.8864 ]	103.3%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 15243 (241.0 / 117.0) 25404	(4.63, 0.90) (N/A, 0.05, -0.1)	372.5 364.7	1.6666 95.8 98.9	3.5206 [ 4.0000 ]	88.0%			
5:3FTCA	(341.0 / 236.7) 98429 (341.0 / 217.0) 168844	(6.89, 1.10) (N/A, 0.06, 0.0)	888.7 483.7	1.7154 100.4 100.0	3.2811 [ 4.0000 ]	82.0%			
7:3FTCA	(441.0 / 317.0) 132944 (441.0 / 337.0) 103705	(8.71, 1.39) (N/A, 0.05, 0.0)	339.5 297.7	0.7801 94.6 91.9	3.4420 [ 4.0000 ]	86.1%			
PFEESA	(315.0 / 135.0) 251834 (315.0 / 83.0) 70786	(6.73, 1.08) (N/A, 0.06, 0.1)	725.0 381.8	0.2811 94.5 95.6	1.7442 [ 1.7849 ]	97.7%			
PFMPA	(229.0 / 85.0) 48401	(4.32, 0.84) (N/A, 0.05, 0.0)	935.8	N/A 0.0 0.0	1.9944 [ 2.0000 ]	99.7%			
PFMBA	(279.0 / 85.0) 153542	(5.50, 1.07) (N/A, 0.05, 0.0)	787.8	N/A 0.0 0.0	2.0300 [ 2.0000 ]	101.5%			
NFDHA	(201.0 / 85.0) 6004 (295.0 / 201.0) 39610	(6.14, 0.98) (N/A, 0.06, 0.4)	136.3 427.0	6.5972 94.3 96.0	1.6545 [ 2.0000 ]	82.7%			
13C3_PFBA_IIS	(216.0 / 172.0) 93632	(3.82, N/A) (N/A, 0.06, N/A)	810.8	N/A	0.9741 [ 1.0000 ]	97.4% { 111.2% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 131435	(6.25, N/A) (N/A, 0.06, N/A)	669.6	N/A	1.0644 [ 1.0000 ]	106.4% { 113.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 122896	(7.99, N/A) (N/A, 0.05, N/A)	533.9	N/A	1.0367 [ 1.0000 ]	103.7% { 108.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 110724	(8.73, N/A) (N/A, 0.04, N/A)	405.6	N/A	1.1626 [ 1.0000 ]	116.3% { 128.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 98744	(9.40, N/A) (N/A, 0.04, N/A)	249.6	N/A	1.1986 [ 1.0000 ]	119.9% { 102.9% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 233141	(8.13, N/A) (N/A, 0.05, N/A)	1027.7	N/A	1.0862 [ 1.0000 ]	108.6% { 113.9% }			
13C4_PFOS_IIS	(502.8 / 79.9) 182301	(9.53, N/A) (N/A, 0.03, N/A)	315.7	N/A	0.9795 [ 1.0000 ]	97.9% { 100.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 727204	(3.82, N/A) (N/A, 0.06, N/A)	1014.1	N/A	8.2841 [ 8.0000 ]	103.6% { 123.1% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 366714	(5.12, N/A) (N/A, 0.05, N/A)	1211.2	N/A	3.8248 [ 4.0000 ]	95.6% { 117.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 280181	(6.25, N/A) (N/A, 0.06, N/A)	561.6	N/A	2.0899 [ 2.0000 ]	104.5% { 111.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 244628	(7.18, N/A) (N/A, 0.05, N/A)	642.9	N/A	2.0215 [ 2.0000 ]	101.1% { 106.8% }			
13C8_PFOA_EIS	(421.0 / 376.0) 251304	(7.99, N/A) (N/A, 0.04, N/A)	748.9	N/A	2.0104 [ 2.0000 ]	100.5% { 105.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 104596	(8.72, N/A) (N/A, 0.04, N/A)	449.4	N/A	0.9572 [ 1.0000 ]	95.7% { 114.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 124102	(9.40, N/A) (N/A, 0.03, N/A)	554.7	N/A	0.8652 [ 1.0000 ]	86.5% { 103.9% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 202432	(9.75, N/A) (N/A, 0.01, N/A)	338.0	N/A	1.0514 [ 1.0000 ]	105.1% { 120.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 209919	(9.92, N/A) (N/A, 0.01, N/A)	574.0	N/A	0.8984 [ 1.0000 ]	89.8% { 111.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 128713	(10.15, N/A) (N/A, 0.01, N/A)	307.3	N/A	0.7504 [ 1.0000 ]	75.0% { 91.4% }			
13C3_PFBs_EIS	(302.0 / 80.0) 635704	(6.23, N/A) (N/A, 0.06, N/A)	933.3	N/A	1.8553 [ 2.0000 ]	92.8% { 112.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 383254	(8.13, N/A) (N/A, 0.05, N/A)	941.6	N/A	1.9650 [ 2.0000 ]	98.3% { 111.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 611363	(9.53, N/A) (N/A, 0.03, N/A)	419.9	N/A	2.1999 [ 2.0000 ]	110.0% { 108.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 79963	(5.92, N/A) (N/A, 0.06, N/A)	665.7	N/A	4.1379 [ 4.0000 ]	103.4% { 123.9% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 97975	(7.63, N/A) (N/A, 0.05, N/A)	855.5	N/A	3.7790 [ 4.0000 ]	94.5% { 114.3% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 81901	(9.05, N/A) (N/A, 0.04, N/A)	460.0	N/A	3.6395 [ 4.0000 ]	91.0% { 103.4% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 836660	(10.19, N/A) (N/A, 0.01, N/A)	664.4	N/A	1.9721 [ 2.0000 ]	98.6% { 88.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 7869	(10.61, N/A) (N/A, 0.01, N/A)	98.1	N/A	0.0627 [ 2.0000 ]	3.1% { 3.4% }			S1,
D5_NEiFOSA_EIS	(531.1 / 169.0) 2055	(10.70, N/A) (N/A, 0.01, N/A)	67.0	N/A	0.0181 [ 2.0000 ]	0.9% { 0.9% }			S1,M15 DG 2022-12-09



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0100-BSD1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 19  
 Acquired: 2022/12/08 - 22:01

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 268761	( 9.56 , N/A ) ( N/A , 0.03 , N/A )	368.0	N/A	4.3469 [ 4.0000 ]	108.7% { 111.9% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 227160	( 9.72 , N/A ) ( N/A , 0.02 , N/A )	406.7	N/A	4.2747 [ 4.0000 ]	106.9% { 100.1% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 127181	( 10.58 , N/A ) ( N/A , 0.01 , N/A )	526.4	N/A	5.9310 [ 20.0000 ]	29.7% { 29.3% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 60274	( 10.67 , N/A ) ( N/A , 0.01 , N/A )	854.7	N/A	5.5166 [ 20.0000 ]	27.6% { 27.5% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 657547	( 6.60 , N/A ) ( N/A , 0.06 , N/A )	868.2	N/A	7.4472 [ 8.0000 ]	93.1% { 98.5% }			

**ANALYSIS DATA SHEET**

Duplicate

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0100-DUP1
Sampled:		File ID:	S2022-12-08B (23)
Solids:		Prepared:	12/07/22 10:00
Batch:	BBL0100	Analyzed:	12/08/22 22:52
Column:	1	Preparation:	EPA 1633
		Dilution:	1
		Calibration:	2250016
		Instrument:	Saphira
		Sequence:	SB03753

COMPOUND	CONC. (ug/kg Dry)	LOQ	DL	Q
PFBA	2.24	0.29	0.15	
PFPEA	1.76	0.078	0.021	
PFHXA	8.03	0.039	0.015	
PFHPA	0.261	0.039	0.015	
PFOA	0.396	0.039	0.021	
PFNA	ND	0.039	0.021	U
PFDA	0.0507	0.039	0.021	
PFUnA	ND	0.039	0.020	IR1, U
PFDOA	ND	0.039	0.022	IR1, U
PFTRDA	ND	0.039	0.016	U
PFTEDA	ND	0.039	0.024	U
PFBS	ND	0.039	0.016	U
PFPEs	ND	0.039	0.011	U
PFHXS	0.0250	0.039	0.015	D3, J
PFHPS	ND	0.039	0.010	U
PFOS	0.230	0.039	0.0095	D3
PFNS	ND	0.039	0.014	U
PFDS	0.0184	0.039	0.013	J
PFDOS	ND	0.039	0.013	IR1, U
4:2FTS	0.386	0.16	0.044	
6:2FTS	105	0.16	0.059	E
8:2FTS	ND	0.16	0.050	IR1, U
PFOSA	ND	0.039	0.012	U
NMeFOSA	ND	0.16	0.064	U
NEtFOSA	ND	0.16	0.026	U
NMeFOSAA	ND	0.039	0.0098	IR1, U
NEtFOSAA	ND	0.039	0.017	U
NMeFOSE	ND	0.16	0.052	U
NEtFOSE	ND	0.16	0.046	U
HFPO-DA	ND	0.078	0.021	U



**ANALYSIS DATA SHEET**

Duplicate

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0100-DUP1
Sampled:		File ID:	S2022-12-08B (23)
		Prepared:	12/07/22 10:00
Solids:		Analyzed:	12/08/22 22:52
		Preparation:	EPA 1633
Batch:	BBL0100	Dilution:	1
Column:	1	Sequence:	SB03753
		Calibration:	2250016
		Instrument:	Saphira

COMPOUND	CONC. (ug/kg Dry)	LOQ	DL	Q
ADONA	ND	0.078	0.026	U
PFEESA	ND	0.078	0.017	U
PFMPA	ND	0.078	0.027	U
PFMBA	ND	0.078	0.031	U
NFDHA	ND	0.078	0.048	U
9CL-PF3ONS	ND	0.078	0.023	U
11CL-PF3OUDS	ND	0.078	0.026	U
3:3FTCA	ND	0.16	0.062	U
5:3FTCA	0.281	0.16	0.063	
7:3FTCA	ND	0.16	0.048	U



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0100-DUP1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wif- 23  
 Acquired: 2022/12/08 - 22:52

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 376214	(3.81, 1.00) (0.00, N/A, 0.0)	53.8	N/A 0.0 0.0	5.7540	N/A			
PFPeA	(262.9 / 219.0) 383319 (262.9 / 69.0) 4560	(5.11, 1.00) (0.00, N/A, 0.0)	945.8 151.2	0.0119 102.2 102.1	4.5200	N/A			
PFHxA	(313.0 / 269.0) 3008331 (313.0 / 119.0) 290688	(6.23, 1.00) (0.00, N/A, 0.1)	874.1 1238.4	0.0966 107.5 100.0	20.6374	N/A			
PFHpA	(363.0 / 319.0) 86528 (363.0 / 169.0) 30357	(7.16, 1.00) (0.00, N/A, 0.1)	287.8 328.7	0.3508 122.3 119.4	0.6709	N/A			
PFOA	(413.0 / 369.0) 141365 (413.0 / 169.0) 47660	(7.97, 1.00) (0.00, N/A, 0.1)	411.1 328.4	0.3371 104.2 104.7	1.0166	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) 13910 (513.0 / 169.0) 1074	(9.38, 1.00) (0.00, N/A, 0.9)	83.2 24.7	0.0772 86.9 74.9	0.1302	N/A			
PFUnA	(563.0 / 519.0) 2048 (563.0 / 169.0) N/A	(9.76, 1.00) (0.01, N/A, #Value!)	19.0 N/A	N/A 0.0 0.0	0.0259	N/A			IR1,
PFDoA	(613.0 / 569.0) 4180 (613.0 / 169.0) N/A	(9.91, 1.00) (0.00, N/A, #Value!)	19.1 N/A	N/A 0.0 0.0	0.0224	N/A			IR1,
PFTTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0100-DUP1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 23  
 Acquired: 2022/12/08 - 22:52

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 2190 (298.9 / 99.0) 2153	(6.21, 1.00) (0.01, N/A, 0.3)	17.5 24.4	0.9833 145.1 144.7	0.0101	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) 20088 (399.0 / 99.0) 6159	(8.10, 1.00) (0.00, N/A, -0.4)	85.8 90.0	0.3066 88.9 87.2	0.0643	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) 214099 (499.0 / 99.0) 58367	(9.51, 1.00) (0.00, N/A, 0.1)	487.8 182.5	0.2727 105.9 111.9	0.5905	N/A			
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) 25255 (599.0 / 99.0) 4187	(9.90, 1.04) (N/A, -0.03, -1.2)	13.8 23.2	0.1658 71.3 72.9	0.0474	N/A			
PFDoS	(698.9 / 80.0) 8574 (698.9 / 99.0) 812	(10.08, 1.06) (N/A, -0.04, 0.2)	20.5 83968.6	0.0947 40.9 42.8	0.0271	N/A			IR1,
4:2FTS	(327.0 / 307.0) 72056 (327.0 / 81.0) 43598	(5.89, 1.00) (0.00, N/A, -0.2)	513.4 204.1	0.6051 101.3 103.5	0.9916	N/A			
6:2FTS	(427.0 / 407.0) 17298629 (427.0 / 81.0) 12155524	(7.61, 1.00) (0.00, N/A, 0.0)	810.3 750.7	0.7027 97.7 100.9	269.1648	N/A			E,
8:2FTS	(527.0 / 507.0) 2090 (527.0 / 81.0) 516	(9.04, 1.00) (0.02, N/A, 0.1)	82624.2 3.2	0.2470 39.6 37.3	0.0863	N/A			IR1,

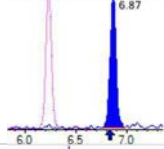
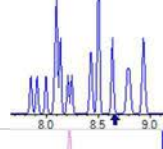
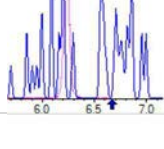
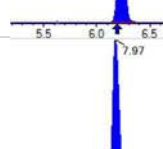
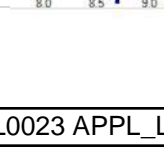


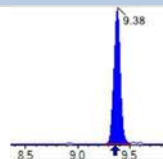
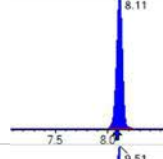
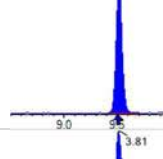
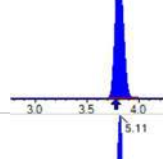
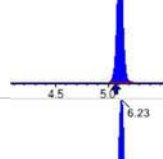
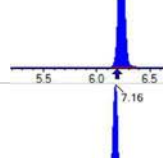
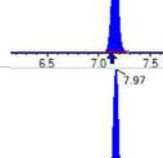
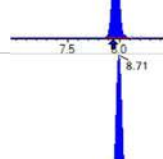
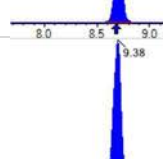
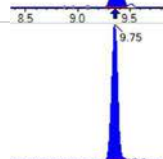
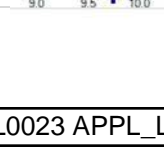
Chemist: DAG  
Instrument: Saphira  
Type: Sciex Q3 5500

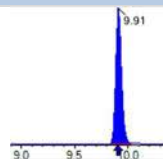
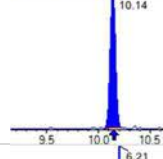
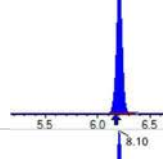
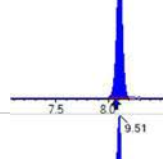
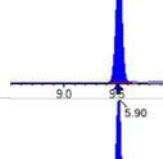
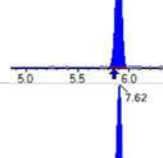
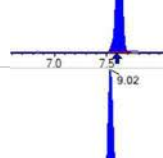
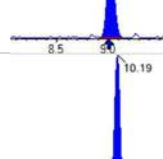
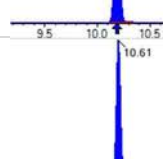
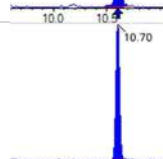
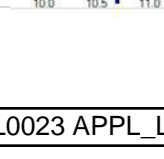
Sample I.D.: BBL0100-DUP1  
DF, IV: 1, 10.0µL  
Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
Path: S2022-12-08B.wif- 23  
Acquired: 2022/12/08 - 22:52

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) N/A ( 498.0 / 478.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) 834 ( 570.0 / 483.0 ) N/A	( 9.58 , 1.00 ) ( 0.03 , N/A , #Value! )	14.6 N/A	N/A 0.0 0.0	0.0101	N/A			IR1,
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) 1543	( 10.55 , 1.00 ) ( -0.02 , N/A , 0.0 )	10.2	N/A 0.0 0.0	0.0842	N/A			
NEtFOSE	( 630.0 / 59.0 ) 254	( 10.66 , 1.00 ) ( -0.01 , N/A , 0.0 )	14.4	N/A 0.0 0.0	0.0526	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 566 (241.0 / 117.0) 814	(4.62, 0.90) (N/A, 0.04, -0.1)	34.1 21.7	1.4375 82.6 85.3	0.1360	N/A			
5:3FTCA	(341.0 / 236.7) 22345 (341.0 / 217.0) 31055	(6.87, 1.10) (N/A, 0.03, 0.2)	365.3 137.6	1.3898 81.4 81.1	0.7215	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBa_IIS	(216.0 / 172.0) 88038	(3.81, N/A) (N/A, 0.04, N/A)	612.8	N/A	0.9159 [ 1.0000 ]	91.6% { 104.6% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 142228	(6.23, N/A) (N/A, 0.04, N/A)	734.2	N/A	1.1518 [ 1.0000 ]	115.2% { 122.5% }			
13C4_PFOA_IIS	(417.0 / 372.0) 129925	(7.97, N/A) (N/A, 0.02, N/A)	775.6	N/A	1.0959 [ 1.0000 ]	109.6% { 114.9% }			
13C5_PFNAl_IIS	(468.0 / 423.0) 113652	(8.71, N/A) (N/A, 0.02, N/A)	844.3	N/A	1.1933 [ 1.0000 ]	119.3% { 131.6% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 85538	(9.38, N/A) (N/A, 0.02, N/A)	270.9	N/A	1.0383 [ 1.0000 ]	103.8% { 89.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 243426	(8.11, N/A) (N/A, 0.03, N/A)	1099.9	N/A	1.1342 [ 1.0000 ]	113.4% { 118.9% }			
13C4_PFOS_IIS	(502.8 / 79.9) 204424	(9.51, N/A) (N/A, 0.01, N/A)	350.0	N/A	1.0983 [ 1.0000 ]	109.8% { 112.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 686961	(3.81, N/A) (N/A, 0.04, N/A)	969.9	N/A	8.3229 [ 8.0000 ]	104.0% { 116.2% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 352879	(5.11, N/A) (N/A, 0.04, N/A)	871.2	N/A	3.4012 [ 4.0000 ]	85.0% { 113.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 289253	(6.23, N/A) (N/A, 0.04, N/A)	794.2	N/A	1.9939 [ 2.0000 ]	99.7% { 114.7% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 254634	(7.16, N/A) (N/A, 0.03, N/A)	896.3	N/A	1.9445 [ 2.0000 ]	97.2% { 111.2% }			
13C8_PFOA_EIS	(421.0 / 376.0) 269785	(7.97, N/A) (N/A, 0.02, N/A)	718.0	N/A	2.0415 [ 2.0000 ]	102.1% { 113.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 107033	(8.71, N/A) (N/A, 0.02, N/A)	579.2	N/A	0.9543 [ 1.0000 ]	95.4% { 117.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 105317	(9.38, N/A) (N/A, 0.02, N/A)	291.8	N/A	0.8476 [ 1.0000 ]	84.8% { 88.2% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 89925	(9.75, N/A) (N/A, 0.02, N/A)	246.1	N/A	0.5392 [ 1.0000 ]	53.9% { 53.6% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 202995	(9.91, N/A) (N/A, 0.00, N/A)	416.3	N/A	1.0029 [ 1.0000 ]	100.3% { 107.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 45115	(10.14, N/A) (N/A, 0.00, N/A)	285.7	N/A	0.3036 [ 1.0000 ]	30.4% { 32.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 711618	(6.21, N/A) (N/A, 0.04, N/A)	886.6	N/A	1.9891 [ 2.0000 ]	99.5% { 126.1% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 372926	(8.10, N/A) (N/A, 0.03, N/A)	724.3	N/A	1.8313 [ 2.0000 ]	91.6% { 108.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 645859	(9.51, N/A) (N/A, 0.01, N/A)	453.8	N/A	2.0725 [ 2.0000 ]	103.6% { 114.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 83202	(5.90, N/A) (N/A, 0.04, N/A)	448.4	N/A	4.1236 [ 4.0000 ]	103.1% { 129.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 162062	(7.62, N/A) (N/A, 0.03, N/A)	587.7	N/A	5.9868 [ 4.0000 ]	149.7% { 189.1% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 61665	(9.02, N/A) (N/A, 0.01, N/A)	227.6	N/A	2.6245 [ 4.0000 ]	65.6% { 77.9% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 464921	(10.19, N/A) (N/A, 0.01, N/A)	554.4	N/A	0.9773 [ 2.0000 ]	48.9% { 49.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 67233	(10.61, N/A) (N/A, 0.00, N/A)	283.5	N/A	0.4776 [ 2.0000 ]	23.9% { 29.0% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 72086	(10.70, N/A) (N/A, 0.00, N/A)	549.6	N/A	0.5647 [ 2.0000 ]	28.2% { 32.4% }			



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0100-DUP1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 23  
 Acquired: 2022/12/08 - 22:52

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 377180	( 9.55, N/A ) ( N/A, 0.01, N/A )	336.7	N/A	5.4402 [ 4.0000 ]	136.0% { 157.1% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 167596	( 9.71, N/A ) ( N/A, 0.00, N/A )	318.3	N/A	2.8125 [ 4.0000 ]	70.3% { 73.9% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 260853	( 10.57, N/A ) ( N/A, 0.00, N/A )	659.6	N/A	10.8483 [ 20.0000 ]	54.2% { 60.1% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 140886	( 10.67, N/A ) ( N/A, 0.00, N/A )	802.0	N/A	11.4991 [ 20.0000 ]	57.5% { 64.3% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 713017	( 6.58, N/A ) ( N/A, 0.03, N/A )	874.7	N/A	7.4626 [ 8.0000 ]	93.3% { 106.8% }			



## ANALYSIS DATA SHEET

Duplicate

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0100-DUP2
Sampled:		File ID:	S2022-12-08B (24)
		Prepared:	12/07/22 10:00
		Analyzed:	12/08/22 23:04
Solids:		Preparation:	EPA 1633
		Dilution:	1
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016
		Instrument:	Saphira
Column:	1		

COMPOUND	CONC. (ug/kg Dry)	LOQ	DL	Q
PFBA	2.44	0.29	0.15	
PFPEA	1.82	0.079	0.021	
PFHXA	8.41	0.039	0.015	
PFHPA	0.274	0.039	0.015	
PFOA	0.446	0.039	0.021	
PFNA	ND	0.039	0.021	U
PFDA	0.0685	0.039	0.022	IR2
PFUnA	ND	0.039	0.020	U
PFDOA	ND	0.039	0.023	U
PFTRDA	ND	0.039	0.016	U
PFTEDA	ND	0.039	0.025	IR2, U
PFBS	ND	0.039	0.016	U
PFPEs	ND	0.039	0.012	U
PFHXS	0.0245	0.039	0.015	D3, MI5, J
PFHPS	ND	0.039	0.011	U
PFOS	0.247	0.039	0.0096	D3
PFNS	ND	0.039	0.014	U
PFDS	0.0171	0.039	0.013	J
PFDOS	ND	0.039	0.013	U
4:2FTS	0.366	0.16	0.045	
6:2FTS	104	0.16	0.060	E
8:2FTS	ND	0.16	0.050	U
PFOSA	ND	0.039	0.012	U
NMeFOSA	ND	0.16	0.065	U
NEtFOSA	ND	0.16	0.026	U
NMeFOSAA	ND	0.039	0.0099	U
NEtFOSAA	ND	0.039	0.018	U
NMeFOSE	0.0689	0.16	0.053	J
NEtFOSE	ND	0.16	0.046	U
HFPO-DA	ND	0.079	0.021	U

**ANALYSIS DATA SHEET**

Duplicate

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0100-DUP2
Sampled:		File ID:	S2022-12-08B (24)
		Prepared:	12/07/22 10:00
Solids:		Analyzed:	12/08/22 23:04
		Preparation:	EPA 1633
Batch:	BBL0100	Dilution:	1
Column:	1	Sequence:	SB03753
		Calibration:	2250016
		Instrument:	Saphira

COMPOUND	CONC. (ug/kg Dry)	LOQ	DL	Q
ADONA	ND	0.079	0.026	U
PFEESA	ND	0.079	0.017	U
PFMPA	ND	0.079	0.027	U
PFMBA	ND	0.079	0.032	U
NFDHA	ND	0.079	0.048	U
9CL-PF3ONS	ND	0.079	0.024	U
11CL-PF3OUDS	ND	0.079	0.026	U
3:3FTCA	ND	0.16	0.063	U
5:3FTCA	0.307	0.16	0.064	
7:3FTCA	ND	0.16	0.049	U



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0100-DUP2  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 24  
 Acquired: 2022/12/08 - 23:04

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 417001	(3.76, 1.00) (0.00, N/A, 0.0)	56.5	N/A 0.0 0.0	6.1992	N/A			
PFPeA	(262.9 / 219.0) 415267 (262.9 / 69.0) 4667	(5.06, 1.00) (0.00, N/A, -0.3)	747.3 133.9	0.0112 96.5 96.5	4.6437	N/A			
PFHxA	(313.0 / 269.0) 3225564 (313.0 / 119.0) 313198	(6.19, 1.00) (0.00, N/A, -0.1)	932.5 769.5	0.0971 108.0 100.4	21.4111	N/A			
PFHpA	(363.0 / 319.0) 92923 (363.0 / 169.0) 29778	(7.12, 1.00) (0.00, N/A, 0.1)	333.2 312.7	0.3205 111.7 109.0	0.6976	N/A			
PFOA	(413.0 / 369.0) 157858 (413.0 / 169.0) 52609	(7.94, 1.00) (0.00, N/A, 0.0)	450.9 415.8	0.3333 103.0 103.5	1.1357	N/A			
PFNA	(463.0 / 419.0) 3205 (463.0 / 169.0) 726	(8.68, 1.00) (0.00, N/A, -1.6)	59.3 18.1	0.2265 112.5 115.7	0.0330	N/A			
PFDA	(513.0 / 469.0) 18003 (513.0 / 169.0) 2711	(9.37, 1.00) (0.01, N/A, 2.1)	83.1 62.9	0.1506 169.6 146.1	0.1744	N/A			IR2,
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) 787 (713.0 / 169.0) 527	(10.14, 1.00) (0.01, N/A, -0.3)	73.9 8.9	0.6690 339.8 313.4	0.0146	N/A			IR2,



Chemist: DAG  
Instrument: Saphira  
Type: Sciex Q3 5500

Sample I.D.: BBL0100-DUP2  
DF, IV: 1, 10.0µL  
Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
Path: S2022-12-08B.wif- 24  
Acquired: 2022/12/08 - 23:04

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 3053 ( 298.9 / 99.0 ) 2185	( 6.17 , 1.00 ) ( 0.01 , N/A , -0.2)	23.0 17.5	0.7156 105.6 105.3	0.0141	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) 21958 ( 399.0 / 99.0 ) 7614	( 8.08 , 1.00 ) ( 0.00 , N/A , 0.0)	117.3 874.3	0.3468 100.6 98.6	0.0625	N/A			MI5 DG 2022-12-09
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 207231 ( 499.0 / 99.0 ) 44481	( 9.50 , 1.00 ) ( 0.00 , N/A , 0.1)	562.2 157.0	0.2146 83.4 88.1	0.6284	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) 21063 ( 599.0 / 99.0 ) 3864	( 9.90 , 1.04 ) ( N/A , -0.03 , -2.6)	15.1 29.0	0.1834 78.9 80.7	0.0434	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) 73933 ( 327.0 / 81.0 ) 47573	( 5.85 , 1.00 ) ( 0.00 , N/A , 0.2)	642.7 236.1	0.6435 107.7 110.0	0.9322	N/A			
6:2FTS	( 427.0 / 407.0 ) 18800973 ( 427.0 / 81.0 ) 14274610	( 7.58 , 1.00 ) ( 0.00 , N/A , 0.2)	756.1 1001.2	0.7592 105.6 109.0	264.1542	N/A			E,
8:2FTS	( 527.0 / 507.0 ) 1299 ( 527.0 / 81.0 ) 952	( 9.01 , 1.00 ) ( 0.00 , N/A , 0.8)	86.4 6.4	0.7329 117.6 110.7	0.0638	N/A			

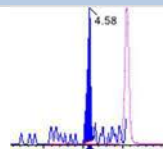
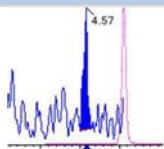
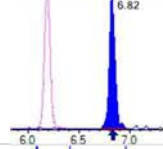
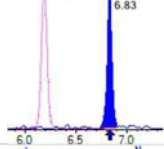
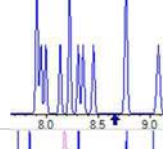
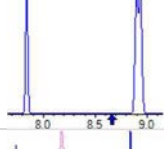
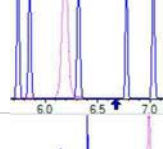
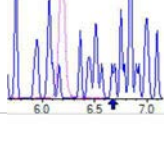
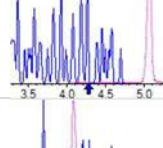
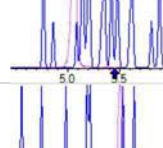
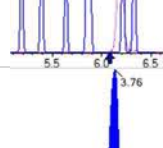
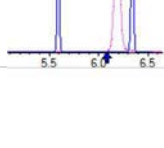
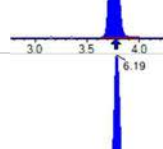
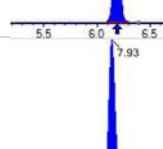
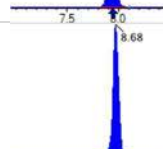
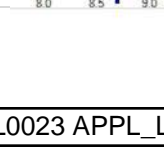


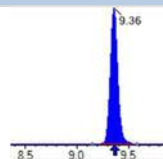
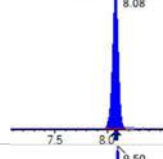
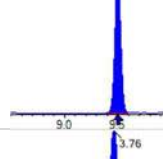
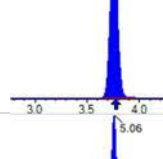
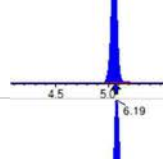
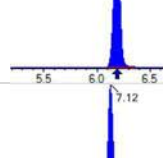
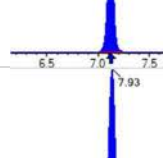
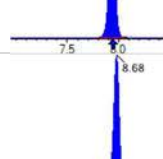
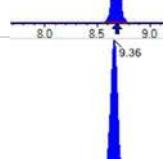
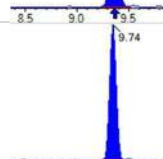
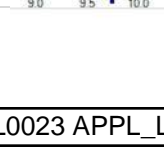
Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

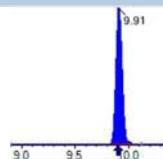
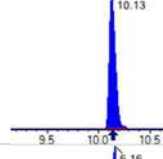
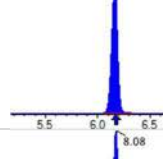
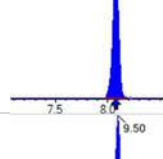
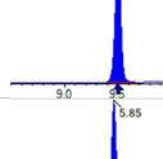
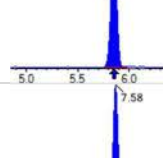
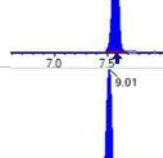
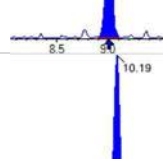
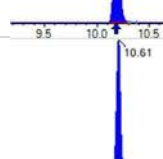
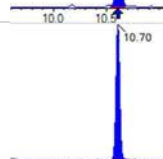
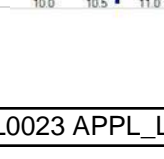
Sample I.D.: BBL0100-DUP2  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wif- 24  
 Acquired: 2022/12/08 - 23:04

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) N/A ( 498.0 / 478.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) 3541	( 10.60 , 1.00 ) ( 0.03 , N/A , 0.0 )	12.5	N/A 0.0 0.0	0.1754	N/A			
NEtFOSE	( 630.0 / 59.0 ) 175	( 10.66 , 1.00 ) ( -0.01 , N/A , 0.0 )	15.0	N/A 0.0 0.0	0.0354	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 360 (241.0 / 117.0) 597	(4.58, 0.91) (N/A, 0.00, 0.3)	29.3 15.5	1.6598 95.4 98.5	0.0819	N/A			
5:3FTCA	(341.0 / 236.7) 24979 (341.0 / 217.0) 34023	(6.82, 1.10) (N/A, -0.01, -0.3)	254.3 157.1	1.3621 79.8 79.4	0.7804	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 92658	(3.76, N/A) (N/A, -0.01, N/A)	803.6	N/A	0.9639 [ 1.0000 ]	96.4% { 110.0% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 139685	(6.19, N/A) (N/A, -0.01, N/A)	721.0	N/A	1.1312 [ 1.0000 ]	113.1% { 120.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 133526	(7.93, N/A) (N/A, -0.01, N/A)	879.5	N/A	1.1263 [ 1.0000 ]	112.6% { 118.1% }			
13C5_PFNA_IIS	(468.0 / 423.0) 109162	(8.68, N/A) (N/A, -0.01, N/A)	898.6	N/A	1.1462 [ 1.0000 ]	114.6% { 126.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 93744	(9.36, N/A) (N/A, 0.00, N/A)	275.7	N/A	1.1379 [ 1.0000 ]	113.8% { 97.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 235723	(8.08, N/A) (N/A, 0.00, N/A)	666.2	N/A	1.0983 [ 1.0000 ]	109.8% { 115.2% }			
13C4_PFOS_IIS	(502.8 / 79.9) 205216	(9.50, N/A) (N/A, 0.00, N/A)	327.7	N/A	1.1026 [ 1.0000 ]	110.3% { 112.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 706751	(3.76, N/A) (N/A, -0.01, N/A)	1100.3	N/A	8.1357 [ 8.0000 ]	101.7% { 119.6% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 372100	(5.06, N/A) (N/A, -0.01, N/A)	1282.5	N/A	3.6518 [ 4.0000 ]	91.3% { 119.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 298933	(6.19, N/A) (N/A, -0.01, N/A)	755.9	N/A	2.0981 [ 2.0000 ]	104.9% { 118.5% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 262981	(7.12, N/A) (N/A, -0.01, N/A)	784.9	N/A	2.0448 [ 2.0000 ]	102.2% { 114.8% }			
13C8_PFOA_EIS	(421.0 / 376.0) 269678	(7.93, N/A) (N/A, -0.01, N/A)	752.5	N/A	1.9857 [ 2.0000 ]	99.3% { 113.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 100808	(8.68, N/A) (N/A, 0.00, N/A)	463.6	N/A	0.9358 [ 1.0000 ]	93.6% { 110.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 101753	(9.36, N/A) (N/A, 0.00, N/A)	273.6	N/A	0.7473 [ 1.0000 ]	74.7% { 85.2% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 105584	(9.74, N/A) (N/A, 0.01, N/A)	388.7	N/A	0.5777 [ 1.0000 ]	57.8% { 63.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 193286	(9.91, N/A) (N/A, 0.00, N/A)	408.6	N/A	0.8713 [ 1.0000 ]	87.1% { 102.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 54670	(10.13, N/A) (N/A, -0.01, N/A)	557035.6	N/A	0.3357 [ 1.0000 ]	33.6% { 38.8% }			
13C3_PFBs_EIS	(302.0 / 80.0) 707770	(6.16, N/A) (N/A, -0.01, N/A)	832.8	N/A	2.0430 [ 2.0000 ]	102.2% { 125.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 419270	(8.08, N/A) (N/A, 0.00, N/A)	874.1	N/A	2.1261 [ 2.0000 ]	106.3% { 122.2% }			
13C8_PFOS_EIS	(507.0 / 80.0) 587494	(9.50, N/A) (N/A, 0.00, N/A)	381.5	N/A	1.8780 [ 2.0000 ]	93.9% { 103.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 90811	(5.85, N/A) (N/A, 0.00, N/A)	568.2	N/A	4.6478 [ 4.0000 ]	116.2% { 140.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 179477	(7.58, N/A) (N/A, -0.01, N/A)	589.7	N/A	6.8468 [ 4.0000 ]	171.2% { 209.4% }			S2,
13C2_8:2FTS_EIS	(529.0 / 81.0) 51870	(9.01, N/A) (N/A, 0.00, N/A)	125.7	N/A	2.2798 [ 4.0000 ]	57.0% { 65.5% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 438806	(10.19, N/A) (N/A, 0.01, N/A)	680.0	N/A	0.9188 [ 2.0000 ]	45.9% { 46.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 68596	(10.61, N/A) (N/A, 0.01, N/A)	330.8	N/A	0.4854 [ 2.0000 ]	24.3% { 29.6% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 68152	(10.70, N/A) (N/A, 0.01, N/A)	510.3	N/A	0.5319 [ 2.0000 ]	26.6% { 30.6% }			





Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0100-DUP2  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 24  
 Acquired: 2022/12/08 - 23:04

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 359009	( 9.53, N/A ) ( N/A, 0.00, N/A )	676.8	N/A	5.1581 [ 4.0000 ]	129.0% { 149.5% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 169028	( 9.70, N/A ) ( N/A, 0.00, N/A )	279.6	N/A	2.8256 [ 4.0000 ]	70.6% { 74.5% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 287153	( 10.57, N/A ) ( N/A, 0.01, N/A )	588.1	N/A	11.8960 [ 20.0000 ]	59.5% { 66.1% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 144833	( 10.67, N/A ) ( N/A, 0.01, N/A )	672.7	N/A	11.7757 [ 20.0000 ]	58.9% { 66.1% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 785319	( 6.54, N/A ) ( N/A, -0.01, N/A )	984.5	N/A	8.3689 [ 8.0000 ]	104.6% { 117.7% }			

**ANALYSIS DATA SHEET****MRL Check**

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0100-MRL1
Sampled:		File ID:	S2022-12-08B (20)
		Prepared:	12/07/22 10:00
		Analyzed:	12/08/22 22:13
Solids:		Preparation:	EPA 1633
		Dilution:	1
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016
		Instrument:	Saphira
Column:	1		

COMPOUND	CONC. (ug/kg Dry)	LOQ	DL	Q
PFBA	0.170	0.30	0.15	J
PFPEA	0.0931	0.080	0.022	
PFHXA	0.0430	0.040	0.015	
PFHPA	0.0453	0.040	0.015	
PFOA	0.0458	0.040	0.021	
PFNA	0.0483	0.040	0.022	
PFDA	0.0360	0.040	0.022	J
PFUnA	0.0349	0.040	0.020	J
PFDOA	0.0424	0.040	0.023	
PFTRDA	0.0374	0.040	0.016	J
PFTEDA	0.0392	0.040	0.025	IR1, J
PFBS	0.0348	0.040	0.016	J
PFPEs	0.0401	0.040	0.012	
PFHXS	0.0437	0.040	0.015	
PFHPS	0.0378	0.040	0.011	J
PFOS	0.0433	0.040	0.0097	MI5
PFNS	0.0388	0.040	0.015	J
PFDS	0.0395	0.040	0.014	J
PFDOS	0.0376	0.040	0.013	J
4:2FTS	0.166	0.16	0.045	
6:2FTS	0.154	0.16	0.061	J
8:2FTS	0.198	0.16	0.051	
PFOSA	0.0432	0.040	0.012	
NMeFOSA	0.271	0.16	0.066	BS2
NEtFOSA	0.152	0.16	0.027	IR2, J
NMeFOSAA	0.0380	0.040	0.010	IR2, J
NEtFOSAA	0.0639	0.040	0.018	BS2
NMeFOSE	0.203	0.16	0.054	
NEtFOSE	0.167	0.16	0.047	
HFPO-DA	0.0939	0.080	0.022	

**ANALYSIS DATA SHEET****MRL Check**

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0100-MRL1
Sampled:		File ID:	S2022-12-08B (20)
		Prepared:	12/07/22 10:00
Solids:		Analyzed:	12/08/22 22:13
		Preparation:	EPA 1633
Batch:	BBL0100	Dilution:	1
Column:	1	Sequence:	SB03753
		Calibration:	2250016
		Instrument:	Saphira

COMPOUND	CONC. (ug/kg Dry)	LOQ	DL	Q
ADONA	0.0816	0.080	0.026	
PFEESA	0.0669	0.080	0.017	J
PFMPA	0.0914	0.080	0.028	
PFMBA	0.0833	0.080	0.032	
NFDHA	0.0360	0.080	0.010	J
9CL-PF3ONS	0.0776	0.080	0.024	J
11CL-PF3OUDS	0.0730	0.080	0.027	J
3:3FTCA	0.151	0.16	0.064	J
5:3FTCA	0.123	0.16	0.065	J
7:3FTCA	0.153	0.16	0.050	J



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0100-MRL1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 20  
 Acquired: 2022/12/08 - 22:13

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 28654	(3.76, 1.00) (-0.01, N/A, 0.0)	37.6	N/A 0.0 0.0	0.4262 [0.4000]	106.5%			
PFPeA	(262.9 / 219.0) 20074 (262.9 / 69.0) 232	(5.08, 1.00) (0.00, N/A, -0.5)	182.5 19.2	0.0116 99.2 99.2	0.2329 [0.2000]	116.4%			
PFHxA	(313.0 / 269.0) 16769 (313.0 / 119.0) 1463	(6.21, 1.00) (0.00, N/A, -0.2)	91.6 18.5	0.0872 97.0 90.2	0.1076 [0.1000]	107.6%			
PFHpA	(363.0 / 319.0) 14076 (363.0 / 169.0) 3065	(7.14, 1.00) (0.00, N/A, 0.4)	66.8 45.3	0.2177 75.9 74.1	0.1133 [0.1000]	113.3%			
PFOA	(413.0 / 369.0) 16320 (413.0 / 169.0) 6729	(7.96, 1.00) (0.00, N/A, 0.1)	66.2 149.7	0.4123 127.4 128.0	0.1145 [0.1000]	114.5%			
PFNA	(463.0 / 419.0) 13656 (463.0 / 169.0) 2298	(8.69, 1.00) (0.00, N/A, -0.7)	64.8 25.4	0.1683 83.6 85.9	0.1208 [0.1000]	120.8%			
PFDA	(513.0 / 469.0) 14278 (513.0 / 169.0) 1866	(9.38, 1.00) (0.01, N/A, -0.8)	54.2 239.7	0.1307 147.1 126.8	0.0899 [0.1000]	89.9%			
PFUnA	(563.0 / 519.0) 15782 (563.0 / 169.0) 1262	(9.74, 1.00) (0.00, N/A, 1.2)	108.7 148.6	0.0800 74.4 86.1	0.0872 [0.1000]	87.2%			
PFDoA	(613.0 / 569.0) 20817 (613.0 / 169.0) 1486	(9.92, 1.00) (0.00, N/A, 0.3)	158.5 27.9	0.0714 59.9 63.9	0.1059 [0.1000]	105.9%			
PFTTrDA	(663.0 / 619.0) 16136 (663.0 / 169.0) 3329	(10.04, 1.01) (N/A, 0.01, 0.9)	111.8 206.4	0.2063 110.8 107.2	0.0935 [0.1000]	93.5%			
PFTeDA	(713.0 / 669.0) 13880 (713.0 / 169.0) N/A	(10.15, 1.00) (0.00, N/A, #Value)	102.1 N/A	N/A 0.0 0.0	0.0981 [0.1000]	98.1%			IR1,

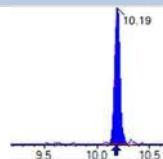
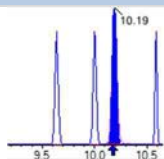
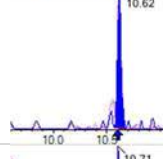
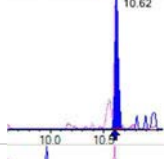
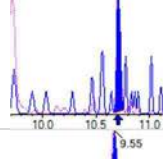
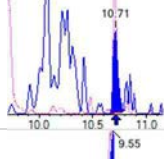
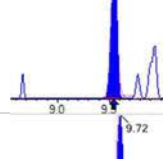
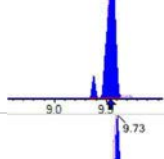
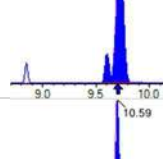
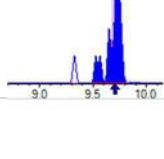
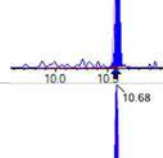
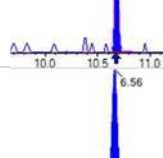
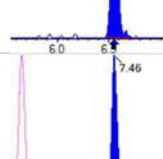
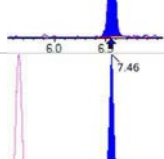
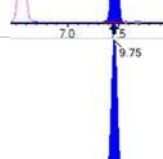
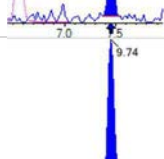
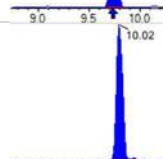
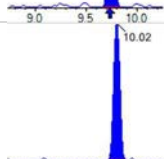
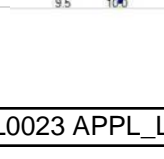
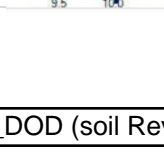


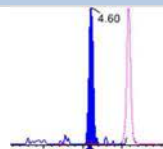
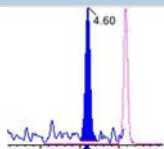
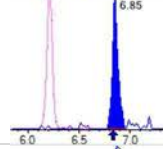
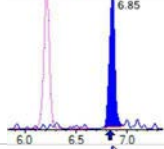
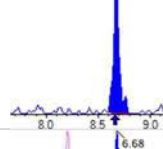
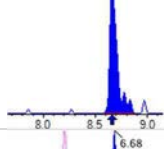
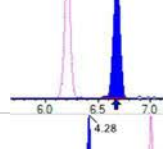
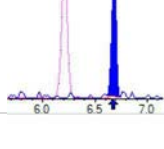
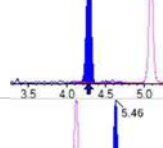
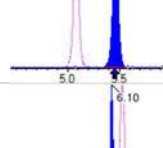
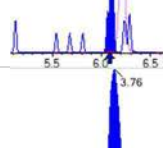
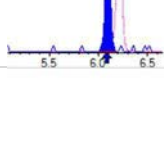
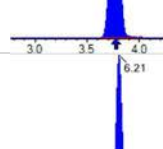
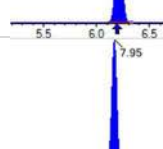
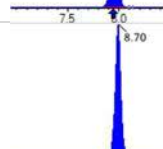
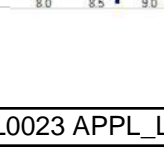
Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0100-MRL1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 20  
 Acquired: 2022/12/08 - 22:13

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 19619 ( 298.9 / 99.0 ) 15530	( 6.18 , 1.00 ) ( 0.00 , N/A , 0.1 )	253.6 139.7	0.7915 116.8 116.5	0.0869 [ 0.0885 ]	98.3%			
PFPeS	( 349.0 / 80.0 ) 36040 ( 349.0 / 99.0 ) 12169	( 7.23 , 0.89 ) ( N/A , 0.02 , -0.1 )	214.9 233.9	0.3377 92.6 92.6	0.1002 [ 0.0938 ]	106.7%			
PFHxS	( 399.0 / 80.0 ) 34821 ( 399.0 / 99.0 ) 9895	( 8.09 , 1.00 ) ( 0.00 , N/A , -0.2 )	84760.2 727.4	0.2842 82.4 80.8	0.1091 [ 0.0911 ]	119.8%			
PFHpS	( 449.0 / 80.0 ) 31645 ( 449.0 / 99.0 ) 6714	( 8.86 , 0.93 ) ( N/A , 0.01 , 0.9 )	470.2 141.9	0.2122 74.6 70.8	0.0945 [ 0.0951 ]	99.3%			
PFOS	( 499.0 / 80.0 ) 44929 ( 499.0 / 99.0 ) 9588	( 9.51 , 1.00 ) ( 0.01 , N/A , 0.3 )	93.4 144.9	0.2134 82.9 87.6	0.1083 [ 0.0927 ]	116.8%			MI5 DG 2022-12-09
PFNS	( 549.0 / 80.0 ) 47221 ( 549.0 / 99.0 ) 11005	( 9.80 , 1.03 ) ( N/A , 0.01 , 0.4 )	123.9 68.4	0.2331 97.5 91.3	0.0970 [ 0.0960 ]	101.0%			
PFDS	( 599.0 / 80.0 ) 60287 ( 599.0 / 99.0 ) 15089	( 9.94 , 1.05 ) ( N/A , 0.00 , 0.1 )	315.8 105.8	0.2503 107.6 110.1	0.0989 [ 0.0963 ]	102.6%			
PFDoS	( 698.9 / 80.0 ) 33964 ( 698.9 / 99.0 ) 9826	( 10.13 , 1.07 ) ( N/A , 0.01 , -0.1 )	524.4 311.5	0.2893 124.9 130.9	0.0939 [ 0.0970 ]	96.8%			
4:2FTS	( 327.0 / 307.0 ) 30221 ( 327.0 / 81.0 ) 18023	( 5.87 , 1.00 ) ( 0.00 , N/A , 0.2 )	454.5 161.5	0.5964 99.8 102.0	0.4141 [ 0.3738 ]	110.8%			
6:2FTS	( 427.0 / 407.0 ) 15238 ( 427.0 / 81.0 ) 13558	( 7.60 , 1.00 ) ( 0.00 , N/A , -0.1 )	111.0 121.6	0.8897 123.7 127.7	0.3843 [ 0.3796 ]	101.2%			
8:2FTS	( 527.0 / 507.0 ) 15825 ( 527.0 / 81.0 ) 8584	( 9.02 , 1.00 ) ( 0.00 , N/A , 0.0 )	16.7 109.0	0.5424 87.0 81.9	0.4941 [ 0.3833 ]	128.9%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 54411 (498.0 / 478.0) 510	(10.19, 1.00) (0.00, N/A, 0.2)	245.7 64.5	0.0094 39.3 53.6	0.1080 [0.1000]	108.0%			
NMeFOSA	(511.9 / 219.0) 2256 (511.9 / 169.0) 1292	(10.62, 1.00) (0.00, N/A, -0.2)	65.5 102.4	0.5727 85.9 87.1	0.6765 [0.4000]	169.1%			QC,
NEIFOSA	(526.0 / 219.0) 476 (526.0 / 169.0) 923	(10.71, 1.00) (0.00, N/A, 0.0)	15.1 9.1	1.9398 178.0 175.4	0.3792 [0.4000]	94.8%			IR2,
NMeFOSAA	(570.0 / 419.0) 5712 (570.0 / 483.0) 4354	(9.55, 1.00) (0.01, N/A, -0.3)	11796.5 1060.8	0.7623 164.3 153.2	0.0950 [0.1000]	95.0%			IR2,
NEIFOSAA	(584.0 / 419.0) 9011 (584.0 / 526.0) 3664	(9.72, 1.00) (0.01, N/A, -0.2)	349.0 1200.5	0.4067 67.0 61.3	0.1598 [0.1000]	159.8%			QC,
NMeFOSE	(616.1 / 59.0) 5620	(10.59, 1.00) (0.01, N/A, 0.0)	87.7	N/A 0.0 0.0	0.5073 [0.4000]	126.8%			
NEIFOSE	(630.0 / 59.0) 1030	(10.68, 1.00) (0.00, N/A, 0.0)	79.4	N/A 0.0 0.0	0.4187 [0.4000]	104.7%			
HFPO-DA	(285.0 / 169.0) 14831 (285.0 / 185.0) 38247	(6.56, 1.00) (0.00, N/A, -0.2)	188.3 238.6	2.5787 93.0 89.2	0.2348 [0.2000]	117.4%			
ADONA	(377.0 / 85.0) 52080 (377.0 / 251.0) 5622	(7.46, 1.14) (N/A, 0.01, -0.1)	560.3 59.2	0.1080 85.9 83.4	0.2039 [0.1885]	108.1%			
9CI-PF3ONS	(531.0 / 351.0) 136336 (533.0 / 353.0) 41664	(9.75, 1.49) (N/A, 0.01, 0.3)	385.7 148.9	0.3056 91.6 103.9	0.1940 [0.1867]	103.9%			
11CI-PF3OUDS	(631.0 / 451.0) 88294 (633.0 / 453.0) 25441	(10.02, 1.53) (N/A, 0.00, -0.2)	485.4 196.1	0.2881 89.1 87.4	0.1826 [0.1886]	96.8%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 1597 (241.0 / 117.0) 2972	(4.60, 0.91) (N/A, 0.02, 0.2)	106.4 47.9	1.8611 106.9 110.4	0.3771 [0.4000]	94.3%			
5:3FTCA	(341.0 / 236.7) 10187 (341.0 / 217.0) 18328	(6.85, 1.10) (N/A, 0.01, -0.2)	106.5 84.1	1.7991 105.3 104.9	0.3077 [0.4000]	76.9%			
7:3FTCA	(441.0 / 317.0) 16335 (441.0 / 337.0) 14330	(8.67, 1.40) (N/A, 0.01, 0.4)	73.6 114.5	0.8773 106.4 103.4	0.3832 [0.4000]	95.8%			
PFEESA	(315.0 / 135.0) 26647 (315.0 / 83.0) 7711	(6.68, 1.08) (N/A, 0.01, -0.1)	279.8 90.0	0.2894 97.3 98.4	0.1672 [0.1785]	93.7%			
PFMPA	(229.0 / 85.0) 5425	(4.28, 0.84) (N/A, 0.01, 0.0)	217.1	N/A 0.0 0.0	0.2285 [0.2000]	114.3%			
PFMBA	(279.0 / 85.0) 15401	(5.46, 1.08) (N/A, 0.01, 0.0)	395.2	N/A 0.0 0.0	0.2082 [0.2000]	104.1%			
NFDHA	(201.0 / 85.0) 798 (295.0 / 201.0) 2925	(6.10, 0.98) (N/A, 0.02, 0.6)	38.5 110.6	3.6667 52.4 53.3	0.0900 [0.2000]	45.0%			QC,
13C3_PFBA_IIS	(216.0 / 172.0) 85843	(3.76, N/A) (N/A, -0.01, N/A)	677.0	N/A	0.8930 [1.0000]	89.3% {102.0%}			
13C2_PFHxA_IIS	(315.1 / 270.0) 125992	(6.21, N/A) (N/A, 0.01, N/A)	1137.9	N/A	1.0203 [1.0000]	102.0% {108.5%}			
13C4_PFOA_IIS	(417.0 / 372.0) 135424	(7.95, N/A) (N/A, 0.01, N/A)	631.1	N/A	1.1423 [1.0000]	114.2% {119.8%}			
13C5_PFNA_IIS	(468.0 / 423.0) 102434	(8.70, N/A) (N/A, 0.01, N/A)	408.8	N/A	1.0755 [1.0000]	107.6% {118.6%}			



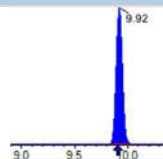
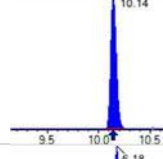
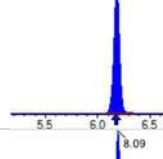
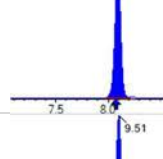
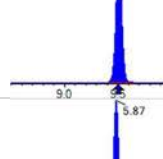
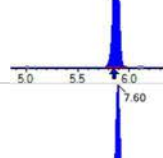
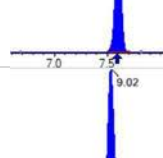
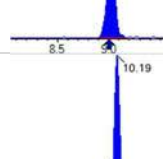
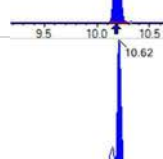
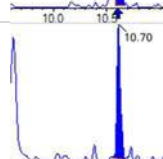
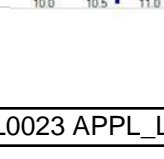
Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0100-MRL1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 20  
 Acquired: 2022/12/08 - 22:13

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 95081	(9.37, N/A) (N/A, 0.01, N/A)	45344.7	N/A	1.1541 [ 1.0000 ]	115.4% { 99.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 218393	(8.09, N/A) (N/A, 0.01, N/A)	662.2	N/A	1.0175 [ 1.0000 ]	101.8% { 106.7% }			
13C4_PFOS_IIS	(502.8 / 79.9) 227541	(9.51, N/A) (N/A, 0.01, N/A)	323.0	N/A	1.2225 [ 1.0000 ]	122.3% { 124.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 706433	(3.76, N/A) (N/A, 0.00, N/A)	710.7	N/A	8.7777 [ 8.0000 ]	109.7% { 119.5% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 358719	(5.08, N/A) (N/A, 0.01, N/A)	1030.7	N/A	3.9031 [ 4.0000 ]	97.6% { 115.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 309192	(6.21, N/A) (N/A, 0.01, N/A)	720.6	N/A	2.4060 [ 2.0000 ]	120.3% { 122.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 245206	(7.14, N/A) (N/A, 0.02, N/A)	844.7	N/A	2.1139 [ 2.0000 ]	105.7% { 107.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 276498	(7.95, N/A) (N/A, 0.01, N/A)	778.4	N/A	2.0073 [ 2.0000 ]	100.4% { 116.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 117293	(8.70, N/A) (N/A, 0.01, N/A)	454.4	N/A	1.1603 [ 1.0000 ]	116.0% { 128.7% }			
13C6_PFDA_EIS	(519.0 / 474.0) 156506	(9.37, N/A) (N/A, 0.01, N/A)	502.0	N/A	1.1332 [ 1.0000 ]	113.3% { 131.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 205686	(9.74, N/A) (N/A, 0.01, N/A)	338.6	N/A	1.1095 [ 1.0000 ]	111.0% { 122.7% }			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 213606	(9.92, N/A) (N/A, 0.01, N/A)	413.1	N/A	0.9494 [ 1.0000 ]	94.9% { 113.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 143585	(10.14, N/A) (N/A, 0.00, N/A)	432.5	N/A	0.8694 [ 1.0000 ]	86.9% { 101.9% }			
13C3_PFBs_EIS	(302.0 / 80.0) 739194	(6.18, N/A) (N/A, 0.01, N/A)	636.7	N/A	2.3030 [ 2.0000 ]	115.2% { 131.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 380627	(8.09, N/A) (N/A, 0.02, N/A)	876.0	N/A	2.0833 [ 2.0000 ]	104.2% { 110.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 738803	(9.51, N/A) (N/A, 0.01, N/A)	556.4	N/A	2.1299 [ 2.0000 ]	106.5% { 130.5% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 83560	(5.87, N/A) (N/A, 0.02, N/A)	554.8	N/A	4.6160 [ 4.0000 ]	115.4% { 129.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 99997	(7.60, N/A) (N/A, 0.01, N/A)	590.2	N/A	4.1175 [ 4.0000 ]	102.9% { 116.7% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 81581	(9.02, N/A) (N/A, 0.01, N/A)	332.7	N/A	3.8701 [ 4.0000 ]	96.8% { 103.0% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 907649	(10.19, N/A) (N/A, 0.01, N/A)	1114.6	N/A	1.7140 [ 2.0000 ]	85.7% { 95.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 7255	(10.62, N/A) (N/A, 0.01, N/A)	105.4	N/A	0.0463 [ 2.0000 ]	2.3% { 3.1% }			S1,
D5_NEiFOSA_EIS	(531.1 / 169.0) 2424	(10.70, N/A) (N/A, 0.01, N/A)	63.2	N/A	0.0171 [ 2.0000 ]	0.9% { 1.1% }			S1,



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0100-MRL1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 20  
 Acquired: 2022/12/08 - 22:13

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 275715	( 9.54 , N/A ) ( N/A , 0.01 , N/A )	498.2	N/A	3.5727 [ 4.0000 ]	89.3% { 114.8% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 245846	( 9.71 , N/A ) ( N/A , 0.01 , N/A )	481.8	N/A	3.7065 [ 4.0000 ]	92.7% { 108.3% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 157587	( 10.58 , N/A ) ( N/A , 0.01 , N/A )	820.1	N/A	5.8878 [ 20.0000 ]	29.4% { 36.3% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 71821	( 10.68 , N/A ) ( N/A , 0.01 , N/A )	686.0	N/A	5.2665 [ 20.0000 ]	26.3% { 32.8% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 760956	( 6.56 , N/A ) ( N/A , 0.01 , N/A )	1214.8	N/A	8.9907 [ 8.0000 ]	112.4% { 114.0% }			

**ANALYSIS DATA SHEET****Matrix Spike**

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0100-MS1
Sampled:		File ID:	S2022-12-08B (21)
		Prepared:	12/07/22 10:00
Solids:		Analyzed:	12/08/22 22:26
		Preparation:	EPA 1633
Batch:	BBL0100	Dilution:	1
Column:	1	Sequence:	SB03753
		Calibration:	2250016
		Instrument:	Saphira

COMPOUND	CONC. (ug/kg Dry)	LOQ	DL	Q
PFBA	3.92	0.30	0.15	
PFPEA	2.40	0.079	0.021	
PFHXA	8.24	0.040	0.015	MS1
PFHPA	0.637	0.040	0.015	
PFOA	0.839	0.040	0.021	
PFNA	0.411	0.040	0.022	
PFDA	0.545	0.040	0.022	
PFUnA	0.401	0.040	0.020	
PFDOA	0.336	0.040	0.023	IR2
PFTRDA	0.346	0.040	0.016	
PFTEDA	0.322	0.040	0.025	
PFBS	0.340	0.040	0.016	
PFPEs	0.408	0.040	0.012	
PFHXS	0.375	0.040	0.015	
PFHPS	0.0978	0.040	0.011	MS1
PFOS	0.589	0.040	0.0096	
PFNS	0.216	0.040	0.014	
PFDS	0.321	0.040	0.013	
PFDOS	0.254	0.040	0.013	
4:2FTS	1.82	0.16	0.045	
6:2FTS	106	0.16	0.060	MS1, E
8:2FTS	1.31	0.16	0.051	
PFOSA	0.360	0.040	0.012	
NMeFOSA	1.47	0.16	0.065	
NEtFOSA	1.43	0.16	0.027	
NMeFOSAA	0.364	0.040	0.010	
NEtFOSAA	0.455	0.040	0.018	
NMeFOSE	1.68	0.16	0.053	
NEtFOSE	1.43	0.16	0.047	
HFPO-DA	0.745	0.079	0.021	

**ANALYSIS DATA SHEET****Matrix Spike**

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0100-MS1
Sampled:		File ID:	S2022-12-08B (21)
		Prepared:	12/07/22 10:00
Solids:		Analyzed:	12/08/22 22:26
		Preparation:	EPA 1633
Batch:	BBL0100	Dilution:	1
Column:	1	Sequence:	SB03753
		Calibration:	2250016
		Instrument:	Saphira

COMPOUND	CONC. (ug/kg Dry)	LOQ	DL	Q
ADONA	0.863	0.079	0.026	
PFEESA	0.684	0.079	0.017	
PFMPA	0.669	0.079	0.028	
PFMBA	0.655	0.079	0.032	
NFDHA	0.534	0.079	0.049	
9CL-PF3ONS	0.328	0.079	0.024	
11CL-PF3OUDS	0.655	0.079	0.026	
3:3FTCA	1.24	0.16	0.063	
5:3FTCA	1.69	0.16	0.064	
7:3FTCA	1.66	0.16	0.049	



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0100-MS1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 21  
 Acquired: 2022/12/08 - 22:26

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 634263	(3.95, 1.00) (0.00, N/A, 0.0)	62.9	N/A 0.0 0.0	9.8744	N/A			
PFPeA	(262.9 / 219.0) 576402 (262.9 / 69.0) 6249	(5.32, 1.00) (0.00, N/A, 0.1)	1054.5 140.7	0.0108 93.1 93.0	6.0409	N/A			
PFHxA	(313.0 / 269.0) 2859280 (313.0 / 119.0) 296598	(6.44, 1.00) (0.00, N/A, 0.0)	1077.1 1288.5	0.1037 115.4 107.3	20.7697	N/A			
PFHpA	(363.0 / 319.0) 199333 (363.0 / 169.0) 59887	(7.35, 1.00) (0.00, N/A, 0.2)	475.3 503.0	0.3004 104.7 102.2	1.6061	N/A			
PFOA	(413.0 / 369.0) 256033 (413.0 / 169.0) 79943	(8.14, 1.00) (0.00, N/A, -0.1)	548.6 367.8	0.3122 96.5 97.0	2.1142	N/A			
PFNA	(463.0 / 419.0) 99527 (463.0 / 169.0) 16905	(8.87, 1.00) (0.01, N/A, 0.1)	511.3 105.9	0.1699 84.4 86.7	1.0361	N/A			
PFDA	(513.0 / 469.0) 143682 (513.0 / 169.0) 8513	(9.51, 1.00) (0.00, N/A, -0.4)	558.9 71.5	0.0592 66.7 57.5	1.3727	N/A			
PFUnA	(563.0 / 519.0) 77837 (563.0 / 169.0) 5046	(9.80, 1.00) (0.00, N/A, 0.0)	171.4 246.4	0.0648 60.3 69.8	1.0109	N/A			
PFDoA	(613.0 / 569.0) 133494 (613.0 / 169.0) 23892	(9.96, 1.00) (0.00, N/A, 0.1)	395.4 153.9	0.1790 150.3 160.2	0.8467	N/A			IR2,
PFTTrDA	(663.0 / 619.0) 120721 (663.0 / 169.0) 24313	(10.07, 1.01) (N/A, 0.04, 0.4)	343.9 156.9	0.2014 108.1 104.7	0.8717	N/A			
PFTeDA	(713.0 / 669.0) 49599 (713.0 / 169.0) 11962	(10.17, 1.00) (0.00, N/A, -0.2)	193.1 71.9	0.2412 122.5 113.0	0.8124	N/A			

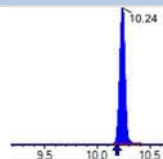
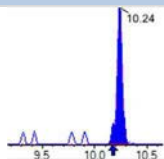
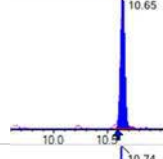
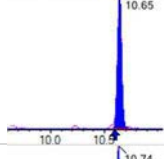
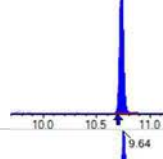
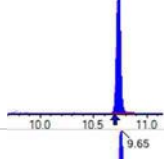
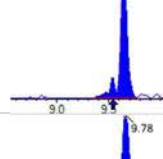
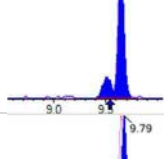
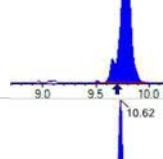
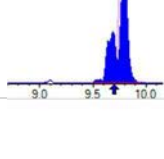
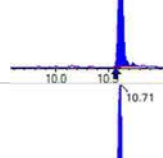
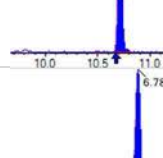
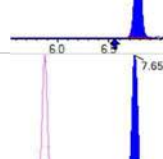
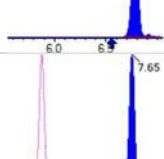
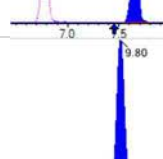
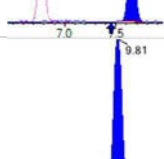
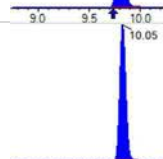
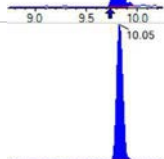
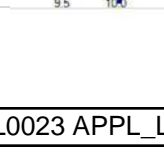
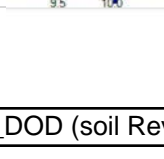


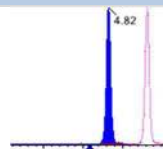
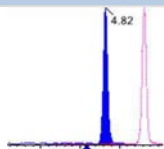
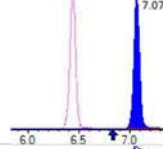
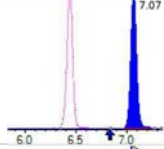
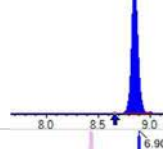
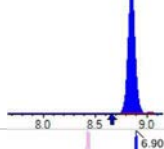
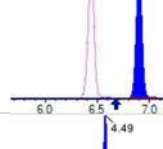
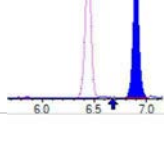
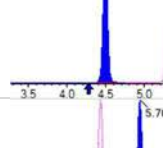
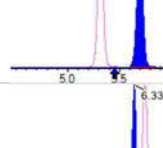
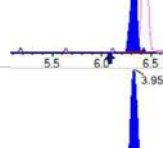
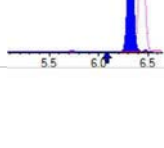
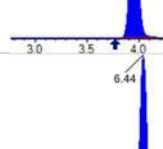
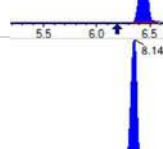
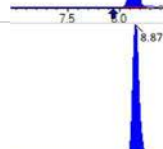
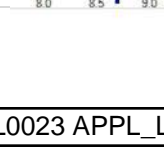
Chemist: DAG  
Instrument: Saphira  
Type: Sciex Q3 5500

Sample I.D.: BBL0100-MS1  
DF, IV: 1, 10.0µL  
Acquisition Method: 1633 2022-12-07.dam

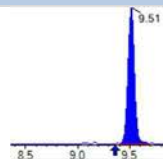
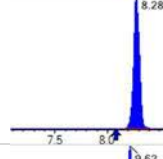
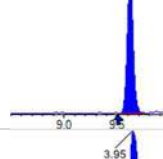
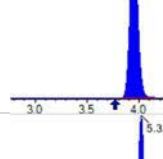
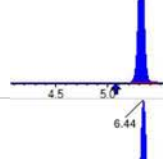
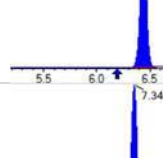
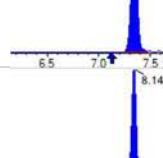
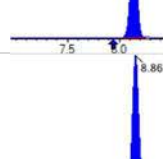
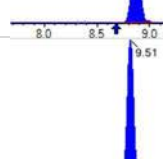
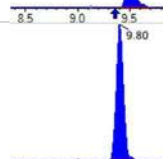
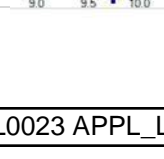
Quant Method: 1633 - 2022-12-07  
Path: S2022-12-08B.wiff- 21  
Acquired: 2022/12/08 - 22:26

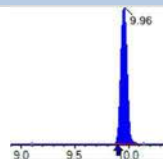
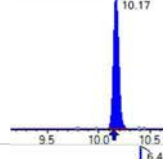
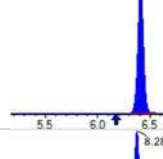
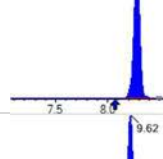
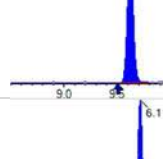
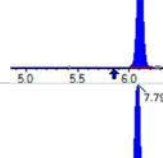
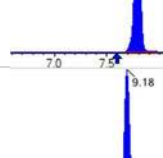
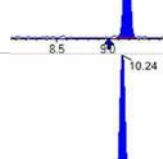
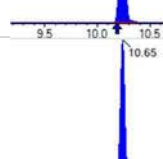
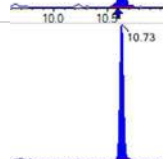
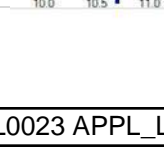
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 173475 ( 298.9 / 99.0 ) 129911	( 6.41 , 1.00 ) ( 0.00 , N/A , -0.2)	720.5 538.3	0.7489 110.5 110.2	0.8574	N/A			
PFPeS	( 349.0 / 80.0 ) 347511 ( 349.0 / 99.0 ) 124053	( 7.42 , 0.90 ) ( N/A , 0.21 , 0.1)	744.3 560.6	0.3570 97.9 97.9	1.0287	N/A			
PFHxS	( 399.0 / 80.0 ) 282814 ( 399.0 / 99.0 ) 104225	( 8.28 , 1.00 ) ( 0.00 , N/A , 0.0)	920.5 23135.5	0.3685 106.9 104.8	0.9441	N/A			
PFHpS	( 449.0 / 80.0 ) 62011 ( 449.0 / 99.0 ) 24477	( 9.02 , 0.94 ) ( N/A , 0.17 , 0.7)	121.1 158.9	0.3947 138.9 131.7	0.2464	N/A			
PFOS	( 499.0 / 80.0 ) 462521 ( 499.0 / 99.0 ) 107979	( 9.62 , 1.00 ) ( 0.00 , N/A , 0.0)	172.1 286.3	0.2335 90.7 95.8	1.4836	N/A			
PFNS	( 549.0 / 80.0 ) 199454 ( 549.0 / 99.0 ) 55166	( 9.85 , 1.02 ) ( N/A , 0.07 , 0.2)	129.0 262.0	0.2766 115.7 108.3	0.5449	N/A			
PFDS	( 599.0 / 80.0 ) 371187 ( 599.0 / 99.0 ) 101605	( 9.97 , 1.04 ) ( N/A , 0.04 , 0.0)	249.8 327.4	0.2737 117.7 120.4	0.8097	N/A			
PFDoS	( 698.9 / 80.0 ) 173993 ( 698.9 / 99.0 ) 36364	( 10.16 , 1.06 ) ( N/A , 0.03 , 0.1)	226.8 132.3	0.2090 90.2 94.6	0.6399	N/A			
4:2FTS	( 327.0 / 307.0 ) 353807 ( 327.0 / 81.0 ) 195025	( 6.10 , 1.00 ) ( 0.00 , N/A , 0.1)	1173.5 745.7	0.5512 92.3 94.3	4.5846	N/A			
6:2FTS	( 427.0 / 407.0 ) 16494755 ( 427.0 / 81.0 ) 11599712	( 7.79 , 1.00 ) ( 0.00 , N/A , -0.1)	872.9 869.7	0.7032 97.8 101.0	267.9194	N/A			E,
8:2FTS	( 527.0 / 507.0 ) 107600 ( 527.0 / 81.0 ) 66192	( 9.18 , 1.00 ) ( 0.00 , N/A , -0.1)	474.5 272.3	0.6152 98.7 92.9	3.3062	N/A			

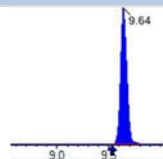
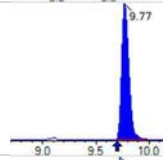
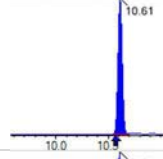
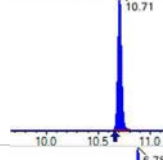
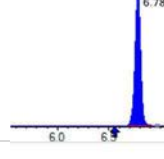
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 234289 ( 498.0 / 478.0 ) 4990	( 10.24 , 1.00 ) ( 0.00 , N/A , 0.0 )	365.5 54.9	0.0213 89.2 121.9	0.9069	N/A			
NMeFOSA	( 511.9 / 219.0 ) 135094 ( 511.9 / 169.0 ) 97564	( 10.65 , 1.00 ) ( 0.00 , N/A , 0.1 )	724.1 796.1	0.7222 108.3 109.9	3.7065	N/A			
NEIFOSA	( 526.0 / 219.0 ) 138283 ( 526.0 / 169.0 ) 156811	( 10.74 , 1.00 ) ( 0.00 , N/A , 0.0 )	726.9 783.6	1.1340 104.1 102.5	3.6147	N/A			
NMeFOSAA	( 570.0 / 419.0 ) 64928 ( 570.0 / 483.0 ) 41592	( 9.64 , 1.00 ) ( 0.00 , N/A , -0.2 )	208.2 406.5	0.6406 138.1 128.8	0.9161	N/A			
NEIFOSAA	( 584.0 / 419.0 ) 46669 ( 584.0 / 526.0 ) 30115	( 9.78 , 1.00 ) ( 0.01 , N/A , -0.8 )	1398.8 320.5	0.6453 106.3 97.2	1.1471	N/A			
NMeFOSE	( 616.1 / 59.0 ) 77232	( 10.62 , 1.00 ) ( 0.00 , N/A , 0.0 )	269.3	N/A 0.0 0.0	4.2259	N/A			
NEIFOSE	( 630.0 / 59.0 ) 17138	( 10.71 , 1.00 ) ( 0.01 , N/A , 0.0 )	375.9	N/A 0.0 0.0	3.6110	N/A			
HFPO-DA	( 285.0 / 169.0 ) 98722 ( 285.0 / 185.0 ) 298819	( 6.78 , 1.00 ) ( 0.00 , N/A , 0.0 )	781.9 516.7	3.0269 109.2 104.7	1.8780	N/A			
ADONA	( 377.0 / 85.0 ) 462222 ( 377.0 / 251.0 ) 59406	( 7.65 , 1.13 ) ( N/A , 0.21 , -0.1 )	1127.1 328.1	0.1285 102.2 99.3	2.1745	N/A			
9CI-Pf3ONS	( 531.0 / 351.0 ) 483778 ( 533.0 / 353.0 ) 124292	( 9.80 , 1.45 ) ( N/A , 0.06 , -0.2 )	672.5 226.3	0.2569 77.0 87.3	0.8271	N/A			
11CI-PF3OUDS	( 631.0 / 451.0 ) 664707 ( 633.0 / 453.0 ) 220084	( 10.05 , 1.48 ) ( N/A , 0.04 , 0.0 )	927.6 2788.5	0.3311 102.3 100.5	1.6516	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 14675 (241.0 / 117.0) 26263	(4.82, 0.91) (N/A, 0.24, 0.0)	516.6 385.9	1.7897 102.8 106.2	3.1306	N/A			
5:3FTCA	(341.0 / 236.7) 124438 (341.0 / 217.0) 208234	(7.07, 1.10) (N/A, 0.23, 0.1)	569.4 509.2	1.6734 98.0 97.6	4.2546	N/A			
7:3FTCA	(441.0 / 317.0) 157823 (441.0 / 337.0) 128878	(8.85, 1.37) (N/A, 0.19, 0.0)	708.9 372.6	0.8166 99.0 96.2	4.1910	N/A			
PFEESA	(315.0 / 135.0) 242807 (315.0 / 83.0) 68371	(6.90, 1.07) (N/A, 0.23, 0.0)	703.3 365.9	0.2816 94.7 95.8	1.7248	N/A			
PFMPA	(229.0 / 85.0) 44316	(4.49, 0.84) (N/A, 0.22, 0.0)	811.6	N/A 0.0 0.0	1.6867	N/A			
PFMBA	(279.0 / 85.0) 135115	(5.70, 1.07) (N/A, 0.25, 0.0)	778.0	N/A 0.0 0.0	1.6500	N/A			
NFDHA	(201.0 / 85.0) 4841 (295.0 / 201.0) 35232	(6.33, 0.98) (N/A, 0.25, 0.3)	403.3 429.6	7.2786 104.0 105.9	1.3467	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 86251	(3.95, N/A) (N/A, 0.18, N/A)	946.9	N/A	0.8973 [ 1.0000 ]	89.7% { 102.4% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 130255	(6.44, N/A) (N/A, 0.24, N/A)	618.4	N/A	1.0548 [ 1.0000 ]	105.5% { 112.1% }			
13C4_PFOA_IIS	(417.0 / 372.0) 128862	(8.14, N/A) (N/A, 0.20, N/A)	524.8	N/A	1.0870 [ 1.0000 ]	108.7% { 114.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 96748	(8.87, N/A) (N/A, 0.18, N/A)	656.8	N/A	1.0158 [ 1.0000 ]	101.6% { 112.1% }			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 83287	(9.51, N/A) (N/A, 0.15, N/A)	244.1	N/A	1.0110 [ 1.0000 ]	101.1% { 86.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 243338	(8.28, N/A) (N/A, 0.20, N/A)	1299.1	N/A	1.1337 [ 1.0000 ]	113.4% { 118.9% }			
13C4_PFOS_IIS	(502.8 / 79.9) 166519	(9.62, N/A) (N/A, 0.11, N/A)	294.2	N/A	0.8947 [ 1.0000 ]	89.5% { 91.4% }			
13C4_PFBA_EIS	(217.0 / 172.0) 674873	(3.95, N/A) (N/A, 0.18, N/A)	1106.0	N/A	8.3458 [ 8.0000 ]	104.3% { 114.2% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 397033	(5.32, N/A) (N/A, 0.25, N/A)	1322.0	N/A	4.1786 [ 4.0000 ]	104.5% { 127.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 273171	(6.44, N/A) (N/A, 0.24, N/A)	875.7	N/A	2.0561 [ 2.0000 ]	102.8% { 108.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 245039	(7.34, N/A) (N/A, 0.22, N/A)	424.4	N/A	2.0433 [ 2.0000 ]	102.2% { 107.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 234951	(8.14, N/A) (N/A, 0.20, N/A)	521.1	N/A	1.7926 [ 2.0000 ]	89.6% { 98.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 99641	(8.86, N/A) (N/A, 0.18, N/A)	945.0	N/A	1.0436 [ 1.0000 ]	104.4% { 109.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 103172	(9.51, N/A) (N/A, 0.14, N/A)	651.1	N/A	0.8528 [ 1.0000 ]	85.3% { 86.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 87471	(9.80, N/A) (N/A, 0.07, N/A)	1222.8	N/A	0.5386 [ 1.0000 ]	53.9% { 52.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 171361	(9.96, N/A) (N/A, 0.05, N/A)	660.1	N/A	0.8695 [ 1.0000 ]	86.9% { 90.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 61933	(10.17, N/A) (N/A, 0.03, N/A)	308.4	N/A	0.4281 [ 1.0000 ]	42.8% { 44.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 662781	(6.41, N/A) (N/A, 0.24, N/A)	1102.9	N/A	1.8533 [ 2.0000 ]	92.7% { 117.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 357338	(8.28, N/A) (N/A, 0.20, N/A)	814.6	N/A	1.7554 [ 2.0000 ]	87.8% { 104.1% }			
13C8_PFOS_EIS	(507.0 / 80.0) 555363	(9.62, N/A) (N/A, 0.12, N/A)	453.8	N/A	2.1878 [ 2.0000 ]	109.4% { 98.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 88365	(6.11, N/A) (N/A, 0.25, N/A)	544.6	N/A	4.3811 [ 4.0000 ]	109.5% { 137.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 155249	(7.79, N/A) (N/A, 0.20, N/A)	524.0	N/A	5.7372 [ 4.0000 ]	143.4% { 181.1% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 82896	(9.18, N/A) (N/A, 0.17, N/A)	273.7	N/A	3.5294 [ 4.0000 ]	88.2% { 104.7% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 465250	(10.24, N/A) (N/A, 0.06, N/A)	848.3	N/A	1.2006 [ 2.0000 ]	60.0% { 49.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 79312	(10.65, N/A) (N/A, 0.04, N/A)	263.9	N/A	0.6916 [ 2.0000 ]	34.6% { 34.3% }			
D5_NeIFOSA_EIS	(531.1 / 169.0) 73880	(10.73, N/A) (N/A, 0.04, N/A)	667.4	N/A	0.7105 [ 2.0000 ]	35.5% { 33.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 325089	( 9.64 , N/A ) ( N/A , 0.11 , N/A )	812.3	N/A	5.7562 [ 4.0000 ]	143.9% { 135.4% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 177328	( 9.77 , N/A ) ( N/A , 0.07 , N/A )	266.0	N/A	3.6532 [ 4.0000 ]	91.3% { 78.1% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 259981	( 10.61 , N/A ) ( N/A , 0.05 , N/A )	551.3	N/A	13.2732 [ 20.0000 ]	66.4% { 59.9% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 138621	( 10.71 , N/A ) ( N/A , 0.04 , N/A )	790.9	N/A	13.8897 [ 20.0000 ]	69.4% { 63.3% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 633212	( 6.78 , N/A ) ( N/A , 0.23 , N/A )	738.4	N/A	7.2365 [ 8.0000 ]	90.5% { 94.9% }			

**ANALYSIS DATA SHEET****Matrix Spike Dup**

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0100-MSD1
Sampled:		File ID:	S2022-12-08B (22)
		Prepared:	12/07/22 10:00
		Analyzed:	12/08/22 22:39
Solids:		Preparation:	EPA 1633
		Dilution:	1
Batch:	BBL0100	Sequence:	SB03753
		Calibration:	2250016
		Instrument:	Saphira
Column:	1		

COMPOUND	CONC. (ug/kg Dry)	LOQ	DL	Q
PFBA	3.98	0.30	0.15	
PFPEA	2.46	0.079	0.021	
PFHXA	8.16	0.040	0.015	MS1
PFHPA	0.678	0.040	0.015	
PFOA	0.822	0.040	0.021	
PFNA	0.424	0.040	0.022	
PFDA	0.506	0.040	0.022	
PFUnA	0.426	0.040	0.020	
PFDOA	0.407	0.040	0.023	
PFTRDA	0.367	0.040	0.016	
PFTEDA	0.374	0.040	0.025	
PFBS	0.337	0.040	0.016	
PFPEs	0.408	0.040	0.012	
PFHXS	0.397	0.040	0.015	
PFHPS	0.0995	0.040	0.011	MS1
PFOS	0.568	0.040	0.0096	
PFNS	0.261	0.040	0.014	
PFDS	0.400	0.040	0.013	
PFDOS	0.193	0.040	0.013	
4:2FTS	1.90	0.16	0.045	
6:2FTS	131	0.16	0.060	MS2, E
8:2FTS	1.65	0.16	0.051	
PFOSA	0.382	0.040	0.012	
NMeFOSA	1.70	0.16	0.065	
NEtFOSA	1.48	0.16	0.027	
NMeFOSAA	0.367	0.040	0.010	
NEtFOSAA	0.513	0.040	0.018	
NMeFOSE	1.71	0.16	0.053	
NEtFOSE	1.67	0.16	0.047	
HFPO-DA	0.843	0.070	0.020	

**ANALYSIS DATA SHEET****Matrix Spike Dup**

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0100-MSD1
Sampled:		File ID:	S2022-12-08B (22)
		Prepared:	12/07/22 10:00
Solids:		Analyzed:	12/08/22 22:39
		Preparation:	EPA 1633
Batch:	BBL0100	Dilution:	1
Column:	1	Sequence:	SB03753
		Calibration:	2250016
		Instrument:	Saphira

COMPOUND	CONC. (ug/kg Dry)	LOQ	DL	Q
ADONA	0.793	0.079	0.026	
PFEESA	0.639	0.079	0.017	
PFMPA	0.789	0.079	0.028	
PFMBA	0.829	0.079	0.032	
NFDHA	0.725	0.079	0.049	MS3
9CL-PF3ONS	0.317	0.079	0.024	
11CL-PF3OUDS	0.631	0.079	0.026	
3:3FTCA	1.46	0.16	0.063	
5:3FTCA	1.91	0.16	0.064	
7:3FTCA	1.66	0.16	0.049	

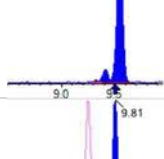
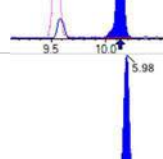
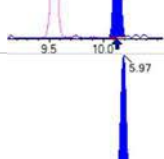


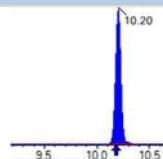
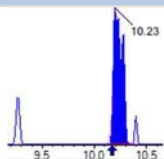
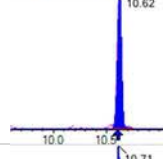
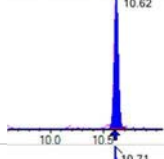
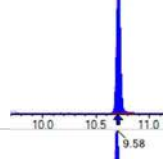
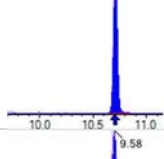
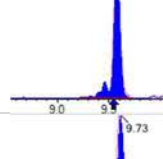
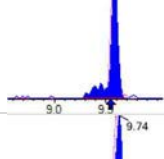
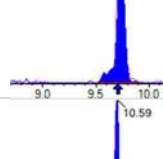
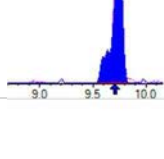
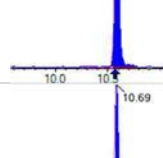
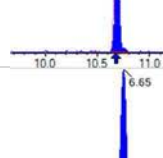
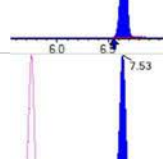
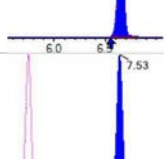
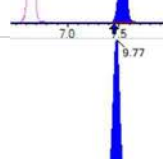
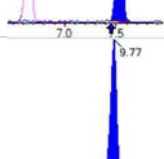
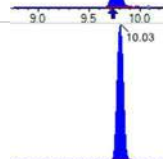
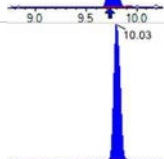
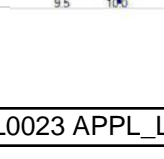
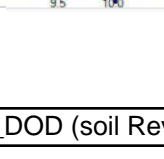
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 Type: Sciex Q3 5500

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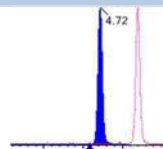
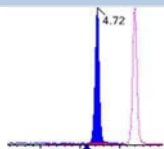
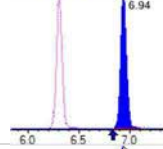
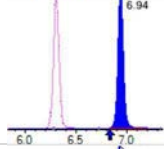
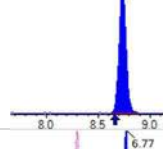
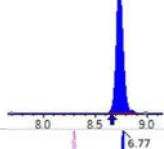
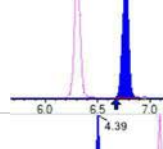
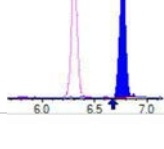
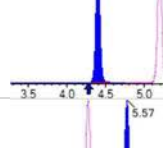
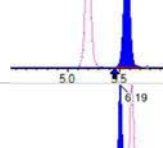
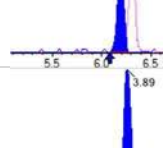
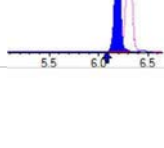
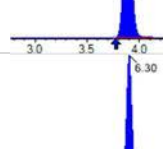
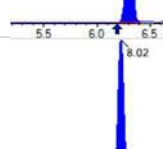
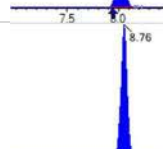
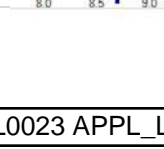
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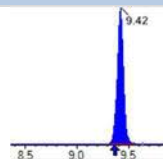
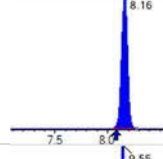
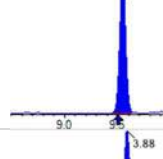
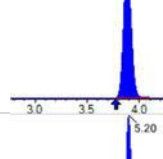
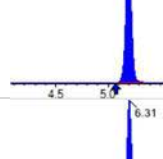
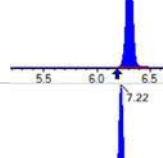
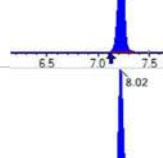
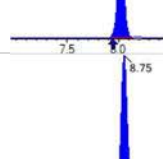
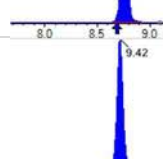
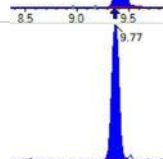
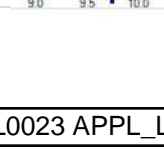
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 607592	(3.89, 1.00) (0.00, N/A, 0.0)	72.6	N/A 0.0 0.0	10.0398	N/A			
PFPeA	(262.9 / 219.0) 526199 (262.9 / 69.0) 5860	(5.20, 1.00) (0.00, N/A, -0.1)	882.4 140.7	0.0111 95.6 95.6	6.2107	N/A			
PFHxA	(313.0 / 269.0) 2744612 (313.0 / 119.0) 279340	(6.31, 1.00) (0.00, N/A, 0.0)	926.5 700.8	0.1018 113.2 105.3	20.6108	N/A			
PFHpA	(363.0 / 319.0) 223761 (363.0 / 169.0) 67160	(7.22, 1.00) (0.00, N/A, 0.1)	577.5 386.7	0.3001 104.6 102.1	1.7117	N/A			
PFOA	(413.0 / 369.0) 263665 (413.0 / 169.0) 96150	(8.02, 1.00) (0.00, N/A, 0.0)	520.6 479.5	0.3647 112.7 113.2	2.0756	N/A			
PFNA	(463.0 / 419.0) 104435 (463.0 / 169.0) 19717	(8.75, 1.00) (0.00, N/A, 0.0)	330.3 111.1	0.1888 93.8 96.4	1.0703	N/A			
PFDA	(513.0 / 469.0) 127876 (513.0 / 169.0) 12745	(9.42, 1.00) (0.00, N/A, 0.4)	350.7 207.6	0.0997 112.3 96.7	1.2783	N/A			
PFUnA	(563.0 / 519.0) 72294 (563.0 / 169.0) 6944	(9.77, 1.00) (0.00, N/A, 0.1)	173.2 54.4	0.0961 89.4 103.4	1.0762	N/A			
PFDoA	(613.0 / 569.0) 153695 (613.0 / 169.0) 20948	(9.92, 1.00) (0.00, N/A, 0.1)	317.6 171.2	0.1363 114.5 122.0	1.0280	N/A			
PFTrDA	(663.0 / 619.0) 121553 (663.0 / 169.0) 23817	(10.05, 1.01) (N/A, 0.01, 0.0)	446.1 187.7	0.1959 105.2 101.8	0.9255	N/A			
PFTeDA	(713.0 / 669.0) 47012 (713.0 / 169.0) 7065	(10.14, 1.00) (0.00, N/A, -0.8)	153.5 138.8	0.1503 76.3 70.4	0.9444	N/A			

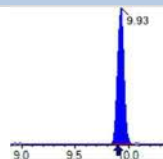
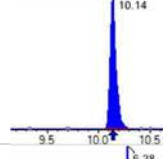
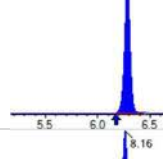
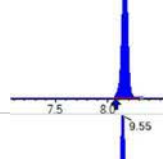
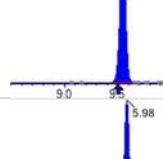
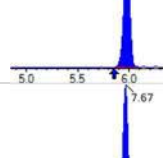
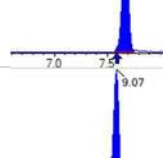
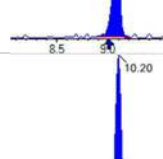
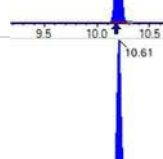
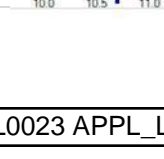
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 174185 ( 298.9 / 99.0 ) 119776	( 6.29 , 1.00 ) ( 0.00 , N/A , 0.1 )	637.2 590.5	0.6876 101.5 101.2	0.8503	N/A			
PFPeS	( 349.0 / 80.0 ) 372649 ( 349.0 / 99.0 ) 125589	( 7.30 , 0.89 ) ( N/A , 0.09 , -0.1 )	706.9 668.5	0.3370 92.4 92.4	1.0301	N/A			
PFHxS	( 399.0 / 80.0 ) 321468 ( 399.0 / 99.0 ) 111757	( 8.16 , 1.00 ) ( 0.00 , N/A , 0.1 )	780.6 3936.1	0.3476 100.8 98.9	1.0021	N/A			
PFHpS	( 449.0 / 80.0 ) 64551 ( 449.0 / 99.0 ) 13796	( 8.90 , 0.93 ) ( N/A , 0.05 , -0.3 )	132.2 124.1	0.2137 75.2 71.3	0.2511	N/A			
PFOS	( 499.0 / 80.0 ) 456475 ( 499.0 / 99.0 ) 113734	( 9.54 , 1.00 ) ( 0.00 , N/A , -0.1 )	144.9 252.4	0.2492 96.8 102.2	1.4336	N/A			
PFNS	( 549.0 / 80.0 ) 246296 ( 549.0 / 99.0 ) 59805	( 9.81 , 1.03 ) ( N/A , 0.03 , 0.3 )	176.1 255.0	0.2428 101.6 95.1	0.6587	N/A			
PFDS	( 599.0 / 80.0 ) 472459 ( 599.0 / 99.0 ) 89739	( 9.94 , 1.04 ) ( N/A , 0.01 , 0.1 )	257.5 246.0	0.1899 81.7 83.5	1.0090	N/A			
PFDoS	( 698.9 / 80.0 ) 135274 ( 698.9 / 99.0 ) 24791	( 10.13 , 1.06 ) ( N/A , 0.01 , 0.3 )	131.1 193.8	0.1833 79.1 82.9	0.4871	N/A			
4:2FTS	( 327.0 / 307.0 ) 354844 ( 327.0 / 81.0 ) 203420	( 5.98 , 1.00 ) ( 0.00 , N/A , 0.1 )	776.8 560.2	0.5733 96.0 98.0	4.8047	N/A			
6:2FTS	( 427.0 / 407.0 ) 18363944 ( 427.0 / 81.0 ) 13166104	( 7.67 , 1.00 ) ( 0.00 , N/A , 0.1 )	890.4 1039.1	0.7170 99.7 102.9	330.1610	N/A			E,
8:2FTS	( 527.0 / 507.0 ) 88981 ( 527.0 / 81.0 ) 61570	( 9.07 , 1.00 ) ( -0.01 , N/A , -0.3 )	256.3 207.3	0.6919 111.0 104.5	4.1782	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 235743 (498.0 / 478.0) 3679	(10.20, 1.00) (0.00, N/A, -1.5)	729.4 59.9	0.0156 65.4 89.3	0.9634	N/A			
NMeFOSA	(511.9 / 219.0) 122241 (511.9 / 169.0) 77189	(10.62, 1.00) (0.01, N/A, 0.1)	793.2 636.3	0.6315 94.7 96.1	4.3024	N/A			
NEIFOSA	(526.0 / 219.0) 138356 (526.0 / 169.0) 144590	(10.71, 1.00) (0.00, N/A, 0.0)	960.2 764.5	1.0451 95.9 94.5	3.7451	N/A			
NMeFOSAA	(570.0 / 419.0) 70302 (570.0 / 483.0) 38696	(9.58, 1.00) (0.00, N/A, -0.4)	320.3 396.8	0.5504 118.7 110.6	0.9267	N/A			
NEIFOSAA	(584.0 / 419.0) 46125 (584.0 / 526.0) 27841	(9.73, 1.00) (0.01, N/A, -0.5)	506.3 973.8	0.6036 99.5 91.0	1.2944	N/A			
NMeFOSE	(616.1 / 59.0) 79910	(10.59, 1.00) (0.01, N/A, 0.0)	311.3	N/A 0.0 0.0	4.3148	N/A			
NEtFOSE	(630.0 / 59.0) 20004	(10.69, 1.00) (0.01, N/A, 0.0)	465.0	N/A 0.0 0.0	4.2103	N/A			
HFPO-DA	(285.0 / 169.0) 122869 (285.0 / 185.0) 340439	(6.65, 1.00) (0.00, N/A, -0.1)	639.2 773.8	2.7707 99.9 95.8	2.1294	N/A			
ADONA	(377.0 / 85.0) 467430 (377.0 / 251.0) 56530	(7.53, 1.13) (N/A, 0.09, 0.0)	964.6 293.6	0.1209 96.2 93.4	2.0034	N/A			
9CI-Pf3ONS	(531.0 / 351.0) 514213 (533.0 / 353.0) 150781	(9.77, 1.47) (N/A, 0.03, -0.2)	538.4 362.9	0.2932 87.8 99.7	0.8009	N/A			
11CI-PF3OUDS	(631.0 / 451.0) 703820 (633.0 / 453.0) 241081	(10.03, 1.51) (N/A, 0.01, 0.2)	620.3 394.8	0.3425 105.9 103.9	1.5932	N/A			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 15334 (241.0 / 117.0) 25753	(4.72, 0.91) (N/A, 0.13, -0.1)	427.1 343.7	1.6795 96.5 99.6	3.6842	N/A			
5:3FTCA	(341.0 / 236.7) 136456 (341.0 / 217.0) 224299	(6.94, 1.10) (N/A, 0.10, -0.1)	688.8 365.3	1.6437 96.2 95.9	4.8232	N/A			
7:3FTCA	(441.0 / 317.0) 152741 (441.0 / 337.0) 127060	(8.73, 1.39) (N/A, 0.08, 0.1)	399.3 555.2	0.8319 100.8 98.0	4.1932	N/A			
PFEESA	(315.0 / 135.0) 219564 (315.0 / 83.0) 71546	(6.77, 1.07) (N/A, 0.10, 0.0)	641.0 355.4	0.3259 109.6 110.8	1.6125	N/A			
PFMPA	(229.0 / 85.0) 46464	(4.39, 0.85) (N/A, 0.13, 0.0)	796.0	N/A 0.0 0.0	1.9916	N/A			
PFMBA	(279.0 / 85.0) 152183	(5.57, 1.07) (N/A, 0.12, 0.0)	924.2	N/A 0.0 0.0	2.0930	N/A			
NFDHA	(201.0 / 85.0) 6223 (295.0 / 201.0) 40619	(6.19, 0.98) (N/A, 0.11, -0.2)	149.7 347.5	6.5273 93.3 94.9	1.8305	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 90149	(3.89, N/A) (N/A, 0.12, N/A)	879.0	N/A	0.9378 [ 1.0000 ]	93.8% { 107.1% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 138469	(6.30, N/A) (N/A, 0.11, N/A)	514.8	N/A	1.1213 [ 1.0000 ]	112.1% { 119.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 139939	(8.02, N/A) (N/A, 0.08, N/A)	611.2	N/A	1.1804 [ 1.0000 ]	118.0% { 123.8% }			
13C5_PFNA_IIS	(468.0 / 423.0) 104859	(8.76, N/A) (N/A, 0.07, N/A)	510.9	N/A	1.1010 [ 1.0000 ]	110.1% { 121.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 94797	(9.42, N/A) (N/A, 0.06, N/A)	586.9	N/A	1.1507 [ 1.0000 ]	115.1% { 98.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 249026	(8.16, N/A) (N/A, 0.08, N/A)	912.4	N/A	1.1602 [ 1.0000 ]	116.0% { 121.7% }			
13C4_PFOS_IIS	(502.8 / 79.9) 167822	(9.55, N/A) (N/A, 0.04, N/A)	278.5	N/A	0.9017 [ 1.0000 ]	90.2% { 92.1% }			
13C4_PFBA_EIS	(217.0 / 172.0) 635843	(3.88, N/A) (N/A, 0.12, N/A)	1063.4	N/A	7.5232 [ 8.0000 ]	94.0% { 107.6% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 352541	(5.20, N/A) (N/A, 0.13, N/A)	1286.7	N/A	3.4902 [ 4.0000 ]	87.3% { 113.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 264237	(6.31, N/A) (N/A, 0.11, N/A)	765.8	N/A	1.8709 [ 2.0000 ]	93.5% { 104.7% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 258096	(7.22, N/A) (N/A, 0.10, N/A)	603.9	N/A	2.0245 [ 2.0000 ]	101.2% { 112.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 246463	(8.02, N/A) (N/A, 0.08, N/A)	661.1	N/A	1.7316 [ 2.0000 ]	86.6% { 103.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 101206	(8.75, N/A) (N/A, 0.07, N/A)	605.2	N/A	0.9780 [ 1.0000 ]	97.8% { 111.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 98603	(9.42, N/A) (N/A, 0.05, N/A)	278.1	N/A	0.7161 [ 1.0000 ]	71.6% { 82.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 76309	(9.77, N/A) (N/A, 0.03, N/A)	231.0	N/A	0.4129 [ 1.0000 ]	41.3% { 45.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 162496	(9.93, N/A) (N/A, 0.02, N/A)	389.8	N/A	0.7244 [ 1.0000 ]	72.4% { 86.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 50499	(10.14, N/A) (N/A, 0.00, N/A)	332.7	N/A	0.3067 [ 1.0000 ]	30.7% { 35.8% }			
13C3_PFBs_EIS	(302.0 / 80.0) 671059	(6.28, N/A) (N/A, 0.11, N/A)	593.7	N/A	1.8336 [ 2.0000 ]	91.7% { 118.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 382664	(8.16, N/A) (N/A, 0.08, N/A)	743.1	N/A	1.8368 [ 2.0000 ]	91.8% { 111.5% }			
13C8_PFOS_EIS	(507.0 / 80.0) 567241	(9.55, N/A) (N/A, 0.05, N/A)	372.9	N/A	2.2172 [ 2.0000 ]	110.9% { 100.2% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 84564	(5.98, N/A) (N/A, 0.12, N/A)	459.4	N/A	4.0969 [ 4.0000 ]	102.4% { 131.1% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 140258	(7.67, N/A) (N/A, 0.09, N/A)	487.3	N/A	5.0648 [ 4.0000 ]	126.6% { 163.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 54245	(9.07, N/A) (N/A, 0.07, N/A)	140.8	N/A	2.2568 [ 4.0000 ]	56.4% { 68.5% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 440685	(10.20, N/A) (N/A, 0.02, N/A)	650.3	N/A	1.1283 [ 2.0000 ]	56.4% { 46.5% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 61826	(10.61, N/A) (N/A, 0.01, N/A)	268.3	N/A	0.5349 [ 2.0000 ]	26.7% { 26.7% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 71346	(10.71, N/A) (N/A, 0.01, N/A)	526.4	N/A	0.6808 [ 2.0000 ]	34.0% { 32.0% }			



Chemist: DAG  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0100-MSD1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - 2022-12-07  
 Path: S2022-12-08B.wiff- 22  
 Acquired: 2022/12/08 - 22:39

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 347946	( 9.57, N/A ) ( N/A, 0.04, N/A )	729.5	N/A	6.1131 [ 4.0000 ]	152.8% { 144.9% }			S2,
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 155322	( 9.73, N/A ) ( N/A, 0.02, N/A )	243.5	N/A	3.1750 [ 4.0000 ]	79.4% { 68.4% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 263453	( 10.58, N/A ) ( N/A, 0.01, N/A )	437.7	N/A	13.3459 [ 20.0000 ]	66.7% { 60.7% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 138777	( 10.68, N/A ) ( N/A, 0.01, N/A )	933.2	N/A	13.7973 [ 20.0000 ]	69.0% { 63.4% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 695051	( 6.65, N/A ) ( N/A, 0.10, N/A )	1152.3	N/A	7.4721 [ 8.0000 ]	93.4% { 104.2% }			

## PREPARATION BATCH SUMMARY

## EPA 1633

Laboratory: APPL, LLC  
 Client: AECOM  
 Batch: BBL0100      Batch Matrix: Solid

Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling  
 Preparation: EPA 1633

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT g	FINAL VOL. ml
ADIT6-IDW-SON01MI-22DEC	22L0023-01	12/07/22 10:00	5.03	2.00
ADIT6-IDW-SON01MI-22DEC	22L0023-01RE1	12/07/22 10:00	5.03	2.00
ADIT6-IDW-SOFD01MI-22DEC	22L0023-02	12/07/22 10:00	5.06	2.00
ADIT6-IDW-SOFD01MI-22DEC	22L0023-02RE1	12/07/22 10:00	5.06	2.00
ADIT6-IDW-SOFT01MI-22DEC	22L0023-03	12/07/22 10:00	5.14	2.00
ADIT6-IDW-SOFT01MI-22DEC	22L0023-03RE1	12/07/22 10:00	5.14	2.00
ADIT6-DU02-SON01MI-22DEC	22L0023-04	12/07/22 10:00	5.11	2.00
ADIT6-DU02-SON01MI-22DEC	22L0023-04RE1	12/07/22 10:00	5.11	2.00
ADIT6-DU02-SOFD01MI-22DEC	22L0023-05	12/07/22 10:00	5.07	2.00
ADIT6-DU02-SOFD01MI-22DEC	22L0023-05RE1	12/07/22 10:00	5.07	2.00
ADIT6-DU02-SOFT01MI-22DEC	22L0023-06	12/07/22 10:00	5.05	2.00
ADIT6-DU02-SOFT01MI-22DEC	22L0023-06RE1	12/07/22 10:00	5.05	2.00
ADIT6-DU04A-SON01MI-22DEC	22L0023-07	12/07/22 10:00	5.11	2.00
ADIT6-DU04A-SON01MI-22DEC	22L0023-07RE1	12/07/22 10:00	5.11	2.00
ADIT6-DU01-SON01MI-22DEC	22L0023-08	12/07/22 10:00	5.00	2.00
ADIT6-DU01-SON01MI-22DEC	22L0023-08RE1	12/07/22 10:00	5.00	2.00
ADIT6-DU04B-SON01MI-22DEC	22L0023-09	12/07/22 10:00	5.03	2.00
ADIT6-DU04B-SON01MI-22DEC	22L0023-09RE1	12/07/22 10:00	5.03	2.00
Blank	BBL0100-BLK1	12/07/22 10:00	5.00	2.00
LCS	BBL0100-BS1	12/07/22 10:00	5.00	2.00
LCS Dup	BBL0100-BSD1	12/07/22 10:00	5.00	2.00
ADIT6-DU02-SOFT01MI-22DEC	BBL0100-DUP1	12/07/22 10:00	5.14	2.00
ADIT6-DU02-SOFT01MI-22DEC	BBL0100-DUP2	12/07/22 10:00	5.09	2.00
MRL Check	BBL0100-MRL1	12/07/22 10:00	5.00	2.00
ADIT6-DU02-SOFT01MI-22DEC	BBL0100-MS1	12/07/22 10:00	5.04	2.00
ADIT6-DU02-SOFT01MI-22DEC	BBL0100-MSD1	12/07/22 10:00	5.05	2.00

# PREPARATION BENCH SHEET

## Organics

BBL0100

Print Date/Time: 12/22/2022 5:39 pm

Matrix: Solid

Prepared using: PFAS - 1633

<b>Analyses</b> 1633	<b>Spiking Solution(s)</b> PFAS - MIX 1633 10ng/mL	<b>Surrogate Solution(s)</b> 22L0020 MPFAC-HIF-ES 20.0ng/mL
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Lab Number	Sample and Source ID	Date Due	Extract by	Prepared	Initial (g)	Final (ml)	ul Spike	ul Surrogate	Extraction Comments
22L0023-01	ADIT6-IDW-SON01MI-22DEC	12/12/2022	12/30/2022	12/7/2022 10:00:00AM	5.03	2		200	
22L0023-01RE1	ADIT6-IDW-SON01MI-22DEC	12/12/2022	12/30/2022	12/7/2022 10:00:00AM	5.03	2		200	Added 12/8/2022 by DAG
22L0023-02	ADIT6-IDW-SOFD01MI-22DEC	12/12/2022	12/30/2022	12/7/2022 10:00:00AM	5.06	2		200	
22L0023-02RE1	ADIT6-IDW-SOFD01MI-22DEC	12/12/2022	12/30/2022	12/7/2022 10:00:00AM	5.06	2		200	Added 12/8/2022 by DAG
22L0023-03	ADIT6-IDW-SOFT01MI-22DEC	12/12/2022	12/30/2022	12/7/2022 10:00:00AM	5.14	2		200	
22L0023-03RE1	ADIT6-IDW-SOFT01MI-22DEC	12/12/2022	12/30/2022	12/7/2022 10:00:00AM	5.14	2		200	Added 12/8/2022 by DAG
22L0023-04	ADIT6-DU02-SON01MI-22DEC	12/12/2022	12/30/2022	12/7/2022 10:00:00AM	5.11	2		200	
22L0023-04RE1	ADIT6-DU02-SON01MI-22DEC	12/12/2022	12/30/2022	12/7/2022 10:00:00AM	5.11	2		200	Added 12/8/2022 by DAG
22L0023-05	ADIT6-DU02-SOFD01MI-22DEC	12/12/2022	12/30/2022	12/7/2022 10:00:00AM	5.07	2		200	
22L0023-05RE1	ADIT6-DU02-SOFD01MI-22DEC	12/12/2022	12/30/2022	12/7/2022 10:00:00AM	5.07	2		200	Added 12/8/2022 by DAG
22L0023-06	ADIT6-DU02-SOFT01MI-22DEC	12/12/2022	12/30/2022	12/7/2022 10:00:00AM	5.05	2		200	
22L0023-06RE1	ADIT6-DU02-SOFT01MI-22DEC	12/12/2022	12/30/2022	12/7/2022 10:00:00AM	5.05	2		200	Added 12/8/2022 by DAG
22L0023-07	ADIT6-DU04A-SON01MI-22DEC	12/12/2022	12/30/2022	12/7/2022 10:00:00AM	5.11	2		200	
22L0023-07RE1	ADIT6-DU04A-SON01MI-22DEC	12/12/2022	12/30/2022	12/7/2022 10:00:00AM	5.11	2		200	Added 12/8/2022 by DAG
22L0023-08	ADIT6-DU01-SON01MI-22DEC	12/12/2022	12/30/2022	12/7/2022 10:00:00AM	5	2		200	
22L0023-08RE1	ADIT6-DU01-SON01MI-22DEC	12/12/2022	12/30/2022	12/7/2022 10:00:00AM	5	2		200	Added 12/8/2022 by DAG
22L0023-09	ADIT6-DU04B-SON01MI-22DEC	12/12/2022	12/30/2022	12/7/2022 10:00:00AM	5.03	2		200	
22L0023-09RE1	ADIT6-DU04B-SON01MI-22DEC	12/12/2022	12/30/2022	12/7/2022 10:00:00AM	5.03	2		200	Added 12/8/2022 by DAG
BBL0100-BLK1	Blank			12/7/2022 10:00:00AM	5	2	0	200	
BBL0100-BS1	LCS			12/7/2022 10:00:00AM	5	2	200	200	
BBL0100-BSD1	LCS Dup			12/7/2022 10:00:00AM	5	2	200	200	
BBL0100-DUP1	Duplicate [22L0023-06]			12/7/2022 10:00:00AM	5.14	2	0	200	

Spiking Witnessed By

Date

Preparation Reviewed By

Date

Extracts Received By

Date

# PREPARATION BENCH SHEET

## Organics

Print Date/Time: 12/22/2022 5:39 pm

BBL0100  
(Continued)

**Matrix: Solid**      **Prepared using: PFAS - 1633**

Analyses	Spiking Solution(s)	Surrogate Solution(s)			
1633	22K0039	22L0020			
BBL0100-DUP2	Duplicate [22L0023-06]	MPFAC-HIF-ES 20.0ng/mL	12/7/2022 10:00:00AM	5.09	0
BBL0100-MRL1	MRL Check		12/7/2022 10:00:00AM	5	20
BBL0100-MS1	Matrix Spike [22L0023-06]		12/7/2022 10:00:00AM	5.04	200
BBL0100-MSD1	Matrix Spike Dup [22L0023-06]		12/7/2022 10:00:00AM	5.05	200

Reagents	Standard	Description	LotNum

Start Date/Time \_\_\_\_\_  
 StopDate/Time \_\_\_\_\_

Batch Comments:  
 Spiked by: HGH  
 Balance #: WB2  
 Cartridge:  
 Concentration: 12/6/22 9:20-10:14

# INJECTION LOG - ANALYSIS SEQUENCE SUMMARY

EPA 1633

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03724  
 Calibration: 2250016

SDG:  
 Project: Red Hill AFFF Assessment Sampling  
 Instrument: Saphira

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	SB03724-CAL1	S2022-12-07A (1)	12/07/22 14:12
Cal Standard	SB03724-CAL2	S2022-12-07A (2)	12/07/22 14:24
Cal Standard	SB03724-CAL3	S2022-12-07A (3)	12/07/22 14:37
Cal Standard	SB03724-CAL4	S2022-12-07A (4)	12/07/22 14:50
Cal Standard	SB03724-CAL5	S2022-12-07A (5)	12/07/22 15:03
Cal Standard	SB03724-CAL6	S2022-12-07A (6)	12/07/22 15:15
Cal Standard	SB03724-CAL7	S2022-12-07A (7)	12/07/22 15:28
Cal Standard	SB03724-CAL8	S2022-12-07A (8)	12/07/22 15:41
Initial Cal Blank	SB03724-ICB1	S2022-12-07A (9)	12/07/22 15:53
Secondary Cal Check	SB03724-SCV1	S2022-12-07A (10)	12/07/22 16:06



# INJECTION LOG - ANALYSIS SEQUENCE SUMMARY

EPA 1633

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03753  
 Calibration: 2250016

SDG:  
 Project: Red Hill AFFF Assessment Sampling  
 Instrument: Saphira

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Blank	SB03753-CCB1	S2022-12-08B (1)	12/08/22 18:12
Low Cal Check	SB03753-LCV1	S2022-12-08B (2)	12/08/22 18:24
Calibration Check	SB03753-CCV1	S2022-12-08B (3)	12/08/22 18:37
Calibration Blank	SB03753-CCB2	S2022-12-08B (6)	12/08/22 19:15
Blank	BBL0100-BLK1	S2022-12-08B (17)	12/08/22 21:35
LCS	BBL0100-BS1	S2022-12-08B (18)	12/08/22 21:48
LCS Dup	BBL0100-BSD1	S2022-12-08B (19)	12/08/22 22:01
MRL Check	BBL0100-MRL1	S2022-12-08B (20)	12/08/22 22:13
ADIT6-DU02-SOFT01MI-22DEC	BBL0100-MS1	S2022-12-08B (21)	12/08/22 22:26
ADIT6-DU02-SOFT01MI-22DEC	BBL0100-MSD1	S2022-12-08B (22)	12/08/22 22:39
ADIT6-DU02-SOFT01MI-22DEC	BBL0100-DUP1	S2022-12-08B (23)	12/08/22 22:52
ADIT6-DU02-SOFT01MI-22DEC	BBL0100-DUP2	S2022-12-08B (24)	12/08/22 23:04
Calibration Check	SB03753-CCV2	S2022-12-08B (25)	12/08/22 23:17
Calibration Blank	SB03753-CCB3	S2022-12-08B (26)	12/08/22 23:30
ADIT6-IDW-SON01MI-22DEC	22L0023-01	S2022-12-08B (27)	12/08/22 23:43
ADIT6-IDW-SON01MI-22DEC	22L0023-01RE1	S2022-12-08B (28)	12/08/22 23:55
ADIT6-IDW-SOFD01MI-22DEC	22L0023-02	S2022-12-08B (29)	12/09/22 00:08
ADIT6-IDW-SOFD01MI-22DEC	22L0023-02RE1	S2022-12-08B (30)	12/09/22 00:21
ADIT6-IDW-SOFT01MI-22DEC	22L0023-03	S2022-12-08B (31)	12/09/22 00:33
ADIT6-IDW-SOFT01MI-22DEC	22L0023-03RE1	S2022-12-08B (32)	12/09/22 00:46
ADIT6-DU02-SON01MI-22DEC	22L0023-04	S2022-12-08B (33)	12/09/22 00:59
ADIT6-DU02-SON01MI-22DEC	22L0023-04RE1	S2022-12-08B (34)	12/09/22 01:12
ADIT6-DU02-SOFD01MI-22DEC	22L0023-05	S2022-12-08B (35)	12/09/22 01:24
ADIT6-DU02-SOFD01MI-22DEC	22L0023-05RE1	S2022-12-08B (36)	12/09/22 01:37
ADIT6-DU02-SOFT01MI-22DEC	22L0023-06	S2022-12-08B (37)	12/09/22 01:50
ADIT6-DU02-SOFT01MI-22DEC	22L0023-06RE1	S2022-12-08B (38)	12/09/22 02:02
ADIT6-DU04A-SON01MI-22DEC	22L0023-07	S2022-12-08B (39)	12/09/22 02:15
ADIT6-DU04A-SON01MI-22DEC	22L0023-07RE1	S2022-12-08B (40)	12/09/22 02:28

# INJECTION LOG - ANALYSIS SEQUENCE SUMMARY

EPA 1633

Laboratory:	APPL, LLC	SDG:	
Client:	AECOM Honolulu	Project:	Red Hill AFFF Assessment Sampling
Sequence:	SB03753	Instrument:	Saphira
Calibration:	2250016		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
ADIT6-DU01-SON01MI-22DEC	22L0023-08	S2022-12-08B (41)	12/09/22 02:40
ADIT6-DU01-SON01MI-22DEC	22L0023-08RE1	S2022-12-08B (42)	12/09/22 02:53
ADIT6-DU04B-SON01MI-22DEC	22L0023-09	S2022-12-08B (43)	12/09/22 03:06
ADIT6-DU04B-SON01MI-22DEC	22L0023-09RE1	S2022-12-08B (44)	12/09/22 03:19
Calibration Check	SB03753-CCV3	S2022-12-08B (45)	12/09/22 03:31
Calibration Blank	SB03753-CCB4	S2022-12-08B (46)	12/09/22 03:44

# SAMPLE DATA

# FORM I

## ANALYSIS DATA SHEET

ADIT6-IDW-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-01
		File ID:	S2022-12-21B (10)
Sampled:	12/02/22 19:10	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 20:35
Solids:		Preparation:	PFAS Leachates
		Dilution:	1
Initial/Final:	107.51 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	170	7.4	3.7	0.98	
PFPEA	160	3.7	3.7	0.30	
PFHXA	420	1.9	1.9	0.26	
PFHPA	53	1.9	0.93	0.19	
PFOA	30	1.9	0.93	0.70	
PFNA	3.1	1.9	0.93	0.38	
PFDA	5.2	1.9	0.93	0.47	IR2
PFUnA	3.0	1.9	0.93	0.74	IR2
PFDOA	0.93 U	1.9	0.93	0.51	IR2,
PFTRDA	1.4 U	1.9	1.4	0.93	
PFTEDA	0.93 U	1.9	0.93	0.93	
PFBS	3.9	1.9	0.93	0.17	
PFPEs	0.93 U	1.9	0.93	0.29	
PFHXS	1.3 J	1.9	0.93	0.15	
PFHPS	0.93 U	1.9	0.93	0.24	
PFOS	33	1.9	0.93	0.30	
PFNS	0.93 U	1.9	0.93	0.56	
PFDS	0.93 U	1.9	0.93	0.70	
PFDOS	0.93 U	1.9	0.93	0.56	
4:2FTS	110	7.4	3.7	1.3	
8:2FTS	3.7 U	7.4	3.7	0.38	
PFOSA	0.93 U	1.9	0.93	0.47	
NMeFOSA	3.7 U	7.4	3.7	2.2	
NEtFOSA	3.7 U	7.4	3.7	1.9	
NMeFOSAA	0.93 U	1.9	0.93	0.51	
NEtFOSAA	0.93 U	1.9	0.93	0.51	
NMeFOSE	5.6 U	7.4	5.6	4.7	
NEtFOSE	5.6 U	7.4	5.6	4.7	
HFPO-DA	1.9 U	3.7	1.9	0.79	
ADONA	1.9 U	3.7	1.9	0.56	

# FORM I ANALYSIS DATA SHEET

ADIT6-IDW-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-01
		File ID:	S2022-12-21B (10)
Sampled:	12/02/22 19:10	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 20:35
Solids:		Preparation:	PFAS Leachates
		Dilution:	1
Initial/Final:	107.51 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFEEESA	1.9 U	3.7	1.9	0.51	
PFMPA	1.9 U	3.7	1.9	0.25	
PFMBA	1.9 U	3.7	1.9	0.42	
NFDHA	1.9 U	3.7	1.9	1.4	
9CL-PF3ONS	1.9 U	3.7	1.9	0.98	
11CL-PF3OUDS	1.9 U	3.7	1.9	0.98	
3:3FTCA	4.2 J	7.4	3.7	2.7	
5:3FTCA	150	7.4	3.7	2.0	
7:3FTCA	3.7 U	7.4	3.7	2.6	



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-01  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (10)  
 Acquired: 2022/12/21 - 20:35

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 1059928	(3.66, 1.00) (0.00, N/A, 0.0)	68.8	N/A 0.0 0.0	9.1958	N/A			
PFPeA	(262.9 / 219.0) 1590892 (262.9 / 69.0) 16524	(4.99, 1.00) (0.00, N/A, 0.0)	681.7 218.5	0.0104 92.8 89.6	8.8486	N/A			
PFHxA	(313.0 / 269.0) 6548971 (313.0 / 119.0) 627308	(6.15, 1.00) (0.00, N/A, 0.1)	617.7 669.9	0.0958 98.0 103.3	22.7760	N/A			
PFHpA	(363.0 / 319.0) 677364 (363.0 / 169.0) 194442	(7.07, 1.00) (0.00, N/A, -0.1)	562.1 502.9	0.2871 92.2 92.1	2.8344	N/A			
PFOA	(413.0 / 369.0) 338175 (413.0 / 169.0) 104813	(7.89, 1.00) (0.00, N/A, 0.2)	541.4 582.7	0.3099 94.8 94.2	1.6095	N/A			
PFNA	(463.0 / 419.0) 27751 (463.0 / 169.0) 6106	(8.63, 1.00) (0.01, N/A, -0.3)	124.0 32.5	0.2200 114.2 95.9	0.1643	N/A			
PFDA	(513.0 / 469.0) 61450 (513.0 / 169.0) 9553	(9.30, 1.00) (0.00, N/A, -0.6)	185.6 81.2	0.1555 162.6 144.0	0.2818	N/A			IR2,
PFUnA	(563.0 / 519.0) 20211 (563.0 / 169.0) 3581	(9.71, 1.00) (0.00, N/A, 0.7)	55.8 28.2	0.1772 204.0 172.9	0.1606	N/A			IR2,
PFDoA	(613.0 / 569.0) 6204 (613.0 / 169.0) 1114	(9.89, 1.00) (-0.01, N/A, 0.1)	48.9 15.3	0.1795 129.0 153.1	0.0235	N/A			IR2,
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-01  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (10)  
 Acquired: 2022/12/21 - 20:35

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 94210 (298.9 / 99.0) 66890	(6.10, 1.00) (0.00, N/A, 0.1)	282.4 268.9	0.7100 115.4 113.7	0.2111	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) 35943 (399.0 / 99.0) 13006	(8.01, 1.00) (0.00, N/A, 0.3)	196.1 667.4	0.3619 107.7 106.5	0.0692	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) 965676 (499.0 / 99.0) 241051	(9.45, 1.00) (0.00, N/A, 0.0)	311.9 291.1	0.2496 102.6 116.3	1.7625	N/A			
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) 19994 (599.0 / 99.0) 2708	(9.90, 1.05) (N/A, -0.02, 1.7)	47.1 22.2	0.1355 60.2 65.3	0.0296	N/A			
PFDoS	(698.9 / 80.0) N/A (698.9 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	(327.0 / 307.0) 1558663 (327.0 / 81.0) 857002	(5.82, 1.00) (0.00, N/A, 0.3)	619.4 515.3	0.5498 111.3 106.6	5.6769	N/A			
6:2FTS	(427.0 / 407.0) 55272312 (427.0 / 81.0) 41109967	(7.54, 1.00) (0.00, N/A, 0.1)	683.8 662.2	0.7438 95.6 114.9	419.9022	N/A			E,
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



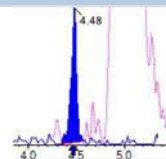
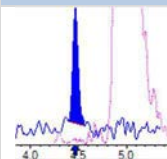
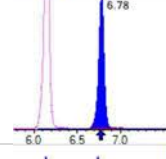
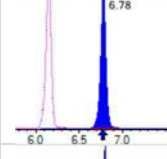
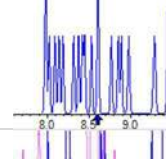
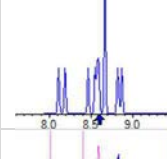
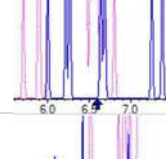
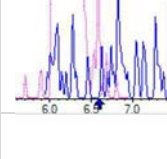
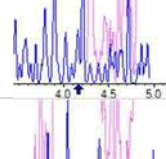
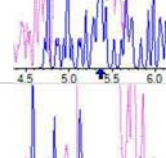
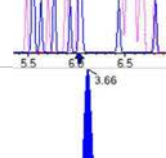
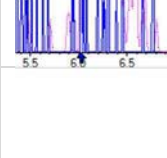
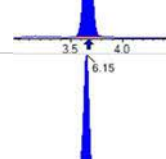
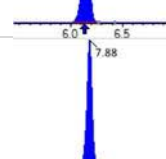
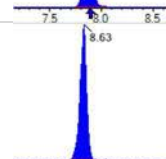
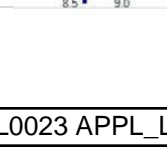
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

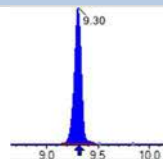
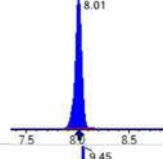
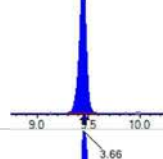
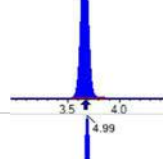
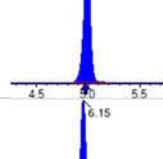
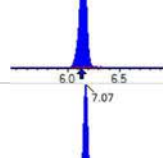
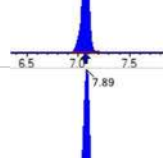
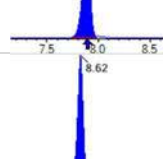
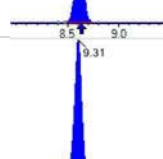
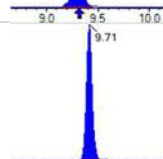
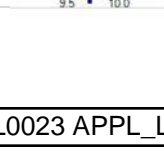
Sample I.D.: 22L0023-01  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

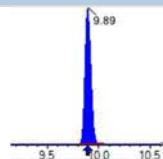
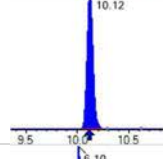
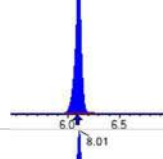
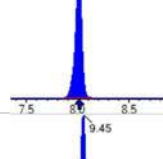
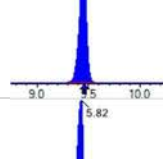
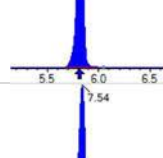
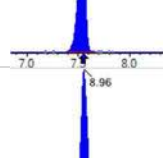
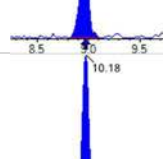
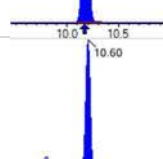
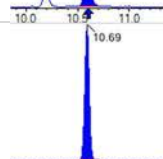
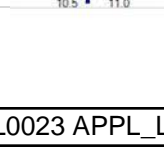
Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (10)  
 Acquired: 2022/12/21 - 20:35

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(511.9 / 219.0) N/A (511.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.1 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 1394 (241.0 / 117.0) 2337	(4.48, 0.90) (N/A, 0.02, 0.5)	69.4 36.0	1.6766 100.2 97.4	0.2246	N/A			
5:3FTCA	(341.0 / 236.7) 400874 (341.0 / 217.0) 588629	(6.78, 1.10) (N/A, 0.01, 0.1)	587.2 634.6	1.4684 100.3 94.8	7.8901	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 183254	(3.66, N/A) (N/A, 0.00, N/A)	513.2	N/A	1.3165 [ 1.0000 ]	131.7% { 112.4% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 303342	(6.15, N/A) (N/A, 0.01, N/A)	512.7	N/A	1.3136 [ 1.0000 ]	131.4% { 135.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 226191	(7.88, N/A) (N/A, 0.00, N/A)	722.5	N/A	1.0288 [ 1.0000 ]	102.9% { 92.8% }			
13C5_PFNA_IIS	(468.0 / 423.0) 194005	(8.63, N/A) (N/A, 0.00, N/A)	441.4	N/A	1.0477 [ 1.0000 ]	104.8% { 107.6% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 190090	(9.30, N/A) (N/A, -0.01, N/A)	391.1	N/A	1.0286 [ 1.0000 ]	102.9% { 95.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 410768	(8.01, N/A) (N/A, 0.00, N/A)	784.1	N/A	1.0175 [ 1.0000 ]	101.7% { 99.3% }			
13C4_PFOS_IIS	(502.8 / 79.9) 297313	(9.45, N/A) (N/A, -0.01, N/A)	386.8	N/A	0.9315 [ 1.0000 ]	93.1% { 88.1% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1413425	(3.66, N/A) (N/A, -0.01, N/A)	841.3	N/A	7.4940 [ 8.0000 ]	93.7% { 112.9% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 818852	(4.99, N/A) (N/A, 0.02, N/A)	694.8	N/A	3.8797 [ 4.0000 ]	97.0% { 123.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 669611	(6.15, N/A) (N/A, 0.01, N/A)	659.6	N/A	1.9182 [ 2.0000 ]	95.9% { 126.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 524345	(7.07, N/A) (N/A, 0.00, N/A)	657.4	N/A	1.7219 [ 2.0000 ]	86.1% { 112.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 427329	(7.89, N/A) (N/A, 0.00, N/A)	635.8	N/A	1.7227 [ 2.0000 ]	86.1% { 83.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 196810	(8.62, N/A) (N/A, -0.01, N/A)	471.6	N/A	0.9225 [ 1.0000 ]	92.3% { 107.3% }			
13C6_PFDA_EIS	(519.0 / 474.0) 229110	(9.31, N/A) (N/A, 0.00, N/A)	337.4	N/A	0.8474 [ 1.0000 ]	84.7% { 91.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 159286	(9.71, N/A) (N/A, -0.01, N/A)	337.4	N/A	0.4142 [ 1.0000 ]	41.4% { 49.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 306384	(9.89, N/A) (N/A, 0.00, N/A)	581.0	N/A	0.7982 [ 1.0000 ]	79.8% { 83.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 158683	(10.12, N/A) (N/A, 0.00, N/A)	315.0	N/A	0.6225 [ 1.0000 ]	62.3% { 57.4% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1627879	(6.10, N/A) (N/A, 0.02, N/A)	620.5	N/A	2.3439 [ 2.0000 ]	117.2% { 115.8% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 669084	(8.01, N/A) (N/A, 0.00, N/A)	911.9	N/A	1.8107 [ 2.0000 ]	90.5% { 96.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1009550	(9.45, N/A) (N/A, -0.01, N/A)	525.8	N/A	1.9785 [ 2.0000 ]	98.9% { 94.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 332149	(5.82, N/A) (N/A, 0.02, N/A)	627.6	N/A	5.6466 [ 4.0000 ]	141.2% { 147.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 342448	(7.54, N/A) (N/A, -0.01, N/A)	540.8	N/A	4.8354 [ 4.0000 ]	120.9% { 118.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 73476	(8.96, N/A) (N/A, -0.01, N/A)	128.4	N/A	1.0364 [ 4.0000 ]	25.9% { 32.6% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1044424	(10.18, N/A) (N/A, 0.00, N/A)	696.9	N/A	1.6193 [ 2.0000 ]	81.0% { 73.8% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 152588	(10.60, N/A) (N/A, -0.01, N/A)	245.0	N/A	1.0835 [ 2.0000 ]	54.2% { 45.0% }			
D5_NeIFOSa_EIS	(531.1 / 169.0) 131263	(10.69, N/A) (N/A, -0.01, N/A)	940.1	N/A	1.0097 [ 2.0000 ]	50.5% { 43.5% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-01  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (10)  
 Acquired: 2022/12/21 - 20:35

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 627753	(9.50, N/A) (N/A, 0.00, N/A)	402.9	N/A	5.1736 [ 4.0000 ]	129.3% { 108.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 405501	(9.68, N/A) (N/A, -0.01, N/A)	426.3	N/A	3.7916 [ 4.0000 ]	94.8% { 89.8% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 380039	(10.57, N/A) (N/A, 0.00, N/A)	1374.5	N/A	19.2192 [ 20.0000 ]	96.1% { 81.0% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 160639	(10.66, N/A) (N/A, 0.00, N/A)	1158.5	N/A	17.8446 [ 20.0000 ]	89.2% { 73.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1379952	(6.49, N/A) (N/A, 0.01, N/A)	794.8	N/A	7.4353 [ 8.0000 ]	92.9% { 113.5% }			

# FORM I ANALYSIS DATA SHEET

ADIT6-IDW-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-01RE1
		File ID:	S2022-12-21B (11)
Sampled:	12/02/22 19:10	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 20:47
Solids:		Preparation:	PFAS Leachates
		Dilution:	10
Initial/Final:	107.51 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
6:2FTS	9700	74	37	14	



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-01RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (11)  
 Acquired: 2022/12/21 - 20:47

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 95465	(3.69, 1.00) (0.00, N/A, 0.0)	49.9	N/A 0.0 0.0	0.8678	N/A			
PFPeA	(262.9 / 219.0) 138482 (262.9 / 69.0) 1698	(5.00, 1.00) (0.00, N/A, 0.0)	498.3 38.9	0.0123 109.6 105.8	0.8659	N/A			
PFHxA	(313.0 / 269.0) 570334 (313.0 / 119.0) 54980	(6.15, 1.00) (0.00, N/A, -0.3)	500.0 279.5	0.0964 98.6 104.0	2.3126	N/A			
PFHpA	(363.0 / 319.0) 69429 (363.0 / 169.0) 15657	(7.07, 1.00) (0.00, N/A, 0.4)	195.8 100.7	0.2255 72.4 72.3	0.3208	N/A			
PFOA	(413.0 / 369.0) 34801 (413.0 / 169.0) 10857	(7.89, 1.00) (0.00, N/A, 0.5)	122.1 155.5	0.3120 95.5 94.8	0.1472	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-01RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (11)  
 Acquired: 2022/12/21 - 20:47

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) N/A (298.9 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) N/A (399.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) 99166 (499.0 / 99.0) 28839	(9.46, 1.00) (0.00, N/A, 0.4)	131.1 170.5	0.2908 119.6 135.5	0.1683	N/A			
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) N/A (599.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	(698.9 / 80.0) N/A (698.9 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	(327.0 / 307.0) 121812 (327.0 / 81.0) 66687	(5.82, 1.00) (0.00, N/A, 0.1)	504.8 330.9	0.5475 110.8 106.1	0.4778	N/A			
6:2FTS	(427.0 / 407.0) 9135870 (427.0 / 81.0) 7294638	(7.55, 1.00) (-0.01, N/A, 0.1)	777.7 777.6	0.7985 102.6 123.3	52.0822	N/A			
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



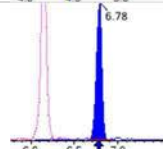
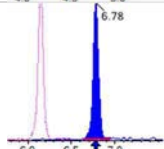
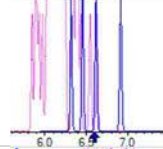
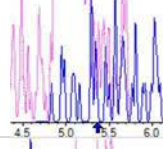
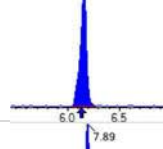
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

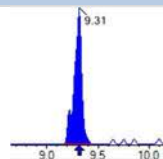
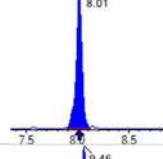
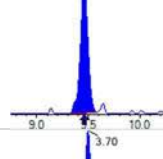
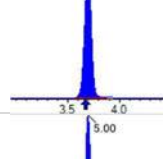
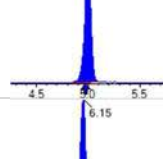
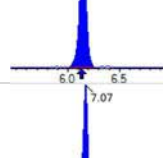
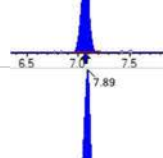
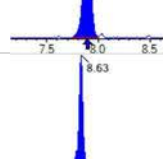
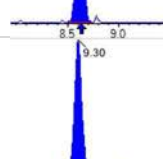
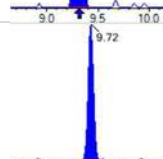
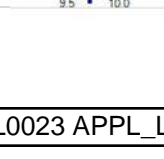
Sample I.D.: 22L0023-01RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

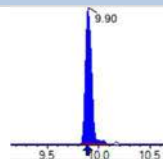
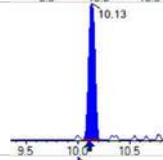
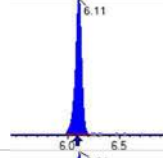
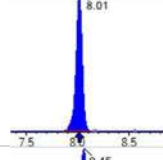
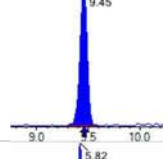
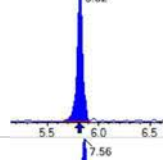
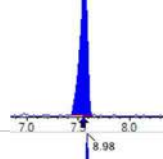
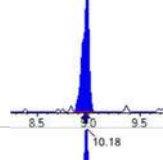
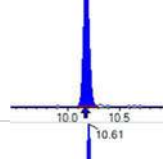
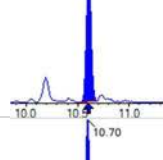
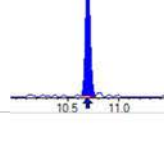
Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (11)  
 Acquired: 2022/12/21 - 20:47

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(511.9 / 219.0) N/A (511.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.1 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) 36991 (341.0 / 217.0) 51330	(6.78, 1.10) (N/A, 0.01, 0.3)	283.9 213.6	1.3876 94.8 89.6	0.8489	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 16943	(3.70, N/A) (N/A, 0.03, N/A)	327.7	N/A	1.2172 [ 1.0000 ]	121.7% { 10.4% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 30004	(6.16, N/A) (N/A, 0.02, N/A)	340.0	N/A	1.2993 [ 1.0000 ]	129.9% { 13.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 24795	(7.89, N/A) (N/A, 0.00, N/A)	368.0	N/A	1.1278 [ 1.0000 ]	112.8% { 10.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 16389	(8.64, N/A) (N/A, 0.01, N/A)	124.3	N/A	0.8850 [ 1.0000 ]	88.5% { 9.1% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 17046	(9.31, N/A) (N/A, 0.00, N/A)	82.0	N/A	0.9224 [ 1.0000 ]	92.2% { 8.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 47905	(8.01, N/A) (N/A, 0.00, N/A)	420.6	N/A	1.1866 [ 1.0000 ]	118.7% { 11.6% }			
13C4_PFOS_IIS	(502.8 / 79.9) 31996	(9.46, N/A) (N/A, 0.01, N/A)	115.5	N/A	1.0024 [ 1.0000 ]	100.2% { 9.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 134899	(3.70, N/A) (N/A, 0.03, N/A)	680.7	N/A	0.7736 [ 0.8000 ]	96.7% { 10.8% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 72843	(5.00, N/A) (N/A, 0.02, N/A)	513.6	N/A	0.3489 [ 0.4000 ]	87.2% { 11.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 57432	(6.15, N/A) (N/A, 0.01, N/A)	375.6	N/A	0.1663 [ 0.2000 ]	83.2% { 10.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 47486	(7.07, N/A) (N/A, 0.00, N/A)	351.9	N/A	0.1576 [ 0.2000 ]	78.8% { 10.2% }			
13C8_PFOA_EIS	(421.0 / 376.0) 48099	(7.89, N/A) (N/A, 0.01, N/A)	271.4	N/A	0.1769 [ 0.2000 ]	88.4% { 9.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 22879	(8.63, N/A) (N/A, 0.00, N/A)	229.3	N/A	0.1270 [ 0.1000 ]	127.0% { 12.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 21765	(9.30, N/A) (N/A, -0.01, N/A)	145.3	N/A	0.0898 [ 0.1000 ]	89.8% { 8.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 28210	(9.72, N/A) (N/A, 0.01, N/A)	381.1	N/A	0.0818 [ 0.1000 ]	81.8% { 8.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 36282	(9.90, N/A) (N/A, 0.00, N/A)	371.1	N/A	0.1054 [0.1000]	105.4% {9.8%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 17877	(10.13, N/A) (N/A, 0.02, N/A)	101.8	N/A	0.0782 [0.1000]	78.2% {6.5%}			
13C3_PFBs_EIS	(302.0 / 80.0) 151177	(6.11, N/A) (N/A, 0.02, N/A)	437.2	N/A	0.1866 [0.2000]	93.3% {10.8%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 78194	(8.01, N/A) (N/A, 0.00, N/A)	542.0	N/A	0.1814 [0.2000]	90.7% {11.3%}			
13C8_PFOS_EIS	(507.0 / 80.0) 108540	(9.45, N/A) (N/A, 0.00, N/A)	234.6	N/A	0.1977 [0.2000]	98.8% {10.2%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 30844	(5.82, N/A) (N/A, 0.02, N/A)	278.4	N/A	0.4496 [0.4000]	112.4% {13.7%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 45635	(7.56, N/A) (N/A, 0.01, N/A)	319.8	N/A	0.5525 [0.4000]	138.1% {15.8%}			
13C2_8:2FTS_EIS	(529.0 / 81.0) 21462	(8.98, N/A) (N/A, 0.02, N/A)	156.5	N/A	0.2596 [0.4000]	64.9% {9.5%}			
13C8_PFOsa_EIS	(506.0 / 78.0) 134309	(10.18, N/A) (N/A, 0.00, N/A)	368.8	N/A	0.1935 [0.2000]	96.7% {9.5%}			
D3_NMeFOSA_EIS	(515.0 / 169.0) 16889	(10.61, N/A) (N/A, 0.00, N/A)	107.9	N/A	0.1114 [0.2000]	55.7% {5.0%}			
D5_NEiFOSA_EIS	(531.1 / 169.0) 13416	(10.70, N/A) (N/A, 0.00, N/A)	168.0	N/A	0.0959 [0.2000]	47.9% {4.4%}			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-01RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (11)  
 Acquired: 2022/12/21 - 20:47

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 59442	(9.51, N/A) (N/A, 0.00, N/A)	202.3	N/A	0.4552 [ 0.4000 ]	113.8% { 10.2% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 48598	(9.69, N/A) (N/A, 0.01, N/A)	140.2	N/A	0.4222 [ 0.4000 ]	105.6% { 10.8% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 42953	(10.58, N/A) (N/A, 0.01, N/A)	506.6	N/A	2.0185 [ 2.0000 ]	100.9% { 9.2% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 15151	(10.67, N/A) (N/A, 0.00, N/A)	320.6	N/A	1.5639 [ 2.0000 ]	78.2% { 6.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 129335	(6.49, N/A) (N/A, 0.01, N/A)	456.0	N/A	0.7045 [ 0.8000 ]	88.1% { 10.6% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-IDW-SOFD01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-02
		File ID:	S2022-12-21B (12)
Sampled:	12/02/22 19:20	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 21:00
Solids:		Preparation:	PFAS Leachates
		Dilution:	1
Initial/Final:	105.04 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	170	7.6	3.8	1.0	
PFPEA	180	3.8	3.8	0.31	
PFHXA	410	1.9	1.9	0.26	
PFHPA	63	1.9	0.95	0.20	
PFOA	29	1.9	0.95	0.71	
PFNA	3.7	1.9	0.95	0.39	
PFDA	9.0	1.9	0.95	0.48	
PFUnA	4.6	1.9	0.95	0.76	IR2
PFDOA	0.81 J	1.9	0.95	0.52	
PFTRDA	1.4 U	1.9	1.4	0.95	IR2,
PFTEDA	0.95 U	1.9	0.95	0.95	
PFBS	4.5	1.9	0.95	0.18	
PFPEs	0.95 U	1.9	0.95	0.30	
PFHXS	1.7 J	1.9	0.95	0.15	
PFHPS	0.95 U	1.9	0.95	0.24	
PFOS	55	1.9	0.95	0.30	
PFNS	0.95 U	1.9	0.95	0.57	
PFDS	1.1 J	1.9	0.95	0.71	
PFDOS	0.95 U	1.9	0.95	0.57	
4:2FTS	100	7.6	3.8	1.4	
8:2FTS	3.8 U	7.6	3.8	0.39	
PFOSA	0.95 U	1.9	0.95	0.48	
NMeFOSA	3.8 U	7.6	3.8	2.2	
NEtFOSA	3.8 U	7.6	3.8	2.0	
NMeFOSAA	0.95 U	1.9	0.95	0.52	
NEtFOSAA	0.95 U	1.9	0.95	0.52	
NMeFOSE	5.7 U	7.6	5.7	4.8	
NEtFOSE	5.7 U	7.6	5.7	4.8	
HFPO-DA	1.9 U	3.8	1.9	0.81	
ADONA	1.9 U	3.8	1.9	0.57	

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-IDW-SOFD01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-02
		File ID:	S2022-12-21B (12)
Sampled:	12/02/22 19:20	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 21:00
Solids:		Preparation:	PFAS Leachates
		Dilution:	1
Initial/Final:	105.04 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFEEESA	1.9 U	3.8	1.9	0.52	
PFMPA	1.9 U	3.8	1.9	0.26	
PFMBA	1.9 U	3.8	1.9	0.43	
NFDHA	1.9 U	3.8	1.9	1.4	
9CL-PF3ONS	1.9 U	3.8	1.9	1.0	
11CL-PF3OUDS	1.9 U	3.8	1.9	1.0	
3:3FTCA	6.3 J	7.6	3.8	2.7	
5:3FTCA	160	7.6	3.8	2.1	
7:3FTCA	3.8 U	7.6	3.8	2.6	



Chemist: ABK  
Instrument: Saphira  
Type: Sciex Q3 5500

Sample I.D.: 22L0023-02  
DF, IV: 1, 10.0µL  
Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
Path: S2022-12-21B (12)  
Acquired: 2022/12/21 - 21:00

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 902102	(3.64, 1.00) (0.00, N/A, 0.0)	66.3	N/A 0.0 0.0	8.7512	N/A			
PFPeA	(262.9 / 219.0) 1575518 (262.9 / 69.0) 16813	(4.94, 1.00) (0.00, N/A, -0.1)	695.1 236.6	0.0107 95.3 92.0	9.6655	N/A			
PFHxA	(313.0 / 269.0) 5611278 (313.0 / 119.0) 520784	(6.11, 1.00) (0.00, N/A, 0.0)	633.0 623.2	0.0928 94.9 100.1	21.4280	N/A			
PFHpA	(363.0 / 319.0) 732462 (363.0 / 169.0) 199716	(7.03, 1.00) (0.00, N/A, 0.2)	647.9 508.3	0.2727 87.5 87.4	3.3204	N/A			
PFOA	(413.0 / 369.0) 281530 (413.0 / 169.0) 88488	(7.84, 1.00) (0.00, N/A, 0.2)	414.3 324.4	0.3143 96.2 95.5	1.5131	N/A			
PFNA	(463.0 / 419.0) 29334 (463.0 / 169.0) 6987	(8.58, 1.00) (0.00, N/A, -0.6)	127.1 36.9	0.2382 123.6 103.8	0.1936	N/A			
PFDA	(513.0 / 469.0) 87682 (513.0 / 169.0) 6755	(9.27, 1.00) (0.01, N/A, 0.5)	169.1 71.9	0.0770 80.6 71.4	0.4748	N/A			
PFUnA	(563.0 / 519.0) 26980 (563.0 / 169.0) 4622	(9.68, 1.00) (0.00, N/A, -0.5)	88.4 29.0	0.1713 197.3 167.2	0.2429	N/A			IR2,
PFDoA	(613.0 / 569.0) 11629 (613.0 / 169.0) 1684	(9.88, 1.00) (0.00, N/A, -0.7)	54.6 21.2	0.1448 104.0 123.4	0.0426	N/A			
PFTrDA	(663.0 / 619.0) 4407 (663.0 / 169.0) 1580	(10.01, 1.01) (N/A, -0.01, -0.3)	21.6 9.4	0.3584 175.1 167.9	0.0187	N/A			IR2,
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-02  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (12)  
 Acquired: 2022/12/21 - 21:00

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 101626 (298.9 / 99.0) 69323	(6.05, 1.00) (0.00, N/A, -0.1)	267.8 285.6	0.6821 110.8 109.2	0.2375	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) 41681 (399.0 / 99.0) 11341	(7.96, 1.00) (0.00, N/A, -0.2)	245.5 65127.0	0.2721 80.9 80.1	0.0912	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) 1275023 (499.0 / 99.0) 341521	(9.41, 1.00) (0.00, N/A, 0.0)	256.5 401.5	0.2679 110.1 124.8	2.9080	N/A			
PFNS	(549.0 / 80.0) 13528 (549.0 / 99.0) 2545	(9.74, 1.04) (N/A, -0.03, -0.8)	20.3 31.6	0.1882 77.1 75.4	0.0278	N/A			
PFDS	(599.0 / 80.0) 31736 (599.0 / 99.0) 5630	(9.88, 1.05) (N/A, -0.03, -0.8)	70.1 36.4	0.1774 78.8 85.5	0.0588	N/A			
PFDoS	(698.9 / 80.0) N/A (698.9 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	(327.0 / 307.0) 1639672 (327.0 / 81.0) 969136	(5.77, 1.00) (0.00, N/A, 0.0)	732.2 603.9	0.5911 119.7 114.6	5.3598	N/A			
6:2FTS	(427.0 / 407.0) 53355600 (427.0 / 81.0) 39783630	(7.50, 1.00) (0.00, N/A, 0.0)	628.9 775.6	0.7456 95.8 115.2	439.7452	N/A			E,
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			





Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-02  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (12)  
 Acquired: 2022/12/21 - 21:00

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 5250 ( 498.0 / 478.0 ) 617	( 10.17 , 1.00 ) ( 0.01 , N/A , 0.6 )	31.4 67.2	0.1176 564.2 501.6	0.0105	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

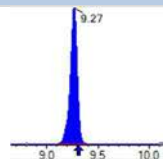
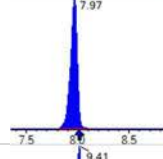
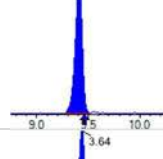
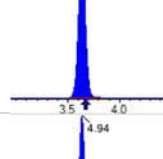
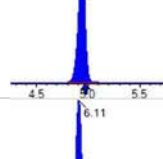
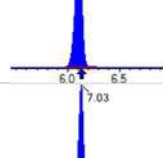
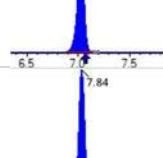
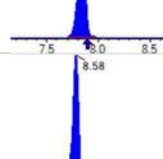
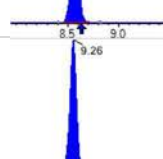
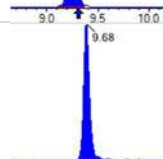
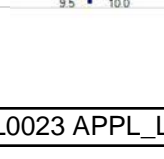


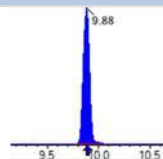
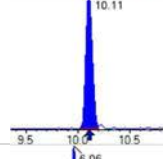
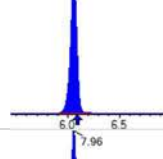
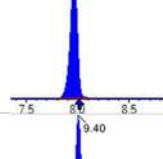
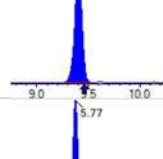
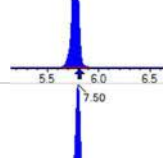
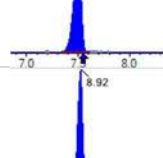
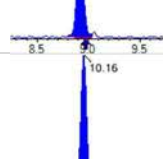
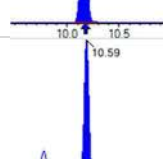
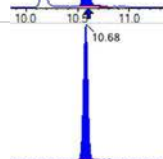
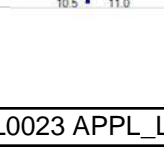
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-02  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (12)  
 Acquired: 2022/12/21 - 21:00

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 1873 (241.0 / 117.0) 2373	(4.43, 0.90) (N/A, -0.02, 0.2)	90.6 34.6	1.2666 75.7 73.6	0.3330	N/A			
5:3FTCA	(341.0 / 236.7) 383699 (341.0 / 217.0) 619279	(6.74, 1.10) (N/A, -0.03, 0.0)	700.1 600.4	1.6140 110.3 104.2	8.2924	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 162817	(3.64, N/A) (N/A, -0.03, N/A)	588.7	N/A	1.1697 [ 1.0000 ]	117.0% { 99.9% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 281770	(6.11, N/A) (N/A, -0.03, N/A)	627.0	N/A	1.2202 [ 1.0000 ]	122.0% { 126.1% }			
13C4_PFOA_IIS	(417.0 / 372.0) 188451	(7.84, N/A) (N/A, -0.05, N/A)	465.3	N/A	0.8572 [ 1.0000 ]	85.7% { 77.3% }			
13C5_PFNA_IIS	(468.0 / 423.0) 164329	(8.58, N/A) (N/A, -0.05, N/A)	266.4	N/A	0.8874 [ 1.0000 ]	88.7% { 91.1% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 160528	(9.27, N/A) (N/A, -0.05, N/A)	394.3	N/A	0.8686 [ 1.0000 ]	86.9% { 80.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 382595	(7.97, N/A) (N/A, -0.05, N/A)	864.3	N/A	0.9477 [ 1.0000 ]	94.8% { 92.5% }			
13C4_PFOS_IIS	(502.8 / 79.9) 228022	(9.41, N/A) (N/A, -0.04, N/A)	416.7	N/A	0.7144 [ 1.0000 ]	71.4% { 67.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1264068	(3.64, N/A) (N/A, -0.03, N/A)	873.6	N/A	7.5433 [ 8.0000 ]	94.3% { 101.0% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 742406	(4.94, N/A) (N/A, -0.04, N/A)	688.0	N/A	3.7868 [ 4.0000 ]	94.7% { 111.9% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 609826	(6.11, N/A) (N/A, -0.03, N/A)	597.6	N/A	1.8807 [ 2.0000 ]	94.0% { 115.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 484011	(7.03, N/A) (N/A, -0.04, N/A)	566.4	N/A	1.7111 [ 2.0000 ]	85.6% { 104.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 378415	(7.84, N/A) (N/A, -0.05, N/A)	687.0	N/A	1.8310 [ 2.0000 ]	91.6% { 74.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 176574	(8.58, N/A) (N/A, -0.05, N/A)	489.4	N/A	0.9772 [ 1.0000 ]	97.7% { 96.3% }			
13C6_PFDA_EIS	(519.0 / 474.0) 194034	(9.26, N/A) (N/A, -0.05, N/A)	420.0	N/A	0.8499 [ 1.0000 ]	85.0% { 77.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 140578	(9.68, N/A) (N/A, -0.04, N/A)	170.8	N/A	0.4329 [ 1.0000 ]	43.3% { 43.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 316295	(9.88, N/A) (N/A, -0.02, N/A)	667.8	N/A	0.9758 [ 1.0000 ]	97.6% { 85.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 109168	(10.11, N/A) (N/A, -0.01, N/A)	296.1	N/A	0.5071 [ 1.0000 ]	50.7% { 39.5% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1560820	(6.06, N/A) (N/A, -0.03, N/A)	705.2	N/A	2.4129 [ 2.0000 ]	120.6% { 111.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 588403	(7.96, N/A) (N/A, -0.05, N/A)	960.2	N/A	1.7096 [ 2.0000 ]	85.5% { 85.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 807880	(9.40, N/A) (N/A, -0.05, N/A)	522.3	N/A	2.0644 [ 2.0000 ]	103.2% { 76.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 370083	(5.77, N/A) (N/A, -0.03, N/A)	891.8	N/A	6.7547 [ 4.0000 ]	168.9% { 164.2% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 315656	(7.50, N/A) (N/A, -0.05, N/A)	614.1	N/A	4.7853 [ 4.0000 ]	119.6% { 109.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 86917	(8.92, N/A) (N/A, -0.04, N/A)	201.7	N/A	1.3163 [ 4.0000 ]	32.9% { 38.6% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1053861	(10.16, N/A) (N/A, -0.02, N/A)	803.9	N/A	2.1304 [ 2.0000 ]	106.5% { 74.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 145683	(10.59, N/A) (N/A, -0.02, N/A)	198.4	N/A	1.3488 [ 2.0000 ]	67.4% { 43.0% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 127811	(10.68, N/A) (N/A, -0.02, N/A)	925.6	N/A	1.2819 [ 2.0000 ]	64.1% { 42.4% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-02  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (12)  
 Acquired: 2022/12/21 - 21:00

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 563266	(9.47, N/A) (N/A, -0.04, N/A)	494.9	N/A	6.0528 [ 4.0000 ]	151.3% { 97.0% }			S2,
D5_EtFOSAA_EIS	(589.0 / 419.0) 342731	(9.65, N/A) (N/A, -0.03, N/A)	284.8	N/A	4.1785 [ 4.0000 ]	104.5% { 75.9% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 331860	(10.55, N/A) (N/A, -0.02, N/A)	1333.9	N/A	21.8826 [ 20.0000 ]	109.4% { 70.8% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 148458	(10.65, N/A) (N/A, -0.01, N/A)	1552.5	N/A	21.5029 [ 20.0000 ]	107.5% { 67.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1338478	(6.45, N/A) (N/A, -0.03, N/A)	702.4	N/A	7.7639 [ 8.0000 ]	97.0% { 110.1% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-IDW-SOFD01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-02RE1
		File ID:	S2022-12-21B (13)
Sampled:	12/02/22 19:20	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 21:13
Solids:		Preparation:	PFAS Leachates
		Dilution:	10
Initial/Final:	105.04 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
6:2FTS	9400	76	38	15	



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-02RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (13)  
 Acquired: 2022/12/21 - 21:13

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 78866	(3.64, 1.00) (0.00, N/A, 0.0)	50.5	N/A 0.0 0.0	0.7680	N/A			
PFPeA	(262.9 / 219.0) 141516 (262.9 / 69.0) 1640	(4.93, 1.00) (0.00, N/A, 0.0)	451.4 55.9	0.0116 103.5 99.9	0.9498	N/A			
PFHxA	(313.0 / 269.0) 530399 (313.0 / 119.0) 47080	(6.09, 1.00) (0.00, N/A, 0.0)	603.9 186.1	0.0888 90.8 95.7	2.2150	N/A			
PFHpA	(363.0 / 319.0) 69272 (363.0 / 169.0) 21365	(7.03, 1.00) (0.00, N/A, -0.2)	201.4 176.7	0.3084 99.0 98.9	0.3306	N/A			
PFOA	(413.0 / 369.0) 39502 (413.0 / 169.0) 12571	(7.85, 1.00) (0.00, N/A, 0.0)	91.6 103.7	0.3182 97.4 96.7	0.1687	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

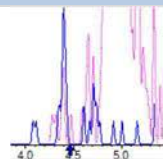
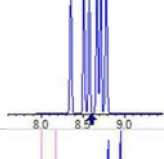
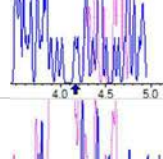
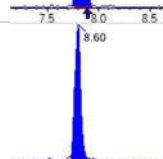
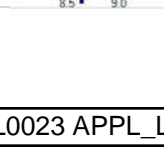
Sample I.D.: 22L0023-02RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

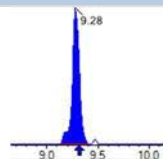
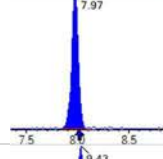
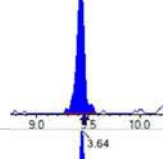
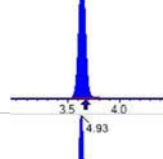
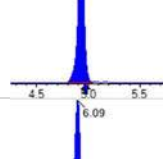
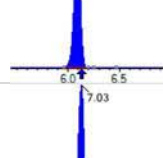
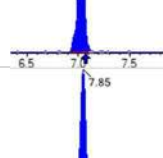
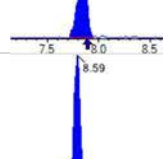
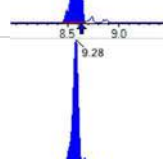
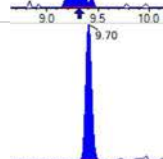
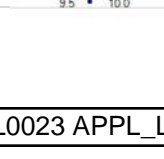
Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (13)  
 Acquired: 2022/12/21 - 21:13

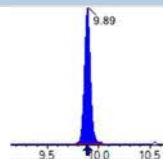
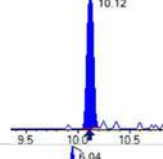
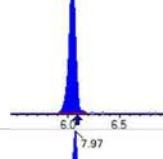
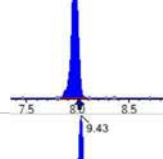
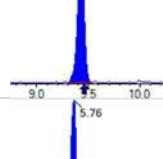
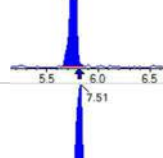
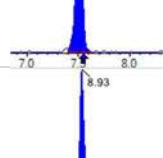
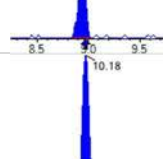
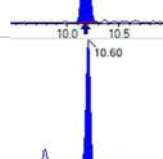
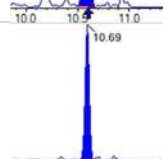
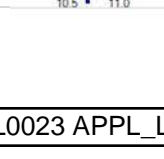
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) N/A ( 298.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 135475 ( 499.0 / 99.0 ) 31401	( 9.43 , 1.00 ) ( 0.00 , N/A , 0.2 )	154.0 171.8	0.2318 95.3 108.0	0.2606	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) 129734 ( 327.0 / 81.0 ) 67360	( 5.76 , 1.00 ) ( 0.00 , N/A , -0.2 )	495.1 316.9	0.5192 105.1 100.6	0.6763	N/A			
6:2FTS	( 427.0 / 407.0 ) 9304025 ( 427.0 / 81.0 ) 6456760	( 7.51 , 1.00 ) ( 0.00 , N/A , 0.0 )	838.3 887.0	0.6940 89.2 107.2	49.1728	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(511.9 / 219.0) N/A (511.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.1 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-PF3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) 35860 (341.0 / 217.0) 49210	(6.73, 1.10) (N/A, -0.04, -0.4)	266.6 207.7	1.3723 93.8 88.6	0.8475	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 16571	(3.64, N/A) (N/A, -0.03, N/A)	311.5	N/A	1.1905 [ 1.0000 ]	119.1% { 10.2% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 26009	(6.10, N/A) (N/A, -0.04, N/A)	258.3	N/A	1.1264 [ 1.0000 ]	112.6% { 11.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 25218	(7.84, N/A) (N/A, -0.04, N/A)	272.3	N/A	1.1470 [ 1.0000 ]	114.7% { 10.3% }			
13C5_PFNA_IIS	(468.0 / 423.0) 17211	(8.60, N/A) (N/A, -0.03, N/A)	198.9	N/A	0.9294 [ 1.0000 ]	92.9% { 9.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 17475	(9.28, N/A) (N/A, -0.03, N/A)	205.4	N/A	0.9456 [ 1.0000 ]	94.6% { 8.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 41943	(7.97, N/A) (N/A, -0.04, N/A)	277.4	N/A	1.0389 [ 1.0000 ]	103.9% { 10.1% }			
13C4_PFOS_IIS	(502.8 / 79.9) 32501	(9.43, N/A) (N/A, -0.03, N/A)	99.0	N/A	1.0183 [ 1.0000 ]	101.8% { 9.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 125924	(3.64, N/A) (N/A, -0.03, N/A)	860.5	N/A	0.7383 [ 0.8000 ]	92.3% { 10.1% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 67860	(4.93, N/A) (N/A, -0.04, N/A)	512.9	N/A	0.3750 [ 0.4000 ]	93.7% { 10.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 55765	(6.09, N/A) (N/A, -0.04, N/A)	424.2	N/A	0.1863 [ 0.2000 ]	93.2% { 10.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 45971	(7.03, N/A) (N/A, -0.04, N/A)	325.8	N/A	0.1761 [ 0.2000 ]	88.0% { 9.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 47626	(7.85, N/A) (N/A, -0.03, N/A)	336.5	N/A	0.1722 [ 0.2000 ]	86.1% { 9.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 21569	(8.59, N/A) (N/A, -0.04, N/A)	158.9	N/A	0.1140 [ 0.1000 ]	114.0% { 11.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 25811	(9.28, N/A) (N/A, -0.03, N/A)	108.0	N/A	0.1039 [ 0.1000 ]	103.9% { 10.3% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 29137	(9.70, N/A) (N/A, -0.02, N/A)	125.1	N/A	0.0824 [ 0.1000 ]	82.4% { 9.1% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 31413	(9.89, N/A) (N/A, -0.01, N/A)	418.7	N/A	0.0890 [0.1000]	89.0% {8.5%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 19790	(10.12, N/A) (N/A, 0.00, N/A)	98.0	N/A	0.0845 [0.1000]	84.5% {7.2%}			
13C3_PFBs_EIS	(302.0 / 80.0) 151856	(6.04, N/A) (N/A, -0.05, N/A)	523.1	N/A	0.2141 [0.2000]	107.1% {10.8%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 71993	(7.97, N/A) (N/A, -0.04, N/A)	402.0	N/A	0.1908 [0.2000]	95.4% {10.4%}			
13C8_PFOS_EIS	(507.0 / 80.0) 95793	(9.43, N/A) (N/A, -0.03, N/A)	272.6	N/A	0.1717 [0.2000]	85.9% {9.0%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 23206	(5.76, N/A) (N/A, -0.04, N/A)	217.1	N/A	0.3864 [0.4000]	96.6% {10.3%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 49224	(7.51, N/A) (N/A, -0.03, N/A)	402.4	N/A	0.6807 [0.4000]	170.2% {17.1%}			S2,
13C2_8:2FTS_EIS	(529.0 / 81.0) 20393	(8.93, N/A) (N/A, -0.03, N/A)	167.4	N/A	0.2817 [0.4000]	70.4% {9.1%}			
13C8_PFOsa_EIS	(506.0 / 78.0) 123719	(10.18, N/A) (N/A, 0.00, N/A)	227.7	N/A	0.1755 [0.2000]	87.7% {8.7%}			
D3_NMeFOsa_EIS	(515.0 / 169.0) 15697	(10.60, N/A) (N/A, 0.00, N/A)	84.3	N/A	0.1020 [0.2000]	51.0% {4.6%}			
D5_NEiFOsa_EIS	(531.1 / 169.0) 12837	(10.69, N/A) (N/A, 0.00, N/A)	244.5	N/A	0.0903 [0.2000]	45.2% {4.3%}			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-02RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (13)  
 Acquired: 2022/12/21 - 21:13

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 50085	(9.48, N/A) (N/A, -0.02, N/A)	222.8	N/A	0.3776 [ 0.4000 ]	94.4% { 8.6% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 39013	(9.67, N/A) (N/A, -0.01, N/A)	100.4	N/A	0.3337 [ 0.4000 ]	83.4% { 8.6% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 35146	(10.57, N/A) (N/A, 0.00, N/A)	496.5	N/A	1.6259 [ 2.0000 ]	81.3% { 7.5% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 13342	(10.67, N/A) (N/A, 0.00, N/A)	244.8	N/A	1.3558 [ 2.0000 ]	67.8% { 6.1% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 125660	(6.44, N/A) (N/A, -0.05, N/A)	465.4	N/A	0.7896 [ 0.8000 ]	98.7% { 10.3% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-IDW-SOFT01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-03
		File ID:	S2022-12-21B (14)
Sampled:	12/02/22 19:30	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 21:25
Solids:		Preparation:	PFAS Leachates
		Dilution:	1
Initial/Final:	108.34 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	150	7.4	3.7	0.97	
PFPEA	170	3.7	3.7	0.30	
PFHXA	380	1.8	1.8	0.25	
PFHPA	58	1.8	0.92	0.19	
PFOA	28	1.8	0.92	0.69	
PFNA	3.4	1.8	0.92	0.38	
PFDA	7.0	1.8	0.92	0.46	
PFUnA	4.0	1.8	0.92	0.74	IR2
PFDOA	0.78 J	1.8	0.92	0.51	IR1,
PFTRDA	1.4 U	1.8	1.4	0.92	
PFTEDA	0.92 U	1.8	0.92	0.92	
PFBS	4.2	1.8	0.92	0.17	
PFPEs	0.92 U	1.8	0.92	0.29	
PFHXS	1.7 J	1.8	0.92	0.15	
PFHPS	0.92 U	1.8	0.92	0.24	
PFOS	44	1.8	0.92	0.30	
PFNS	0.92 U	1.8	0.92	0.55	
PFDS	0.92 U	1.8	0.92	0.69	IR1,
PFDOS	0.92 U	1.8	0.92	0.55	
4:2FTS	93	7.4	3.7	1.3	
8:2FTS	3.7 U	7.4	3.7	0.38	
PFOSA	0.92 U	1.8	0.92	0.46	
NMeFOSA	3.7 U	7.4	3.7	2.2	
NEtFOSA	3.7 U	7.4	3.7	1.9	
NMeFOSAA	0.92 U	1.8	0.92	0.51	
NEtFOSAA	0.92 U	1.8	0.92	0.51	
NMeFOSE	5.5 U	7.4	5.5	4.6	
NEtFOSE	5.5 U	7.4	5.5	4.6	
HFPO-DA	1.8 U	3.7	1.8	0.78	
ADONA	1.8 U	3.7	1.8	0.55	

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-IDW-SOFT01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-03
		File ID:	S2022-12-21B (14)
Sampled:	12/02/22 19:30	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 21:25
Solids:		Preparation:	PFAS Leachates
		Dilution:	1
Initial/Final:	108.34 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFEEESA	1.8 U	3.7	1.8	0.51	
PFMPA	1.8 U	3.7	1.8	0.25	
PFMBA	1.8 U	3.7	1.8	0.42	
NFDHA	1.8 U	3.7	1.8	1.4	
9CL-PF3ONS	1.8 U	3.7	1.8	0.97	
11CL-PF3OUDS	1.8 U	3.7	1.8	0.97	
3:3FTCA	3.3 J	7.4	3.7	2.6	
5:3FTCA	160	7.4	3.7	2.0	
7:3FTCA	3.7 U	7.4	3.7	2.5	



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-03  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (14)  
 Acquired: 2022/12/21 - 21:25

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 784029	(3.69, 1.00) (0.00, N/A, 0.0)	72.6	N/A 0.0 0.0	7.8592	N/A			
PFPeA	(262.9 / 219.0) 1504261 (262.9 / 69.0) 16537	(5.02, 1.00) (0.00, N/A, 0.1)	668.4 316.1	0.0110 98.2 94.8	8.9757	N/A			
PFHxA	(313.0 / 269.0) 5371790 (313.0 / 119.0) 476990	(6.18, 1.00) (0.00, N/A, 0.0)	584.5 573.5	0.0888 90.8 95.8	20.3391	N/A			
PFHpA	(363.0 / 319.0) 709300 (363.0 / 169.0) 203220	(7.09, 1.00) (0.00, N/A, 0.0)	631.0 579.4	0.2865 92.0 91.9	3.1359	N/A			
PFOA	(413.0 / 369.0) 301934 (413.0 / 169.0) 93941	(7.90, 1.00) (0.00, N/A, -0.1)	496.5 478.0	0.3111 95.2 94.6	1.5014	N/A			
PFNA	(463.0 / 419.0) 29439 (463.0 / 169.0) 7605	(8.64, 1.00) (0.00, N/A, 0.0)	112.6 41.4	0.2583 134.0 112.6	0.1863	N/A			
PFDA	(513.0 / 469.0) 81064 (513.0 / 169.0) 5626	(9.32, 1.00) (0.01, N/A, -0.4)	151.1 153.2	0.0694 72.6 64.3	0.3803	N/A			
PFUnA	(563.0 / 519.0) 26754 (563.0 / 169.0) 5535	(9.71, 1.00) (0.01, N/A, 0.2)	70.0 37.4	0.2069 238.2 201.9	0.2186	N/A			IR2,
PFDoA	(613.0 / 569.0) 9839 (613.0 / 169.0) 562	(9.90, 1.00) (0.00, N/A, 1.0)	64.3 97.5	0.0572 41.0 48.7	0.0423	N/A			IR1,
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			





Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-03  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (14)  
 Acquired: 2022/12/21 - 21:25

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 94156 ( 298.9 / 99.0 ) 65413	( 6.13 , 1.00 ) ( 0.00 , N/A , 0.1 )	236.9 236.5	0.6947 112.9 111.2	0.2275	N/A			
PFPeS	( 349.0 / 80.0 ) 8465 ( 349.0 / 99.0 ) 2813	( 7.17 , 0.89 ) ( N/A , 0.04 , -0.5 )	20.6 20.8	0.3323 93.4 96.9	0.0150	N/A			
PFHxS	( 399.0 / 80.0 ) 44777 ( 399.0 / 99.0 ) 14468	( 8.02 , 1.00 ) ( 0.00 , N/A , -0.2 )	209.4 1660.9	0.3231 96.1 95.1	0.0912	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 1243394 ( 499.0 / 99.0 ) 331583	( 9.46 , 1.00 ) ( 0.00 , N/A , 0.0 )	279.0 589.8	0.2667 109.7 124.2	2.3844	N/A			
PFNS	( 549.0 / 80.0 ) 11983 ( 549.0 / 99.0 ) 3040	( 9.76 , 1.03 ) ( N/A , 0.00 , -1.1 )	22.0 17.7	0.2537 103.9 101.6	0.0207	N/A			
PFDS	( 599.0 / 80.0 ) 23464 ( 599.0 / 99.0 ) 2519	( 9.90 , 1.05 ) ( N/A , -0.02 , 0.0 )	46.1 43.0	0.1074 47.7 51.8	0.0365	N/A			IR1,
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) 1490439 ( 327.0 / 81.0 ) 879000	( 5.85 , 1.00 ) ( 0.00 , N/A , -0.1 )	750.1 470.7	0.5898 119.4 114.3	5.0555	N/A			
6:2FTS	( 427.0 / 407.0 ) 49617356 ( 427.0 / 81.0 ) 39842502	( 7.56 , 1.00 ) ( 0.00 , N/A , 0.1 )	693.8 721.5	0.8030 103.2 124.0	398.1666	N/A			E,
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

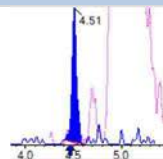
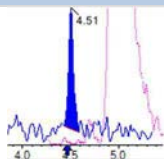
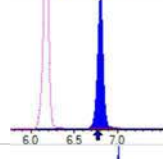
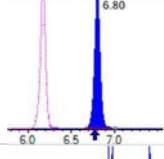
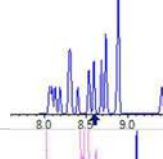
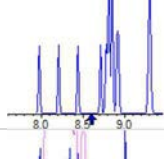
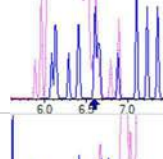
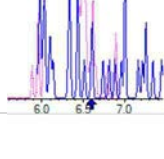
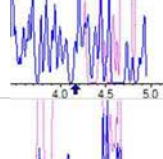
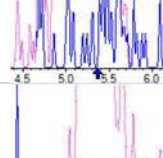
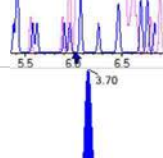
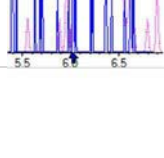
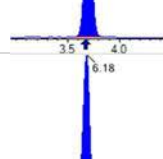
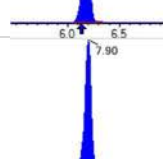
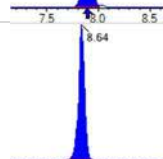
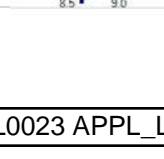


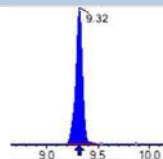
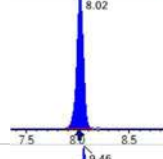
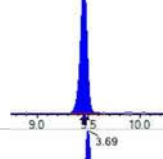
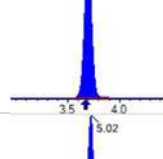
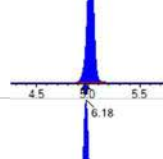
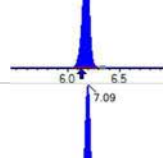
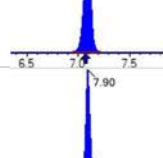
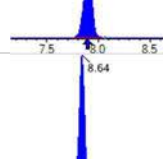
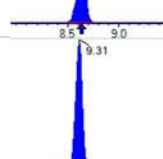
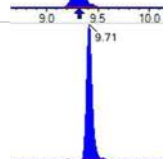
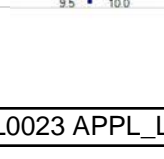
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-03  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (14)  
 Acquired: 2022/12/21 - 21:25

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(511.9 / 219.0) N/A (511.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.1 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 1043 (241.0 / 117.0) 2237	(4.51, 0.90) (N/A, 0.05, 0.2)	56.4 32.0	2.1447 128.2 124.6	0.1803	N/A			
5:3FTCA	(341.0 / 236.7) 414206 (341.0 / 217.0) 629981	(6.80, 1.10) (N/A, 0.03, 0.1)	541.6 571.6	1.5209 103.9 98.2	8.8756	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 150239	(3.70, N/A) (N/A, 0.03, N/A)	739.7	N/A	1.0794 [ 1.0000 ]	107.9% { 92.2% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 285687	(6.18, N/A) (N/A, 0.04, N/A)	728.6	N/A	1.2372 [ 1.0000 ]	123.7% { 127.8% }			
13C4_PFOA_IIS	(417.0 / 372.0) 201064	(7.90, N/A) (N/A, 0.01, N/A)	466.6	N/A	0.9146 [ 1.0000 ]	91.5% { 82.5% }			
13C5_PFNA_IIS	(468.0 / 423.0) 188540	(8.64, N/A) (N/A, 0.01, N/A)	656.9	N/A	1.0181 [ 1.0000 ]	101.8% { 104.6% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 189203	(9.32, N/A) (N/A, 0.01, N/A)	398.3	N/A	1.0238 [ 1.0000 ]	102.4% { 94.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 383181	(8.02, N/A) (N/A, 0.01, N/A)	731.5	N/A	0.9492 [ 1.0000 ]	94.9% { 92.6% }			
13C4_PFOS_IIS	(502.8 / 79.9) 273934	(9.46, N/A) (N/A, 0.00, N/A)	358.1	N/A	0.8582 [ 1.0000 ]	85.8% { 81.1% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1223319	(3.69, N/A) (N/A, 0.03, N/A)	888.1	N/A	7.9113 [ 8.0000 ]	98.9% { 97.7% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 763300	(5.02, N/A) (N/A, 0.05, N/A)	802.8	N/A	3.8400 [ 4.0000 ]	96.0% { 115.1% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 615054	(6.18, N/A) (N/A, 0.04, N/A)	662.8	N/A	1.8708 [ 2.0000 ]	93.5% { 116.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 496285	(7.09, N/A) (N/A, 0.02, N/A)	763.1	N/A	1.7304 [ 2.0000 ]	86.5% { 106.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 409007	(7.90, N/A) (N/A, 0.01, N/A)	757.1	N/A	1.8549 [ 2.0000 ]	92.7% { 80.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 184180	(8.64, N/A) (N/A, 0.01, N/A)	700.2	N/A	0.8884 [ 1.0000 ]	88.8% { 100.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 223941	(9.31, N/A) (N/A, 0.00, N/A)	611.1	N/A	0.8322 [ 1.0000 ]	83.2% { 89.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 154893	(9.71, N/A) (N/A, -0.01, N/A)	339.1	N/A	0.4047 [ 1.0000 ]	40.5% { 48.1% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-03  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (14)  
 Acquired: 2022/12/21 - 21:25

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 269512	(9.89, N/A) (N/A, 0.00, N/A)	591.9	N/A	0.7055 [ 1.0000 ]	70.5% { 73.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 147191	(10.12, N/A) (N/A, 0.00, N/A)	207.6	N/A	0.5801 [ 1.0000 ]	58.0% { 53.2% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1509474	(6.13, N/A) (N/A, 0.04, N/A)	547.3	N/A	2.3299 [ 2.0000 ]	116.5% { 107.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 632086	(8.02, N/A) (N/A, 0.01, N/A)	773.5	N/A	1.8337 [ 2.0000 ]	91.7% { 91.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 960861	(9.45, N/A) (N/A, 0.00, N/A)	453.7	N/A	2.0438 [ 2.0000 ]	102.2% { 90.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 356647	(5.85, N/A) (N/A, 0.05, N/A)	595.8	N/A	6.4995 [ 4.0000 ]	162.5% { 158.3% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 324193	(7.56, N/A) (N/A, 0.01, N/A)	592.0	N/A	4.9072 [ 4.0000 ]	122.7% { 112.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 92599	(8.98, N/A) (N/A, 0.02, N/A)	188.9	N/A	1.4002 [ 4.0000 ]	35.0% { 41.1% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1091481	(10.18, N/A) (N/A, 0.00, N/A)	831.5	N/A	1.8366 [ 2.0000 ]	91.8% { 77.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 129673	(10.60, N/A) (N/A, -0.01, N/A)	233.0	N/A	0.9994 [ 2.0000 ]	50.0% { 38.3% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 125169	(10.68, N/A) (N/A, -0.01, N/A)	1160.7	N/A	1.0450 [ 2.0000 ]	52.2% { 41.5% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-03  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (14)  
 Acquired: 2022/12/21 - 21:25

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 495980	(9.50, N/A) (N/A, 0.00, N/A)	481.8	N/A	4.4365 [ 4.0000 ]	110.9% { 85.4% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 426625	(9.68, N/A) (N/A, 0.00, N/A)	471.8	N/A	4.3295 [ 4.0000 ]	108.2% { 94.4% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 354430	(10.56, N/A) (N/A, -0.01, N/A)	1284.7	N/A	19.4538 [ 20.0000 ]	97.3% { 75.6% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 149744	(10.66, N/A) (N/A, -0.01, N/A)	953.8	N/A	18.0540 [ 20.0000 ]	90.3% { 68.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1285463	(6.52, N/A) (N/A, 0.04, N/A)	859.7	N/A	7.3542 [ 8.0000 ]	91.9% { 105.8% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-IDW-SOFT01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-03RE1
		File ID:	S2022-12-21B (15)
Sampled:	12/02/22 19:30	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 21:38
Solids:		Preparation:	PFAS Leachates
		Dilution:	10
Initial/Final:	108.34 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
6:2FTS	8800	74	37	14	



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-03RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (15)  
 Acquired: 2022/12/21 - 21:38

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 80974	(3.66, 1.00) (0.00, N/A, 0.0)	63.2	N/A 0.0 0.0	0.7674	N/A			
PFPeA	(262.9 / 219.0) 144276 (262.9 / 69.0) 1803	(4.96, 1.00) (0.00, N/A, -0.1)	439.1 58.0	0.0125 111.6 107.8	0.9218	N/A			
PFHxA	(313.0 / 269.0) 501510 (313.0 / 119.0) 49145	(6.11, 1.00) (0.00, N/A, 0.1)	620.1 330.1	0.0980 100.2 105.7	1.7390	N/A			
PFHpA	(363.0 / 319.0) 66223 (363.0 / 169.0) 20643	(7.04, 1.00) (0.00, N/A, -0.1)	209.8 228.8	0.3117 100.1 100.0	0.2893	N/A			
PFOA	(413.0 / 369.0) 34179 (413.0 / 169.0) 8980	(7.85, 1.00) (-0.01, N/A, -0.5)	91.6 98.3	0.2627 80.4 79.9	0.1462	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			





Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-03RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (15)  
 Acquired: 2022/12/21 - 21:38

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) N/A ( 298.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 112026 ( 499.0 / 99.0 ) 30199	( 9.42 , 1.00 ) ( 0.01 , N/A , 0.2 )	150.6 114.1	0.2696 110.8 125.6	0.2182	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) 127572 ( 327.0 / 81.0 ) 71728	( 5.78 , 1.00 ) ( 0.00 , N/A , 0.0 )	703.0 263.3	0.5623 113.8 109.0	0.6612	N/A			
6:2FTS	( 427.0 / 407.0 ) 8724655 ( 427.0 / 81.0 ) 5883145	( 7.51 , 1.00 ) ( 0.00 , N/A , 0.0 )	722.0 701.6	0.6743 86.6 104.2	47.5193	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-03RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (15)  
 Acquired: 2022/12/21 - 21:38

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(511.9 / 219.0) N/A (511.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.1 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

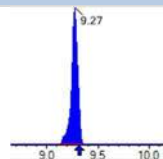
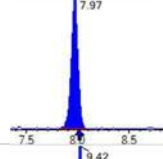
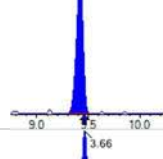
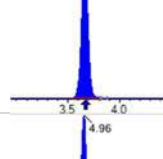
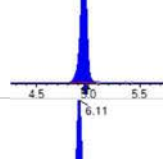
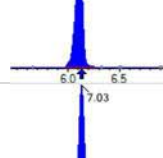
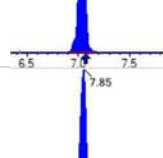
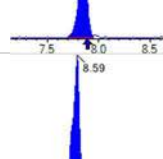
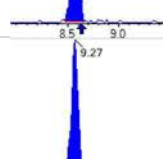
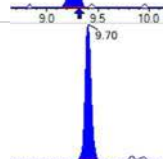
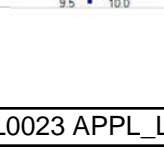


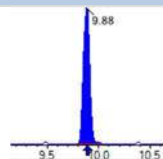
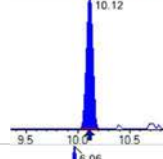
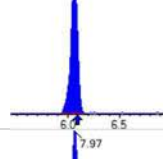
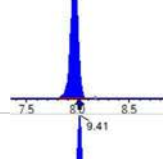
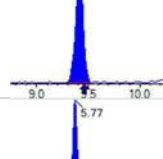
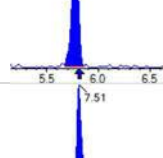
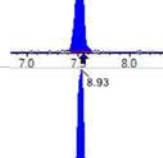
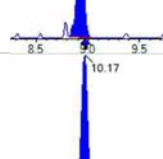
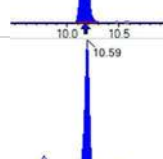
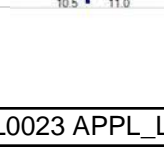
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-03RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (15)  
 Acquired: 2022/12/21 - 21:38

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) 41340 (341.0 / 217.0) 56403	(6.74, 1.10) (N/A, -0.03, -0.1)	305.7 268.1	1.3644 93.2 88.1	0.8112	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 16047	(3.66, N/A) (N/A, 0.00, N/A)	271.0	N/A	1.1529 [ 1.0000 ]	115.3% { 9.8% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 27734	(6.11, N/A) (N/A, -0.02, N/A)	279.5	N/A	1.2010 [ 1.0000 ]	120.1% { 12.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 25339	(7.85, N/A) (N/A, -0.04, N/A)	295.5	N/A	1.1526 [ 1.0000 ]	115.3% { 10.4% }			
13C5_PFNxA_IIS	(468.0 / 423.0) 19284	(8.58, N/A) (N/A, -0.05, N/A)	205.6	N/A	1.0413 [ 1.0000 ]	104.1% { 10.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 16858	(9.27, N/A) (N/A, -0.04, N/A)	762874.7	N/A	0.9122 [ 1.0000 ]	91.2% { 8.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 42012	(7.97, N/A) (N/A, -0.04, N/A)	407.8	N/A	1.0407 [ 1.0000 ]	104.1% { 10.2% }			
13C4_PFOS_IIS	(502.8 / 79.9) 38505	(9.42, N/A) (N/A, -0.04, N/A)	202.5	N/A	1.2064 [ 1.0000 ]	120.6% { 11.4% }			
13C4_PFBA_EIS	(217.0 / 172.0) 129386	(3.66, N/A) (N/A, 0.00, N/A)	763.9	N/A	0.7834 [ 0.8000 ]	97.9% { 10.3% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 71283	(4.96, N/A) (N/A, -0.02, N/A)	553.8	N/A	0.3694 [ 0.4000 ]	92.3% { 10.7% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 67161	(6.11, N/A) (N/A, -0.03, N/A)	289.7	N/A	0.2104 [ 0.2000 ]	105.2% { 12.7% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 50228	(7.03, N/A) (N/A, -0.04, N/A)	529.9	N/A	0.1804 [ 0.2000 ]	90.2% { 10.8% }			
13C8_PFOA_EIS	(421.0 / 376.0) 47540	(7.85, N/A) (N/A, -0.03, N/A)	291.7	N/A	0.1711 [ 0.2000 ]	85.5% { 9.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 22421	(8.59, N/A) (N/A, -0.04, N/A)	171.1	N/A	0.1057 [ 0.1000 ]	105.7% { 12.2% }			
13C6_PFDA_EIS	(519.0 / 474.0) 23973	(9.27, N/A) (N/A, -0.04, N/A)	231.7	N/A	0.1000 [ 0.1000 ]	100.0% { 9.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 31791	(9.70, N/A) (N/A, -0.02, N/A)	137.5	N/A	0.0932 [ 0.1000 ]	93.2% { 9.9% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 33305	(9.88, N/A) (N/A, -0.02, N/A)	470.7	N/A	0.0978 [0.1000]	97.8% {9.0%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 18370	(10.12, N/A) (N/A, 0.00, N/A)	191.0	N/A	0.0813 [0.1000]	81.3% {6.6%}			
13C3_PFBs_EIS	(302.0 / 80.0) 152118	(6.06, N/A) (N/A, -0.03, N/A)	542.9	N/A	0.2142 [0.2000]	107.1% {10.8%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 73713	(7.97, N/A) (N/A, -0.05, N/A)	650.8	N/A	0.1950 [0.2000]	97.5% {10.6%}			
13C8_PFOS_EIS	(507.0 / 80.0) 94586	(9.41, N/A) (N/A, -0.04, N/A)	210.3	N/A	0.1431 [0.2000]	71.6% {8.9%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 23342	(5.77, N/A) (N/A, -0.03, N/A)	202.7	N/A	0.3880 [0.4000]	97.0% {10.4%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 47765	(7.51, N/A) (N/A, -0.04, N/A)	323.9	N/A	0.6594 [0.4000]	164.9% {16.6%}			S2,
13C2_8:2FTS_EIS	(529.0 / 81.0) 17018	(8.93, N/A) (N/A, -0.03, N/A)	134.3	N/A	0.2347 [0.4000]	58.7% {7.6%}			
13C8_PFOsa_EIS	(506.0 / 78.0) 136702	(10.17, N/A) (N/A, -0.01, N/A)	427.7	N/A	0.1636 [0.2000]	81.8% {9.7%}			
D3_NMeFOsa_EIS	(515.0 / 169.0) 13943	(10.59, N/A) (N/A, -0.01, N/A)	81.7	N/A	0.0764 [0.2000]	38.2% {4.1%}			
D5_NEtFOsa_EIS	(531.1 / 169.0) 11620	(10.68, N/A) (N/A, -0.02, N/A)	169.2	N/A	0.0690 [0.2000]	34.5% {3.9%}			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-03RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (15)  
 Acquired: 2022/12/21 - 21:38

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 56952	(9.47, N/A) (N/A, -0.04, N/A)	214.1	N/A	0.3624 [ 0.4000 ]	90.6% { 9.8% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 40607	(9.66, N/A) (N/A, -0.02, N/A)	123.3	N/A	0.2932 [ 0.4000 ]	73.3% { 9.0% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 36219	(10.56, N/A) (N/A, -0.01, N/A)	350.0	N/A	1.4143 [ 2.0000 ]	70.7% { 7.7% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 15712	(10.65, N/A) (N/A, -0.01, N/A)	390.7	N/A	1.3477 [ 2.0000 ]	67.4% { 7.2% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 119389	(6.45, N/A) (N/A, -0.03, N/A)	376.0	N/A	0.7036 [ 0.8000 ]	87.9% { 9.8% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU02-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-04
		File ID:	S2022-12-21B (16)
Sampled:	12/02/22 13:00	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 21:51
Solids:		Preparation:	PFAS Leachates
		Dilution:	1
Initial/Final:	109.11 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	240	7.3	3.7	0.96	
PFPEA	92	3.7	3.7	0.30	
PFHXA	740	1.8	1.8	0.25	
PFHPA	22	1.8	0.92	0.19	
PFOA	53	1.8	0.92	0.69	
PFNA	0.67 J	1.8	0.92	0.38	
PFDA	6.5	1.8	0.92	0.46	
PFUnA	0.92 U	1.8	0.92	0.73	
PFDOA	0.92 U	1.8	0.92	0.50	
PFTRDA	1.4 U	1.8	1.4	0.92	
PFTEDA	0.92 U	1.8	0.92	0.92	
PFBS	0.23 J	1.8	0.92	0.17	
PFPEs	0.92 U	1.8	0.92	0.29	
PFHXS	1.1 J	1.8	0.92	0.15	
PFHPS	0.92 U	1.8	0.92	0.23	
PFOS	8.9	1.8	0.92	0.29	
PFNS	0.92 U	1.8	0.92	0.55	
PFDS	0.92 U	1.8	0.92	0.69	
PFDOS	0.92 U	1.8	0.92	0.55	
4:2FTS	37	7.3	3.7	1.3	
8:2FTS	3.7 U	7.3	3.7	0.38	
PFOSA	0.92 U	1.8	0.92	0.46	
NMeFOSA	3.7 U	7.3	3.7	2.2	
NEtFOSA	3.7 U	7.3	3.7	1.9	
NMeFOSAA	0.92 U	1.8	0.92	0.50	
NEtFOSAA	0.92 U	1.8	0.92	0.50	
NMeFOSE	5.5 U	7.3	5.5	4.6	
NEtFOSE	5.5 U	7.3	5.5	4.6	
HFPO-DA	1.8 U	3.7	1.8	0.78	
ADONA	1.8 U	3.7	1.8	0.55	

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU02-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-04
		File ID:	S2022-12-21B (16)
Sampled:	12/02/22 13:00	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 21:51
Solids:		Preparation:	PFAS Leachates
		Dilution:	1
Initial/Final:	109.11 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFEEESA	1.8 U	3.7	1.8	0.50	
PFMPA	1.8 U	3.7	1.8	0.25	
PFMBA	1.8 U	3.7	1.8	0.42	
NFDHA	1.8 U	3.7	1.8	1.4	
9CL-PF3ONS	1.8 U	3.7	1.8	0.96	
11CL-PF3OUDS	1.8 U	3.7	1.8	0.96	
3:3FTCA	3.7 U	7.3	3.7	2.6	
5:3FTCA	47	7.3	3.7	2.0	
7:3FTCA	3.7 U	7.3	3.7	2.5	



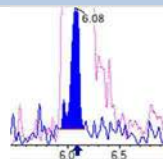
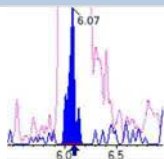
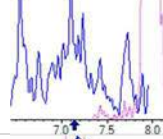
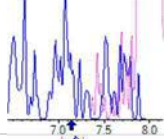
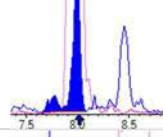
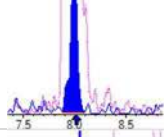
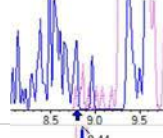
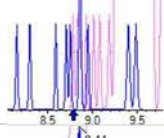
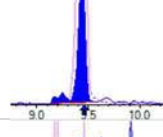
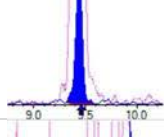
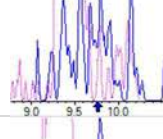
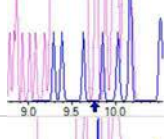
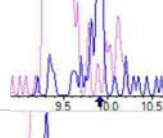
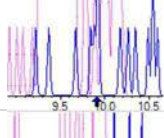
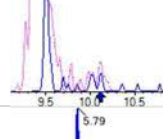
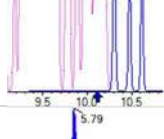
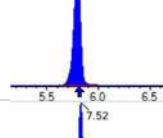
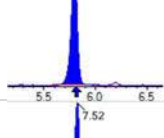
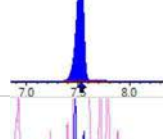
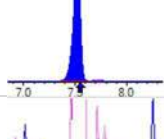
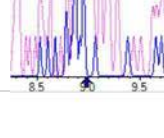
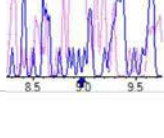


Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-04  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (16)  
 Acquired: 2022/12/21 - 21:51

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 1488950	(3.65, 1.00) (0.00, N/A, 0.0)	62.0	N/A 0.0 0.0	13.0300	N/A			
PFPeA	(262.9 / 219.0) 865382 (262.9 / 69.0) 8078	(4.97, 1.00) (0.00, N/A, 0.4)	653.1 139.2	0.0093 83.4 80.5	5.0084	N/A			
PFHxA	(313.0 / 269.0) 9976552 (313.0 / 119.0) 966550	(6.13, 1.00) (0.00, N/A, 0.1)	750.8 543.2	0.0969 99.1 104.5	40.5178	N/A			
PFHpA	(363.0 / 319.0) 256797 (363.0 / 169.0) 78544	(7.05, 1.00) (0.00, N/A, -0.1)	317.0 321.7	0.3059 98.2 98.1	1.2062	N/A			
PFOA	(413.0 / 369.0) 502559 (413.0 / 169.0) 150375	(7.87, 1.00) (0.00, N/A, -0.1)	637.0 491.7	0.2992 91.6 91.0	2.9103	N/A			
PFNA	(463.0 / 419.0) 4466 (463.0 / 169.0) 975	(8.62, 1.00) (0.01, N/A, -0.6)	214.7 21.1	0.2183 113.3 95.1	0.0367	N/A			
PFDA	(513.0 / 469.0) 66466 (513.0 / 169.0) 6843	(9.29, 1.00) (0.00, N/A, -0.7)	156.9 40.4	0.1030 107.7 95.4	0.3542	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 5726 (298.9 / 99.0) 4550	(6.08, 1.00) (0.00, N/A, 0.2)	20.5 29.6	0.7946 129.1 127.2	0.0127	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) 27694 (399.0 / 99.0) 7944	(7.99, 1.00) (0.00, N/A, -0.2)	113.1 47.9	0.2868 85.3 84.4	0.0587	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) 175321 (499.0 / 99.0) 37516	(9.44, 1.00) (0.00, N/A, -0.1)	169.6 192.3	0.2140 88.0 99.7	0.4875	N/A			
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) N/A (599.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	(698.9 / 80.0) N/A (698.9 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	(327.0 / 307.0) 627061 (327.0 / 81.0) 392171	(5.79, 1.00) (-0.01, N/A, 0.0)	717.7 450.1	0.6254 126.6 121.2	1.9965	N/A			
6:2FTS	(427.0 / 407.0) 37886006 (427.0 / 81.0) 28621750	(7.52, 1.00) (0.00, N/A, 0.2)	651.8 681.7	0.7555 97.1 116.7	362.6368	N/A			E,
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

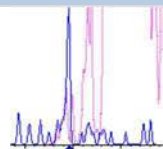
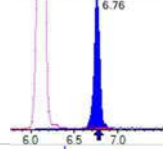
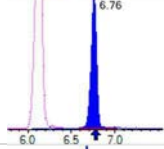
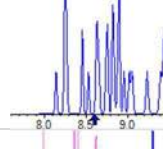
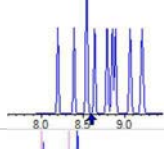
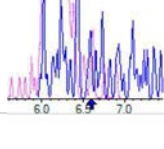
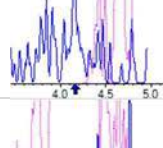
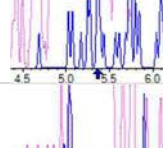
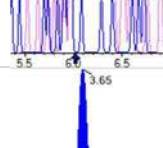
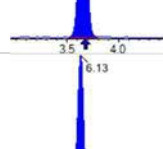
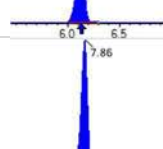
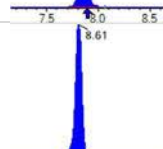



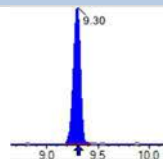
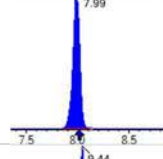
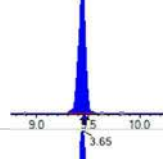
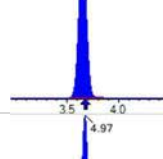
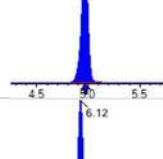
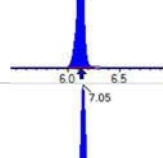
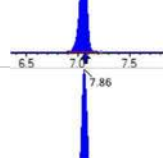
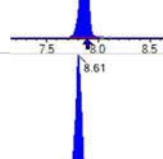
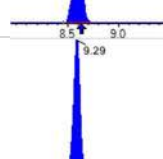
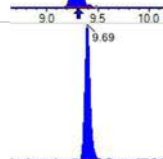
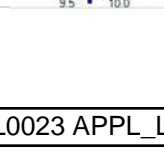
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 Instrument: Saphira  
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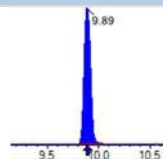
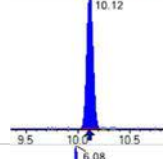
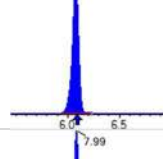
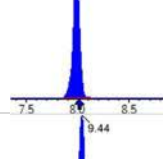
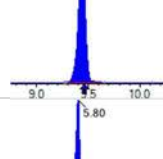
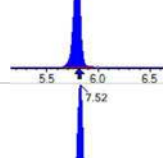
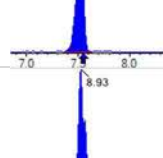
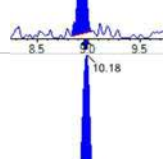
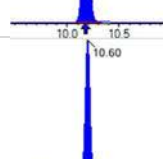
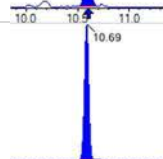
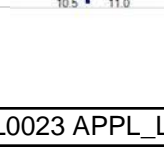
Sample I.D.: 22L0023-04  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (16)  
 Acquired: 2022/12/21 - 21:51

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) N/A ( 498.0 / 478.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) 112140 (341.0 / 217.0) 187753	(6.76, 1.10) (N/A, -0.01, 0.0)	353.2 356.2	1.6743 114.4 108.1	2.5775	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 185067	(3.65, N/A) (N/A, -0.02, N/A)	604.3	N/A	1.3296 [ 1.0000 ]	133.0% { 113.5% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 307424	(6.13, N/A) (N/A, -0.01, N/A)	494.9	N/A	1.3313 [ 1.0000 ]	133.1% { 137.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 185045	(7.86, N/A) (N/A, -0.02, N/A)	546.0	N/A	0.8417 [ 1.0000 ]	84.2% { 75.9% }			
13C5_PFNxA_IIS	(468.0 / 423.0) 139380	(8.61, N/A) (N/A, -0.02, N/A)	497.3	N/A	0.7527 [ 1.0000 ]	75.3% { 77.3% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 160804	(9.30, N/A) (N/A, -0.02, N/A)	293.1	N/A	0.8701 [ 1.0000 ]	87.0% { 80.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 381939	(7.99, N/A) (N/A, -0.03, N/A)	722.4	N/A	0.9461 [ 1.0000 ]	94.6% { 92.3% }			
13C4_PFOS_IIS	(502.8 / 79.9) 189744	(9.44, N/A) (N/A, -0.01, N/A)	368.2	N/A	0.5945 [ 1.0000 ]	59.4% { 56.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1401268	(3.65, N/A) (N/A, -0.02, N/A)	819.1	N/A	7.3567 [ 8.0000 ]	92.0% { 111.9% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 786947	(4.97, N/A) (N/A, -0.01, N/A)	801.2	N/A	3.6790 [ 4.0000 ]	92.0% { 118.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 573404	(6.12, N/A) (N/A, -0.01, N/A)	625.3	N/A	1.6208 [ 2.0000 ]	81.0% { 108.7% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 467140	(7.05, N/A) (N/A, -0.02, N/A)	649.2	N/A	1.5136 [ 2.0000 ]	75.7% { 100.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 351201	(7.86, N/A) (N/A, -0.02, N/A)	475.9	N/A	1.7306 [ 2.0000 ]	86.5% { 68.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 141993	(8.61, N/A) (N/A, -0.02, N/A)	609.2	N/A	0.9264 [ 1.0000 ]	92.6% { 77.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 197120	(9.29, N/A) (N/A, -0.02, N/A)	622.9	N/A	0.8619 [ 1.0000 ]	86.2% { 78.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 74145	(9.69, N/A) (N/A, -0.03, N/A)	251.2	N/A	0.2279 [ 1.0000 ]	22.8% { 23.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 259326	(9.89, N/A) (N/A, -0.01, N/A)	659.5	N/A	0.7987 [ 1.0000 ]	79.9% { 70.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 117905	(10.12, N/A) (N/A, 0.00, N/A)	372.0	N/A	0.5468 [ 1.0000 ]	54.7% { 42.7% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1649708	(6.08, N/A) (N/A, -0.01, N/A)	666.2	N/A	2.5547 [ 2.0000 ]	127.7% { 117.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 606995	(7.99, N/A) (N/A, -0.03, N/A)	1192.5	N/A	1.7666 [ 2.0000 ]	88.3% { 87.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 662662	(9.44, N/A) (N/A, -0.02, N/A)	368.9	N/A	2.0349 [ 2.0000 ]	101.7% { 62.3% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 379962	(5.80, N/A) (N/A, 0.00, N/A)	596.9	N/A	6.9469 [ 4.0000 ]	173.7% { 168.6% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 271795	(7.52, N/A) (N/A, -0.02, N/A)	538.3	N/A	4.1275 [ 4.0000 ]	103.2% { 94.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 23307	(8.93, N/A) (N/A, -0.03, N/A)	50.7	N/A	0.3536 [ 4.0000 ]	8.8% { 10.3% }			S1,
13C8_PFOsa_EIS	(506.0 / 78.0) 460753	(10.18, N/A) (N/A, 0.00, N/A)	601.1	N/A	1.1193 [ 2.0000 ]	56.0% { 32.5% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 116712	(10.60, N/A) (N/A, -0.01, N/A)	275.3	N/A	1.2986 [ 2.0000 ]	64.9% { 34.4% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 118490	(10.69, N/A) (N/A, -0.01, N/A)	725.7	N/A	1.4282 [ 2.0000 ]	71.4% { 39.3% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-04  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (16)  
 Acquired: 2022/12/21 - 21:51

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 607123	(9.49, N/A) (N/A, -0.01, N/A)	570.4	N/A	7.8403 [ 4.0000 ]	196.0% { 104.5% }			S2,
D5_EtFOSAA_EIS	(589.0 / 419.0) 338776	(9.67, N/A) (N/A, -0.02, N/A)	374.3	N/A	4.9635 [ 4.0000 ]	124.1% { 75.0% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 340284	(10.56, N/A) (N/A, -0.01, N/A)	787.6	N/A	26.9647 [ 20.0000 ]	134.8% { 72.6% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 136025	(10.66, N/A) (N/A, -0.01, N/A)	851.3	N/A	23.6767 [ 20.0000 ]	118.4% { 62.2% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1281815	(6.47, N/A) (N/A, -0.01, N/A)	769.6	N/A	6.8148 [ 8.0000 ]	85.2% { 105.5% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU02-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-04RE1
		File ID:	S2022-12-21B (17)
Sampled:	12/02/22 13:00	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 22:03
Solids:		Preparation:	PFAS Leachates
		Dilution:	10
Initial/Final:	109.11 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
6:2FTS	6500	73	37	14	





Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-04RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (17)  
 Acquired: 2022/12/21 - 22:03

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 143685	(3.70, 1.00) (0.00, N/A, 0.0)	66.9	N/A 0.0 0.0	1.2872	N/A			
PFPeA	(262.9 / 219.0) 83334 (262.9 / 69.0) 932	(5.00, 1.00) (0.00, N/A, 0.6)	315.0 30.2	0.0112 100.0 96.5	0.5147	N/A			
PFHxA	(313.0 / 269.0) 1059909 (313.0 / 119.0) 103553	(6.15, 1.00) (0.00, N/A, 0.1)	584.9 373.0	0.0977 99.9 105.4	4.0246	N/A			
PFHpA	(363.0 / 319.0) 32209 (363.0 / 169.0) 8400	(7.07, 1.00) (0.00, N/A, 0.2)	121.0 90.0	0.2608 83.7 83.6	0.1485	N/A			
PFOA	(413.0 / 369.0) 64400 (413.0 / 169.0) 24755	(7.89, 1.00) (0.00, N/A, 0.1)	146.8 202.9	0.3844 117.6 116.8	0.2738	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-04RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (17)  
 Acquired: 2022/12/21 - 22:03

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) N/A ( 298.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) N/A ( 499.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) 7271367 ( 427.0 / 81.0 ) 5336350	( 7.55 , 1.00 ) ( 0.00 , N/A , 0.3 )	631.2 728.8	0.7339 94.3 113.4	35.3898	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-04RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (17)  
 Acquired: 2022/12/21 - 22:03

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) N/A ( 498.0 / 478.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

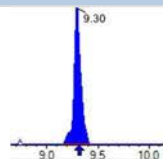
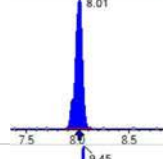
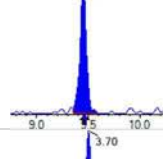
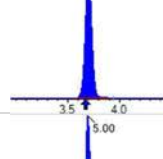
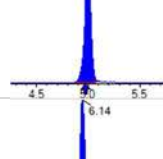
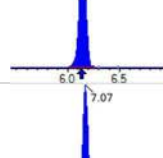
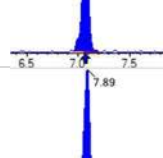
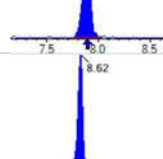
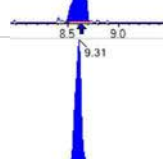
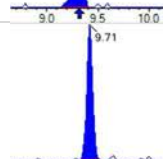
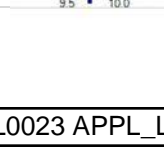


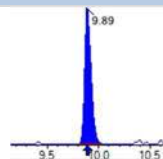
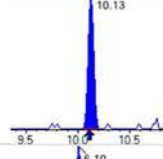
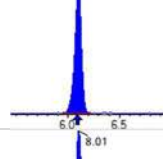
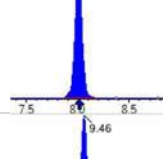
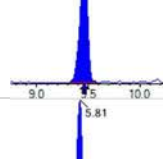
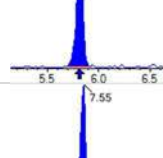
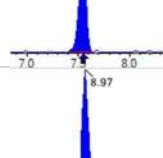
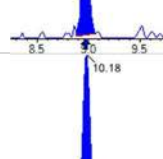
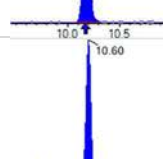
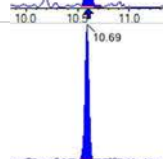
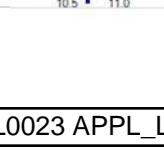
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-04RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (17)  
 Acquired: 2022/12/21 - 22:03

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 18260	(3.70, N/A) (N/A, 0.04, N/A)	331.2	N/A	1.3119 [ 1.0000 ]	131.2% { 11.2% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 29379	(6.15, N/A) (N/A, 0.01, N/A)	269.7	N/A	1.2723 [ 1.0000 ]	127.2% { 13.1% }			
13C4_PFOA_IIS	(417.0 / 372.0) 23720	(7.89, N/A) (N/A, 0.00, N/A)	327.4	N/A	1.0789 [ 1.0000 ]	107.9% { 9.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 25936	(8.62, N/A) (N/A, -0.01, N/A)	192.2	N/A	1.4006 [ 1.0000 ]	140.1% { 14.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 17674	(9.30, N/A) (N/A, -0.02, N/A)	313.3	N/A	0.9563 [ 1.0000 ]	95.6% { 8.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 48343	(8.01, N/A) (N/A, 0.00, N/A)	419.0	N/A	1.1975 [ 1.0000 ]	119.7% { 11.7% }			
13C4_PFOS_IIS	(502.8 / 79.9) 34425	(9.45, N/A) (N/A, 0.00, N/A)	90.9	N/A	1.0785 [ 1.0000 ]	107.9% { 10.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 136886	(3.70, N/A) (N/A, 0.03, N/A)	903.4	N/A	0.7284 [ 0.8000 ]	91.0% { 10.9% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 73746	(5.00, N/A) (N/A, 0.02, N/A)	501.6	N/A	0.3608 [ 0.4000 ]	90.2% { 11.1% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 61330	(6.14, N/A) (N/A, 0.01, N/A)	512.6	N/A	0.1814 [ 0.2000 ]	90.7% { 11.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 47592	(7.07, N/A) (N/A, 0.00, N/A)	286.2	N/A	0.1614 [ 0.2000 ]	80.7% { 10.2% }			
13C8_PFOA_EIS	(421.0 / 376.0) 47836	(7.89, N/A) (N/A, 0.00, N/A)	312.9	N/A	0.1839 [ 0.2000 ]	91.9% { 9.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 23998	(8.62, N/A) (N/A, -0.01, N/A)	175.4	N/A	0.0841 [ 0.1000 ]	84.1% { 13.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 21387	(9.31, N/A) (N/A, 0.00, N/A)	147.5	N/A	0.0851 [ 0.1000 ]	85.1% { 8.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 29539	(9.71, N/A) (N/A, 0.00, N/A)	154.4	N/A	0.0826 [ 0.1000 ]	82.6% { 9.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 34185	(9.89, N/A) (N/A, -0.01, N/A)	147.4	N/A	0.0958 [0.1000]	95.8% {9.3%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 12944	(10.13, N/A) (N/A, 0.01, N/A)	101.5	N/A	0.0546 [0.1000]	54.6% {4.7%}			
13C3_PFBs_EIS	(302.0 / 80.0) 163589	(6.10, N/A) (N/A, 0.01, N/A)	431.4	N/A	0.2001 [0.2000]	100.1% {11.6%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 77896	(8.01, N/A) (N/A, -0.01, N/A)	513.2	N/A	0.1791 [0.2000]	89.6% {11.3%}			
13C8_PFOS_EIS	(507.0 / 80.0) 106312	(9.46, N/A) (N/A, 0.00, N/A)	230.8	N/A	0.1799 [0.2000]	90.0% {10.0%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 28470	(5.81, N/A) (N/A, 0.01, N/A)	196.2	N/A	0.4112 [0.4000]	102.8% {12.6%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 53453	(7.55, N/A) (N/A, 0.00, N/A)	376.7	N/A	0.6413 [0.4000]	160.3% {18.6%}			S2,
13C2_8:2FTS_EIS	(529.0 / 81.0) 16282	(8.97, N/A) (N/A, 0.00, N/A)	81.3	N/A	0.1951 [0.4000]	48.8% {7.2%}			
13C8_PFOsa_EIS	(506.0 / 78.0) 104689	(10.18, N/A) (N/A, 0.00, N/A)	285.1	N/A	0.1402 [0.2000]	70.1% {7.4%}			
D3_NMeFOSA_EIS	(515.0 / 169.0) 15294	(10.60, N/A) (N/A, 0.00, N/A)	136.3	N/A	0.0938 [0.2000]	46.9% {4.5%}			
D5_NEiFOSA_EIS	(531.1 / 169.0) 14499	(10.69, N/A) (N/A, 0.00, N/A)	271.0	N/A	0.0963 [0.2000]	48.2% {4.8%}			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-04RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (17)  
 Acquired: 2022/12/21 - 22:03

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 56549	(9.50, N/A) (N/A, 0.00, N/A)	182.1	N/A	0.4025 [ 0.4000 ]	100.6% { 9.7% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 48396	(9.68, N/A) (N/A, 0.00, N/A)	124.4	N/A	0.3908 [ 0.4000 ]	97.7% { 10.7% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 36980	(10.57, N/A) (N/A, 0.00, N/A)	494.3	N/A	1.6152 [ 2.0000 ]	80.8% { 7.9% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 16096	(10.66, N/A) (N/A, 0.00, N/A)	439.1	N/A	1.5442 [ 2.0000 ]	77.2% { 7.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 136468	(6.49, N/A) (N/A, 0.01, N/A)	477.2	N/A	0.7592 [ 0.8000 ]	94.9% { 11.2% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU02-SOFD01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-05
		File ID:	S2022-12-21B (18)
Sampled:	12/02/22 13:00	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 22:16
Solids:		Preparation:	PFAS Leachates
		Dilution:	1
Initial/Final:	107.57 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	320	7.4	3.7	0.98	
PFPEA	120	3.7	3.7	0.30	
PFHPA	30	1.9	0.93	0.19	
PFOA	67	1.9	0.93	0.70	
PFNA	0.93 U	1.9	0.93	0.38	
PFDA	8.5	1.9	0.93	0.46	
PFUnA	0.93 U	1.9	0.93	0.74	
PFDOA	0.93 U	1.9	0.93	0.51	
PFTRDA	1.4 U	1.9	1.4	0.93	
PFTEDA	0.93 U	1.9	0.93	0.93	
PFBS	0.27 J	1.9	0.93	0.17	
PFPEs	0.93 U	1.9	0.93	0.29	
PFHXS	1.4 J	1.9	0.93	0.15	
PFHPS	0.93 U	1.9	0.93	0.24	
PFOS	7.7	1.9	0.93	0.30	
PFNS	0.93 U	1.9	0.93	0.56	
PFDS	0.93 U	1.9	0.93	0.70	
PFDOS	0.93 U	1.9	0.93	0.56	
4:2FTS	56	7.4	3.7	1.3	
8:2FTS	3.7 U	7.4	3.7	0.38	
PFOSA	0.93 U	1.9	0.93	0.46	
NMeFOSA	3.7 U	7.4	3.7	2.2	
NEtFOSA	3.7 U	7.4	3.7	1.9	
NMeFOSAA	0.93 U	1.9	0.93	0.51	
NEtFOSAA	0.93 U	1.9	0.93	0.51	
NMeFOSE	5.6 U	7.4	5.6	4.6	
NEtFOSE	5.6 U	7.4	5.6	4.6	
HFPO-DA	1.9 U	3.7	1.9	0.79	
ADONA	1.9 U	3.7	1.9	0.56	
PFEESA	1.9 U	3.7	1.9	0.51	



**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU02-SOFD01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-05
		File ID:	S2022-12-21B (18)
Sampled:	12/02/22 13:00	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 22:16
Solids:		Preparation:	PFAS Leachates
		Dilution:	1
Initial/Final:	107.57 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFMPA	1.9 U	3.7	1.9	0.25	
PFMBA	1.9 U	3.7	1.9	0.42	
NFDHA	1.9 U	3.7	1.9	1.4	
9CL-PF3ONS	1.9 U	3.7	1.9	0.98	
11CL-PF3OUDS	1.9 U	3.7	1.9	0.98	
3:3FTCA	3.7 U	7.4	3.7	2.6	
5:3FTCA	96	7.4	3.7	2.0	
7:3FTCA	3.7 U	7.4	3.7	2.6	



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-05  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (18)  
 Acquired: 2022/12/21 - 22:16

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 2010317	(3.66, 1.00) (0.00, N/A, 0.0)	65.2	N/A 0.0 0.0	17.4316	N/A			
PFPeA	(262.9 / 219.0) 1186564 (262.9 / 69.0) 13568	(4.99, 1.00) (0.00, N/A, 0.0)	709.1 212.3	0.0114 102.2 98.6	6.4837	N/A			
PFHxA	(313.0 / 269.0) 12983862 (313.0 / 119.0) 1201443	(6.15, 1.00) (0.00, N/A, 0.0)	719.2 688.3	0.0925 94.6 99.8	52.9650	N/A			E,
PFHpA	(363.0 / 319.0) 339725 (363.0 / 169.0) 93203	(7.08, 1.00) (0.00, N/A, 0.1)	374.7 379.7	0.2743 88.1 88.0	1.6306	N/A			
PFOA	(413.0 / 369.0) 547480 (413.0 / 169.0) 190474	(7.88, 1.00) (0.00, N/A, 0.0)	561.1 473.4	0.3479 106.5 105.8	3.5830	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) 76024 (513.0 / 169.0) 8999	(9.32, 1.00) (0.01, N/A, 0.5)	254.1 40.8	0.1184 123.8 109.7	0.4578	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-05  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (18)  
 Acquired: 2022/12/21 - 22:16

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 6458 (298.9 / 99.0) 3693	(6.10, 1.00) (0.00, N/A, 1.2)	35.6 29.8	0.5719 92.9 91.5	0.0148	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) 34900 (399.0 / 99.0) 8880	(8.01, 1.00) (0.00, N/A, 0.3)	120.3 225.5	0.2545 75.7 74.9	0.0754	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) 145163 (499.0 / 99.0) 36992	(9.46, 1.00) (0.00, N/A, 0.4)	219.4 159.1	0.2548 104.8 118.7	0.4120	N/A			
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) N/A (599.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	(698.9 / 80.0) N/A (698.9 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	(327.0 / 307.0) 942272 (327.0 / 81.0) 544752	(5.82, 1.00) (0.00, N/A, 0.1)	724.6 494.2	0.5781 117.0 112.1	2.9920	N/A			
6:2FTS	(427.0 / 407.0) 39830657 (427.0 / 81.0) 28584310	(7.54, 1.00) (0.00, N/A, 0.0)	840.3 711.7	0.7176 92.2 110.8	466.8794	N/A			E,
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

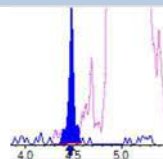
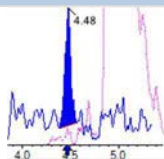
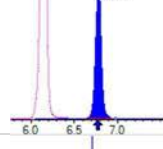
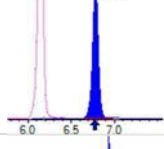
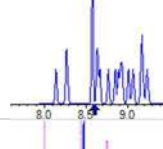
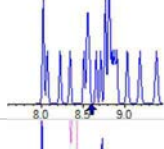
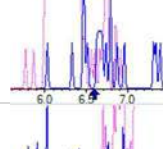
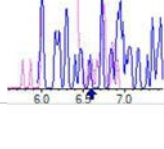
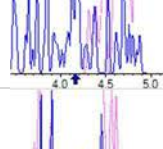
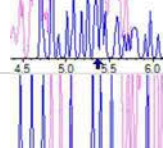
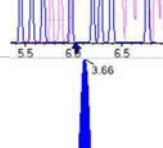
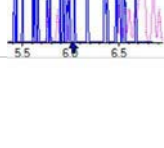
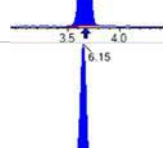
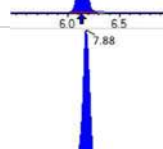
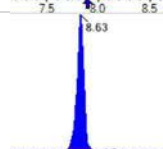



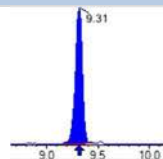
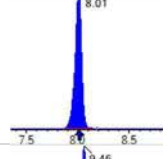
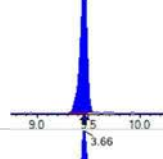
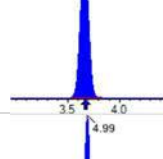
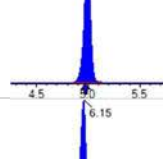
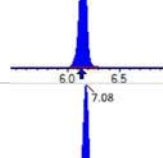
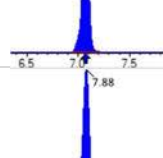
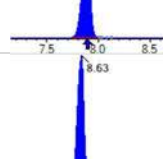
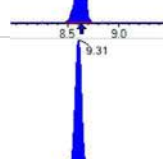
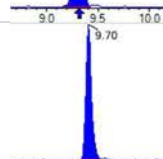
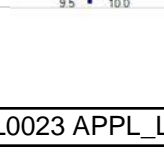
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

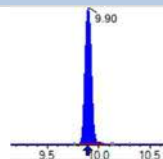
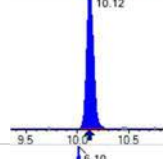
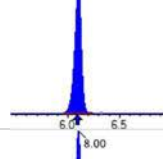
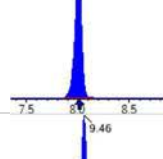
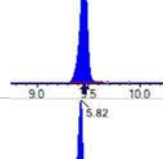
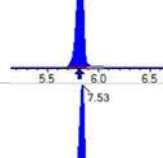
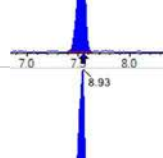
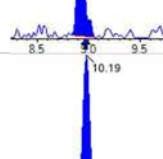
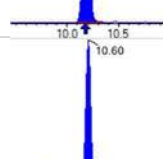
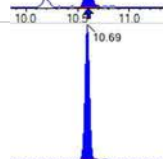
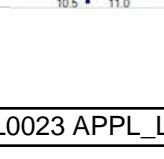
Sample I.D.: 22L0023-05  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

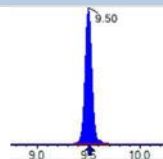
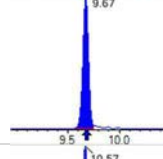
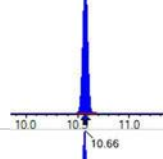
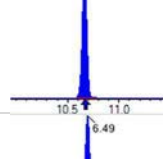
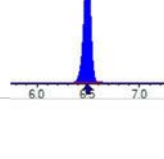
Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (18)  
 Acquired: 2022/12/21 - 22:16

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) N/A ( 498.0 / 478.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 717 (241.0 / 117.0) 1471	(4.48, 0.90) (N/A, 0.02, 0.3)	55.8 21.9	2.0512 122.6 119.1	0.1136	N/A			
5:3FTCA	(341.0 / 236.7) 224700 (341.0 / 217.0) 342216	(6.78, 1.10) (N/A, 0.01, -0.1)	645.7 562.6	1.5230 104.0 98.3	5.1875	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBa_IIS	(216.0 / 172.0) 179490	(3.66, N/A) (N/A, 0.00, N/A)	653.4	N/A	1.2895 [ 1.0000 ]	129.0% { 110.1% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 277291	(6.15, N/A) (N/A, 0.01, N/A)	567.1	N/A	1.2008 [ 1.0000 ]	120.1% { 124.1% }			
13C4_PFOA_IIS	(417.0 / 372.0) 157507	(7.88, N/A) (N/A, -0.01, N/A)	388.6	N/A	0.7164 [ 1.0000 ]	71.6% { 64.6% }			
13C5_PFNAl_IIS	(468.0 / 423.0) 123245	(8.63, N/A) (N/A, 0.00, N/A)	523.6	N/A	0.6655 [ 1.0000 ]	66.6% { 68.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 166231	(9.31, N/A) (N/A, 0.00, N/A)	246.9	N/A	0.8995 [ 1.0000 ]	89.9% { 83.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 368702	(8.01, N/A) (N/A, -0.01, N/A)	644.6	N/A	0.9133 [ 1.0000 ]	91.3% { 89.1% }			
13C4_PFOS_IIS	(502.8 / 79.9) 197547	(9.46, N/A) (N/A, 0.00, N/A)	409.7	N/A	0.6189 [ 1.0000 ]	61.9% { 58.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1414204	(3.66, N/A) (N/A, -0.01, N/A)	886.6	N/A	7.6553 [ 8.0000 ]	95.7% { 112.9% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 833511	(4.99, N/A) (N/A, 0.02, N/A)	850.6	N/A	4.3201 [ 4.0000 ]	108.0% { 125.7% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 570875	(6.15, N/A) (N/A, 0.02, N/A)	734.7	N/A	1.7890 [ 2.0000 ]	89.5% { 108.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 457136	(7.08, N/A) (N/A, 0.01, N/A)	960.6	N/A	1.6422 [ 2.0000 ]	82.1% { 98.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 310761	(7.88, N/A) (N/A, -0.01, N/A)	501.6	N/A	1.7991 [ 2.0000 ]	90.0% { 60.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 111206	(8.63, N/A) (N/A, 0.00, N/A)	502.4	N/A	0.8206 [ 1.0000 ]	82.1% { 60.7% }			
13C6_PFDA_EIS	(519.0 / 474.0) 174460	(9.31, N/A) (N/A, 0.00, N/A)	303.9	N/A	0.7379 [ 1.0000 ]	73.8% { 69.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 90037	(9.70, N/A) (N/A, -0.02, N/A)	294.4	N/A	0.2677 [ 1.0000 ]	26.8% { 28.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 244298	(9.90, N/A) (N/A, 0.00, N/A)	420.6	N/A	0.7278 [ 1.0000 ]	72.8% { 66.2% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 99805	(10.12, N/A) (N/A, 0.00, N/A)	340.5	N/A	0.4477 [ 1.0000 ]	44.8% { 36.1% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1596539	(6.10, N/A) (N/A, 0.01, N/A)	616.9	N/A	2.5611 [ 2.0000 ]	128.1% { 113.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 596230	(8.00, N/A) (N/A, -0.01, N/A)	797.1	N/A	1.7976 [ 2.0000 ]	89.9% { 86.1% }			
13C8_PFOS_EIS	(507.0 / 80.0) 649216	(9.46, N/A) (N/A, 0.00, N/A)	392.9	N/A	1.9149 [ 2.0000 ]	95.7% { 61.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 380985	(5.82, N/A) (N/A, 0.02, N/A)	587.4	N/A	7.2157 [ 4.0000 ]	180.4% { 169.0% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 221946	(7.53, N/A) (N/A, -0.01, N/A)	480.2	N/A	3.4915 [ 4.0000 ]	87.3% { 77.1% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 27840	(8.93, N/A) (N/A, -0.03, N/A)	52.3	N/A	0.4375 [ 4.0000 ]	10.9% { 12.4% }			S1,
13C8_PFOsa_EIS	(506.0 / 78.0) 429314	(10.19, N/A) (N/A, 0.01, N/A)	485.3	N/A	1.0018 [ 2.0000 ]	50.1% { 30.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 117810	(10.60, N/A) (N/A, 0.00, N/A)	424.4	N/A	1.2590 [ 2.0000 ]	63.0% { 34.8% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 106871	(10.69, N/A) (N/A, 0.00, N/A)	734.0	N/A	1.2372 [ 2.0000 ]	61.9% { 35.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 623027	( 9.50 , N/A ) ( N/A , 0.00 , N/A )	447.8	N/A	7.7278 [ 4.0000 ]	193.2% { 107.3% }			S2,
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 331000	( 9.67 , N/A ) ( N/A , -0.01 , N/A )	362.3	N/A	4.6580 [ 4.0000 ]	116.4% { 73.3% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 320333	( 10.57 , N/A ) ( N/A , 0.00 , N/A )	996.9	N/A	24.3811 [ 20.0000 ]	121.9% { 68.3% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 141310	( 10.66 , N/A ) ( N/A , 0.00 , N/A )	1094.0	N/A	23.6251 [ 20.0000 ]	118.1% { 64.6% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 1270880	( 6.49 , N/A ) ( N/A , 0.01 , N/A )	968.1	N/A	7.4909 [ 8.0000 ]	93.6% { 104.6% }			



**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU02-SOFD01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-05RE1
		File ID:	S2022-12-21B (19)
Sampled:	12/02/22 13:00	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 22:29
Solids:		Preparation:	PFAS Leachates
		Dilution:	10
Initial/Final:	107.57 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFHXA	930	19	19	2.6	
6:2FTS	9500	74	37	14	



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-05RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (19)  
 Acquired: 2022/12/21 - 22:29

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 198919	(3.69, 1.00) (0.00, N/A, 0.0)	66.7	N/A 0.0 0.0	1.7230	N/A			
PFPeA	(262.9 / 219.0) 114231 (262.9 / 69.0) 1174	(4.98, 1.00) (0.00, N/A, 0.0)	399.7 65.5	0.0103 91.9 88.7	0.6641	N/A			
PFHxA	(313.0 / 269.0) 1450913 (313.0 / 119.0) 138285	(6.13, 1.00) (0.00, N/A, 0.0)	689.8 468.8	0.0953 97.5 102.8	5.0221	N/A			
PFHpA	(363.0 / 319.0) 42965 (363.0 / 169.0) 13020	(7.05, 1.00) (0.00, N/A, 0.4)	128.5 96.2	0.3030 97.3 97.2	0.1855	N/A			
PFOA	(413.0 / 369.0) 81403 (413.0 / 169.0) 27850	(7.87, 1.00) (0.00, N/A, 0.3)	176.9 266.6	0.3421 104.7 104.0	0.3064	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-05RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (19)  
 Acquired: 2022/12/21 - 22:29

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) N/A ( 298.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) N/A ( 499.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) 10772482 ( 427.0 / 81.0 ) 8125042	( 7.53 , 1.00 ) ( 0.00 , N/A , 0.1 )	731.7 709.5	0.7542 96.9 116.5	51.3018	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

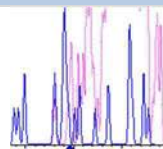
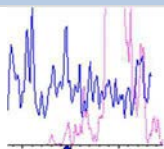
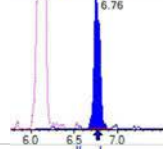
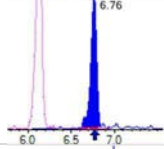
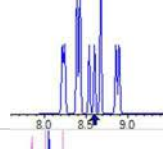
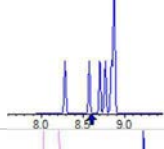
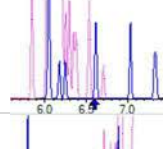
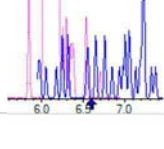
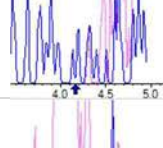
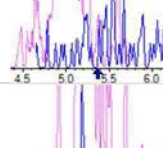
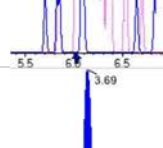
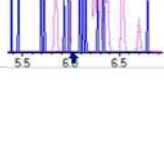
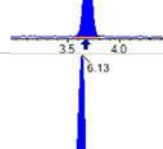
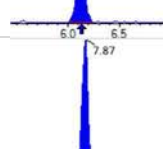
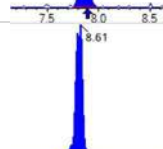



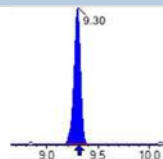
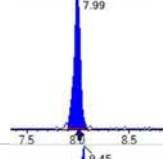
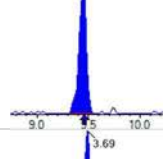
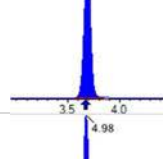
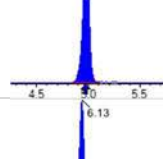
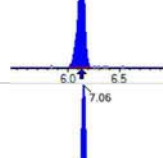
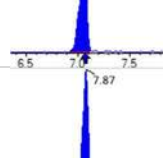
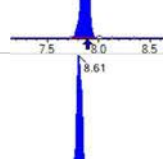
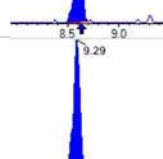
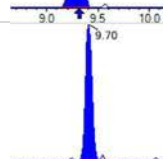
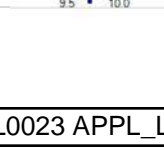
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

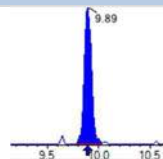
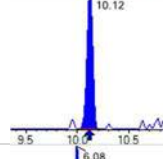
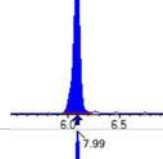
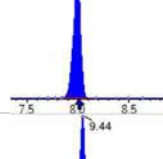
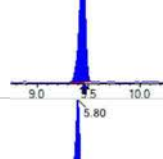
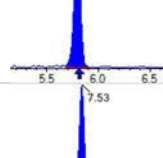
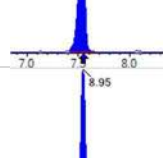
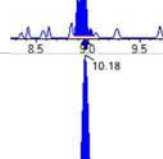
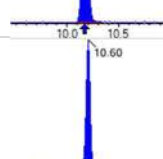
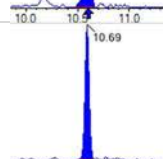
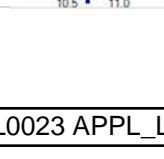
Sample I.D.: 22L0023-05RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (19)  
 Acquired: 2022/12/21 - 22:29

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) N/A ( 498.0 / 478.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) 15792 (341.0 / 217.0) 34399	(6.76, 1.10) (N/A, -0.01, 0.0)	205.1 167.3	2.1783 148.8 140.7	0.3093	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 18824	(3.69, N/A) (N/A, 0.02, N/A)	338.0	N/A	1.3524 [ 1.0000 ]	135.2% { 11.5% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 31707	(6.13, N/A) (N/A, 0.00, N/A)	324.3	N/A	1.3731 [ 1.0000 ]	137.3% { 14.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 23562	(7.87, N/A) (N/A, -0.02, N/A)	233.9	N/A	1.0717 [ 1.0000 ]	107.2% { 9.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 24742	(8.61, N/A) (N/A, -0.02, N/A)	191.8	N/A	1.3361 [ 1.0000 ]	133.6% { 13.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 31723	(9.30, N/A) (N/A, -0.01, N/A)	442.2	N/A	1.7165 [ 1.0000 ]	171.7% { 15.9% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 40854	(7.99, N/A) (N/A, -0.02, N/A)	309.0	N/A	1.0120 [ 1.0000 ]	101.2% { 9.9% }			
13C4_PFOS_IIS	(502.8 / 79.9) 37974	(9.45, N/A) (N/A, -0.01, N/A)	133.7	N/A	1.1898 [ 1.0000 ]	119.0% { 11.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 141574	(3.69, N/A) (N/A, 0.02, N/A)	812.1	N/A	0.7307 [ 0.8000 ]	91.3% { 11.3% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 78346	(4.98, N/A) (N/A, 0.00, N/A)	472.8	N/A	0.3551 [ 0.4000 ]	88.8% { 11.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 67279	(6.13, N/A) (N/A, 0.00, N/A)	340.9	N/A	0.1844 [ 0.2000 ]	92.2% { 12.8% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 50818	(7.06, N/A) (N/A, -0.01, N/A)	326.8	N/A	0.1597 [ 0.2000 ]	79.8% { 10.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 54031	(7.87, N/A) (N/A, -0.01, N/A)	475.1	N/A	0.2091 [ 0.2000 ]	104.6% { 10.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 20273	(8.61, N/A) (N/A, -0.02, N/A)	188.7	N/A	0.0745 [ 0.1000 ]	74.5% { 11.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 26290	(9.29, N/A) (N/A, -0.02, N/A)	330.0	N/A	0.0583 [ 0.1000 ]	58.3% { 10.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 25137	(9.70, N/A) (N/A, -0.02, N/A)	184.7	N/A	0.0392 [ 0.1000 ]	39.2% { 7.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 32858	(9.89, N/A) (N/A, 0.00, N/A)	179.6	N/A	0.0513 [0.1000]	51.3% {8.9%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 15175	(10.12, N/A) (N/A, 0.00, N/A)	71.8	N/A	0.0357 [0.1000]	35.7% {5.5%}			
13C3_PFBs_EIS	(302.0 / 80.0) 145928	(6.08, N/A) (N/A, 0.00, N/A)	381.4	N/A	0.2113 [0.2000]	105.6% {10.4%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 80159	(7.99, N/A) (N/A, -0.02, N/A)	460.7	N/A	0.2181 [0.2000]	109.1% {11.6%}			
13C8_PFOS_EIS	(507.0 / 80.0) 102302	(9.44, N/A) (N/A, -0.01, N/A)	245.2	N/A	0.1570 [0.2000]	78.5% {9.6%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 28255	(5.80, N/A) (N/A, 0.00, N/A)	240.1	N/A	0.4830 [0.4000]	120.7% {12.5%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 54628	(7.53, N/A) (N/A, -0.01, N/A)	349.9	N/A	0.7756 [0.4000]	193.9% {19.0%}			S2,
13C2_8:2FTS_EIS	(529.0 / 81.0) 10876	(8.95, N/A) (N/A, -0.01, N/A)	58.2	N/A	0.1542 [0.4000]	38.6% {4.8%}			
13C8_PFOsa_EIS	(506.0 / 78.0) 110625	(10.18, N/A) (N/A, 0.00, N/A)	368.2	N/A	0.1343 [0.2000]	67.1% {7.8%}			
D3_NMeFOsa_EIS	(515.0 / 169.0) 14167	(10.60, N/A) (N/A, 0.00, N/A)	141.9	N/A	0.0788 [0.2000]	39.4% {4.2%}			
D5_NEiFOsa_EIS	(531.1 / 169.0) 11223	(10.69, N/A) (N/A, -0.01, N/A)	209.5	N/A	0.0676 [0.2000]	33.8% {3.7%}			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-05RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (19)  
 Acquired: 2022/12/21 - 22:29

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 51799	(9.48, N/A) (N/A, -0.02, N/A)	164.4	N/A	0.3342 [ 0.4000 ]	83.6% { 8.9% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 34978	(9.67, N/A) (N/A, -0.01, N/A)	135.2	N/A	0.2561 [ 0.4000 ]	64.0% { 7.7% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 35198	(10.57, N/A) (N/A, 0.00, N/A)	389.5	N/A	1.3936 [ 2.0000 ]	69.7% { 7.5% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 16885	(10.66, N/A) (N/A, 0.00, N/A)	286.8	N/A	1.4686 [ 2.0000 ]	73.4% { 7.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 137250	(6.47, N/A) (N/A, -0.01, N/A)	442.9	N/A	0.7075 [ 0.8000 ]	88.4% { 11.3% }			



**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU02-SOFT01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-06
		File ID:	S2022-12-21B (20)
Sampled:	12/02/22 13:00	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 22:42
Solids:		Preparation:	PFAS Leachates
		Dilution:	1
Initial/Final:	109.78 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	130	7.3	3.6	0.96	
PFPEA	100	3.6	3.6	0.30	
PFHXA	510	1.8	1.8	0.25	
PFHPA	17	1.8	0.91	0.19	
PFOA	23	1.8	0.91	0.68	
PFNA	0.91 U	1.8	0.91	0.37	
PFDA	3.9	1.8	0.91	0.46	
PFUnA	0.91 U	1.8	0.91	0.73	
PFDOA	0.91 U	1.8	0.91	0.50	
PFTRDA	1.4 U	1.8	1.4	0.91	
PFTEDA	0.91 U	1.8	0.91	0.91	
PFBS	0.22 J	1.8	0.91	0.17	
PFPEs	0.91 U	1.8	0.91	0.29	
PFHXS	0.94 J	1.8	0.91	0.15	
PFHPS	0.91 U	1.8	0.91	0.23	
PFOS	7.5	1.8	0.91	0.29	
PFNS	0.91 U	1.8	0.91	0.55	
PFDS	0.91 U	1.8	0.91	0.68	
PFDOS	0.91 U	1.8	0.91	0.55	
4:2FTS	20	7.3	3.6	1.3	
8:2FTS	3.6 U	7.3	3.6	0.37	
PFOSA	0.91 U	1.8	0.91	0.46	
NMeFOSA	3.6 U	7.3	3.6	2.1	
NEtFOSA	3.6 U	7.3	3.6	1.9	
NMeFOSAA	0.91 U	1.8	0.91	0.50	
NEtFOSAA	0.91 U	1.8	0.91	0.50	
NMeFOSE	5.5 U	7.3	5.5	4.6	
NEtFOSE	5.5 U	7.3	5.5	4.6	
HFPO-DA	1.8 U	3.6	1.8	0.77	
ADONA	1.8 U	3.6	1.8	0.55	

# FORM I ANALYSIS DATA SHEET

ADIT6-DU02-SOFT01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-06
		File ID:	S2022-12-21B (20)
Sampled:	12/02/22 13:00	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 22:42
Solids:		Preparation:	PFAS Leachates
		Dilution:	1
Initial/Final:	109.78 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFEEESA	1.8 U	3.6	1.8	0.50	
PFMPA	1.8 U	3.6	1.8	0.25	
PFMBA	1.8 U	3.6	1.8	0.41	
NFDHA	1.8 U	3.6	1.8	1.4	
9CL-PF3ONS	1.8 U	3.6	1.8	0.96	
11CL-PF3OUDS	1.8 U	3.6	1.8	0.96	
3:3FTCA	3.3 J	7.3	3.6	2.6	
5:3FTCA	29	7.3	3.6	2.0	
7:3FTCA	3.6 U	7.3	3.6	2.5	

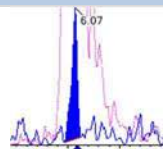
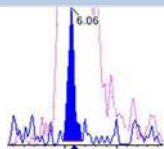
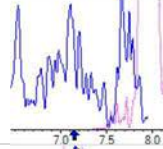
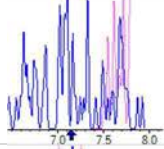
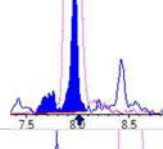
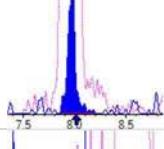
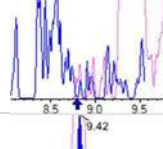
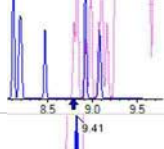
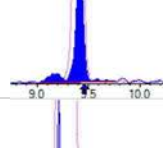
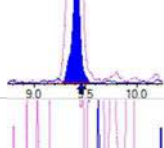
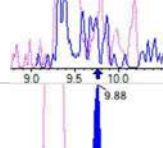
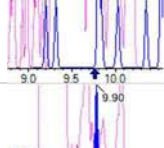
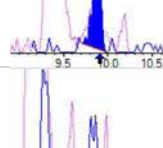
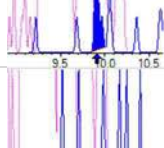
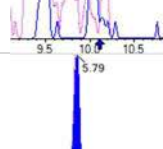
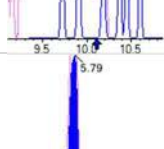
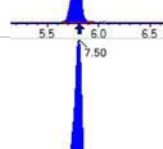
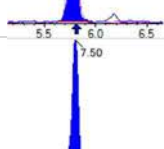
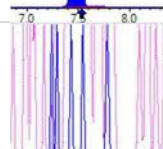
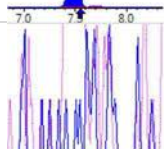

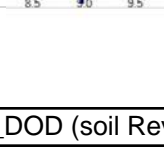


Chemist: ABK  
Instrument: Saphira  
Type: Sciex Q3 5500

Sample I.D.: 22L0023-06  
DF, IV: 1, 10.0µL  
Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
Path: S2022-12-21B (20)  
Acquired: 2022/12/21 - 22:42

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 779600	(3.65, 1.00) (0.00, N/A, 0.0)	70.6	N/A 0.0 0.0	7.1178	N/A			
PFPeA	(262.9 / 219.0) 941539 (262.9 / 69.0) 10743	(4.97, 1.00) (0.00, N/A, 0.1)	682.5 201.4	0.0114 101.9 98.4	5.6984	N/A			
PFHxA	(313.0 / 269.0) 6778914 (313.0 / 119.0) 641020	(6.11, 1.00) (0.00, N/A, 0.0)	774.0 600.6	0.0946 96.7 102.0	27.9823	N/A			
PFHpA	(363.0 / 319.0) 207602 (363.0 / 169.0) 59286	(7.04, 1.00) (0.00, N/A, 0.3)	363.9 227.2	0.2856 91.7 91.6	0.9282	N/A			
PFOA	(413.0 / 369.0) 244620 (413.0 / 169.0) 79764	(7.84, 1.00) (0.00, N/A, 0.2)	443.5 376.2	0.3261 99.8 99.1	1.2531	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) 35782 (513.0 / 169.0) 2108	(9.27, 1.00) (0.01, N/A, 0.0)	127.7 29.2	0.0589 61.6 54.6	0.2159	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 4966 (298.9 / 99.0) 3587	(6.07, 1.00) (0.00, N/A, 0.3)	28.5 24.7	0.7223 117.4 115.6	0.0122	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) 24648 (399.0 / 99.0) 8314	(7.97, 1.00) (0.00, N/A, -0.1)	138.5 171.4	0.3373 100.3 99.3	0.0517	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) 184439 (499.0 / 99.0) 45192	(9.42, 1.00) (0.00, N/A, 0.1)	221.0 143.5	0.2450 100.8 114.1	0.4121	N/A			
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) 14150 (599.0 / 99.0) 1619	(9.88, 1.05) (N/A, -0.04, -1.6)	39.3 21.9	0.1144 50.8 55.2	0.0257	N/A			
PFDoS	(698.9 / 80.0) N/A (698.9 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	(327.0 / 307.0) 293049 (327.0 / 81.0) 150581	(5.79, 1.00) (0.00, N/A, 0.1)	605.0 207.4	0.5138 104.0 99.6	1.0946	N/A			
6:2FTS	(427.0 / 407.0) 39778309 (427.0 / 81.0) 29955554	(7.50, 1.00) (0.00, N/A, 0.1)	726.5 728.5	0.7531 96.8 116.3	296.9648	N/A			E,
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

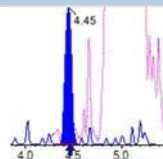
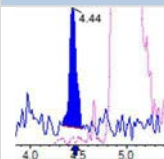
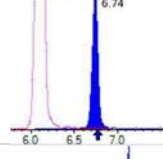
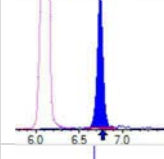
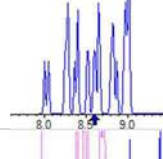
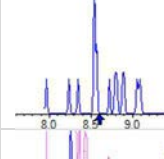
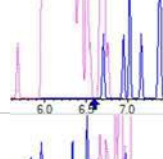
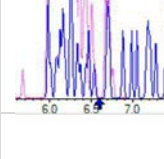
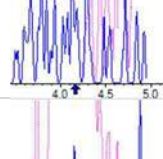
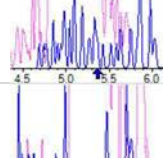
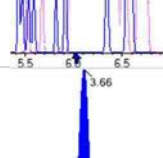
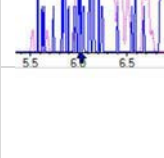
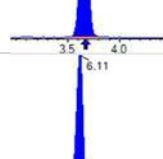
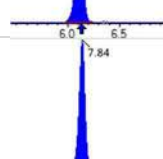
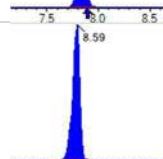



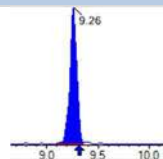
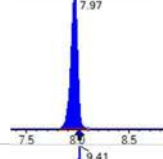
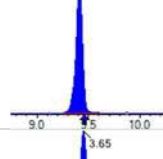
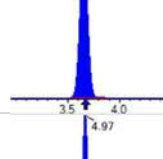
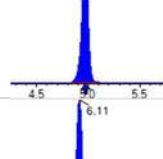
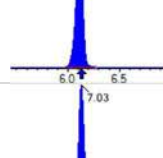
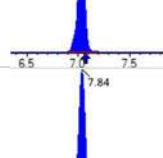
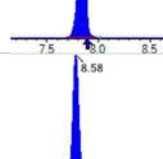
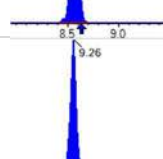
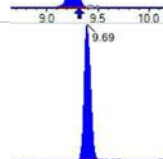
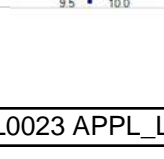
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

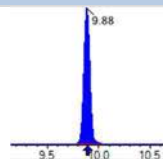
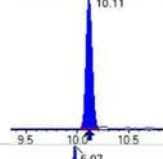
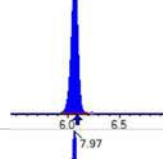
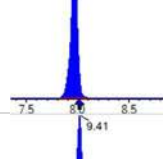
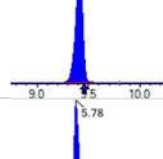
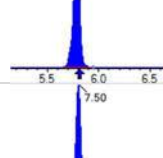
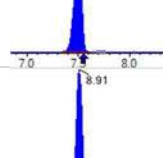
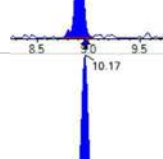
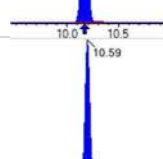
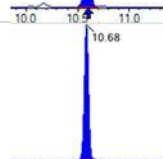
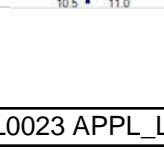
Sample I.D.: 22L0023-06  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (20)  
 Acquired: 2022/12/21 - 22:42

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) N/A ( 498.0 / 478.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-PF3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 1018 (241.0 / 117.0) 2306	(4.45, 0.90) (N/A, -0.01, 0.5)	40.1 24.1	2.2664 135.4 131.6	0.1785	N/A			
5:3FTCA	(341.0 / 236.7) 67889 (341.0 / 217.0) 106534	(6.74, 1.10) (N/A, -0.03, 0.1)	401.2 239.8	1.5692 107.2 101.3	1.5860	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 178262	(3.66, N/A) (N/A, -0.01, N/A)	671.0	N/A	1.2807 [ 1.0000 ]	128.1% { 109.3% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 297708	(6.11, N/A) (N/A, -0.02, N/A)	687.2	N/A	1.2892 [ 1.0000 ]	128.9% { 133.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 222815	(7.84, N/A) (N/A, -0.05, N/A)	974.1	N/A	1.0135 [ 1.0000 ]	101.3% { 91.4% }			
13C5_PFNA_IIS	(468.0 / 423.0) 174599	(8.59, N/A) (N/A, -0.04, N/A)	309.9	N/A	0.9429 [ 1.0000 ]	94.3% { 96.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 180929	(9.26, N/A) (N/A, -0.05, N/A)	263.9	N/A	0.9790 [ 1.0000 ]	97.9% { 90.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 414203	(7.97, N/A) (N/A, -0.05, N/A)	844.8	N/A	1.0260 [ 1.0000 ]	102.6% { 100.1% }			
13C4_PFOS_IIS	(502.8 / 79.9) 256671	(9.41, N/A) (N/A, -0.04, N/A)	334.5	N/A	0.8042 [ 1.0000 ]	80.4% { 76.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1343101	(3.65, N/A) (N/A, -0.01, N/A)	912.8	N/A	7.3205 [ 8.0000 ]	91.5% { 107.3% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 752536	(4.97, N/A) (N/A, 0.00, N/A)	780.0	N/A	3.6329 [ 4.0000 ]	90.8% { 113.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 564160	(6.11, N/A) (N/A, -0.02, N/A)	674.9	N/A	1.6467 [ 2.0000 ]	82.3% { 106.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 490755	(7.03, N/A) (N/A, -0.04, N/A)	700.4	N/A	1.6420 [ 2.0000 ]	82.1% { 105.5% }			
13C8_PFOA_EIS	(421.0 / 376.0) 397036	(7.84, N/A) (N/A, -0.05, N/A)	619.8	N/A	1.6248 [ 2.0000 ]	81.2% { 77.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 153689	(8.58, N/A) (N/A, -0.05, N/A)	587.9	N/A	0.8005 [ 1.0000 ]	80.0% { 83.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 174106	(9.26, N/A) (N/A, -0.05, N/A)	389.4	N/A	0.6766 [ 1.0000 ]	67.7% { 69.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 142429	(9.69, N/A) (N/A, -0.03, N/A)	277.6	N/A	0.3891 [ 1.0000 ]	38.9% { 44.3% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 275132	(9.88, N/A) (N/A, -0.01, N/A)	587.0	N/A	0.7531 [ 1.0000 ]	75.3% { 74.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 105286	(10.11, N/A) (N/A, -0.01, N/A)	278.6	N/A	0.4340 [ 1.0000 ]	43.4% { 38.1% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1489105	(6.07, N/A) (N/A, -0.02, N/A)	759.9	N/A	2.1263 [ 2.0000 ]	106.3% { 105.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 613183	(7.97, N/A) (N/A, -0.05, N/A)	857.0	N/A	1.6456 [ 2.0000 ]	82.3% { 88.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 824636	(9.41, N/A) (N/A, -0.04, N/A)	461.1	N/A	1.8720 [ 2.0000 ]	93.6% { 77.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 323864	(5.78, N/A) (N/A, -0.02, N/A)	700.8	N/A	5.4601 [ 4.0000 ]	136.5% { 143.7% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 348478	(7.50, N/A) (N/A, -0.04, N/A)	558.5	N/A	4.8798 [ 4.0000 ]	122.0% { 121.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 50691	(8.91, N/A) (N/A, -0.05, N/A)	129.0	N/A	0.7091 [ 4.0000 ]	17.7% { 22.5% }			S1,
13C8_PFOsa_EIS	(506.0 / 78.0) 749478	(10.17, N/A) (N/A, -0.01, N/A)	1164.7	N/A	1.3460 [ 2.0000 ]	67.3% { 52.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 100416	(10.59, N/A) (N/A, -0.01, N/A)	399.6	N/A	0.8260 [ 2.0000 ]	41.3% { 29.6% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 84586	(10.68, N/A) (N/A, -0.01, N/A)	641.8	N/A	0.7537 [ 2.0000 ]	37.7% { 28.0% }			





Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-06  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (20)  
 Acquired: 2022/12/21 - 22:42

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 534680	(9.47, N/A) (N/A, -0.04, N/A)	402.2	N/A	5.1043 [ 4.0000 ]	127.6% { 92.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 407361	(9.66, N/A) (N/A, -0.03, N/A)	376.8	N/A	4.4121 [ 4.0000 ]	110.3% { 90.2% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 299345	(10.56, N/A) (N/A, -0.01, N/A)	919.7	N/A	17.5355 [ 20.0000 ]	87.7% { 63.8% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 134975	(10.66, N/A) (N/A, -0.01, N/A)	1054.1	N/A	17.3679 [ 20.0000 ]	86.8% { 61.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1246021	(6.45, N/A) (N/A, -0.03, N/A)	785.2	N/A	6.8407 [ 8.0000 ]	85.5% { 102.5% }			

# FORM I ANALYSIS DATA SHEET

ADIT6-DU02-SOFT01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-06RE1
		File ID:	S2022-12-21B (21)
Sampled:	12/02/22 13:00	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 22:54
Solids:		Preparation:	PFAS Leachates
		Dilution:	10
Initial/Final:	109.78 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
6:2FTS	6000	73	36	14	



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-06RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (21)  
 Acquired: 2022/12/21 - 22:54

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 70663	(3.71, 1.00) (0.00, N/A, 0.0)	58.2	N/A 0.0 0.0	0.7099	N/A			
PFPeA	(262.9 / 219.0) 85443 (262.9 / 69.0) 1157	(5.02, 1.00) (0.00, N/A, 0.3)	438.5 43.9	0.0135 121.0 116.8	0.5656	N/A			
PFHxA	(313.0 / 269.0) 637211 (313.0 / 119.0) 60483	(6.19, 1.00) (0.00, N/A, 0.2)	604.4 306.0	0.0949 97.1 102.4	2.9716	N/A			
PFHpA	(363.0 / 319.0) 19303 (363.0 / 169.0) 5820	(7.13, 1.00) (0.01, N/A, 0.5)	75.2 34.9	0.3015 96.8 96.7	0.1012	N/A			
PFOA	(413.0 / 369.0) 26482 (413.0 / 169.0) 7988	(7.94, 1.00) (-0.01, N/A, -0.3)	69.6 148.0	0.3017 92.3 91.7	0.1235	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-06RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (21)  
 Acquired: 2022/12/21 - 22:54

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) N/A ( 298.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) N/A ( 499.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) 4826882 ( 427.0 / 81.0 ) 3437433	( 7.60 , 1.00 ) ( 0.00 , N/A , -0.1 )	957.0 1035.2	0.7121 91.5 110.0	32.7994	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-06RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (21)  
 Acquired: 2022/12/21 - 22:54

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(511.9 / 219.0) N/A (511.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.1 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

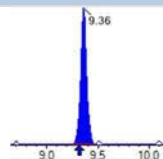
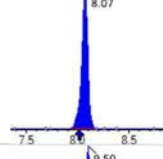
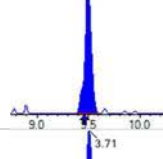
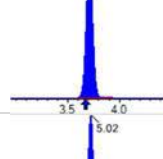
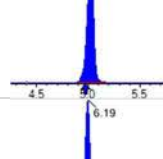
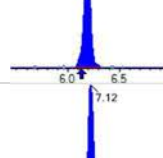
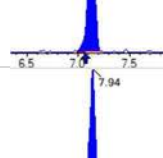
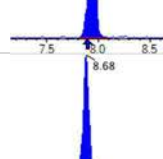
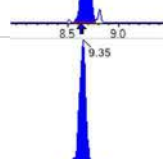
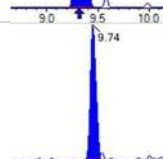
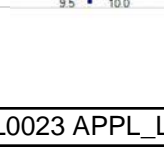


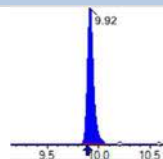
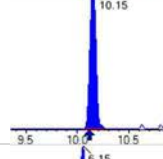
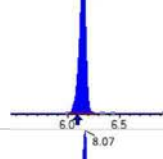
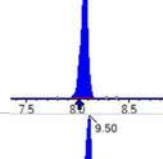
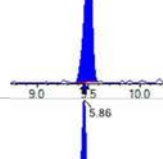
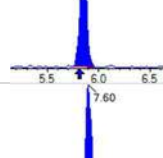
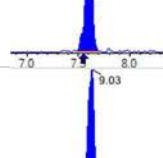
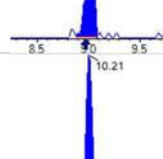
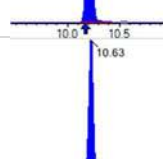
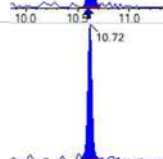
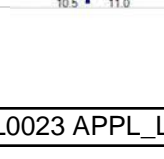
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-06RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (21)  
 Acquired: 2022/12/21 - 22:54

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 17656	(3.71, N/A) (N/A, 0.04, N/A)	299.9	N/A	1.2684 [ 1.0000 ]	126.8% { 10.8% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 27637	(6.19, N/A) (N/A, 0.05, N/A)	270.9	N/A	1.1968 [ 1.0000 ]	119.7% { 12.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 23933	(7.94, N/A) (N/A, 0.05, N/A)	300.4	N/A	1.0886 [ 1.0000 ]	108.9% { 9.8% }			
13C5_PFNA_IIS	(468.0 / 423.0) 19271	(8.69, N/A) (N/A, 0.06, N/A)	138.1	N/A	1.0406 [ 1.0000 ]	104.1% { 10.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 20955	(9.36, N/A) (N/A, 0.05, N/A)	308.1	N/A	1.1339 [ 1.0000 ]	113.4% { 10.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 40998	(8.07, N/A) (N/A, 0.06, N/A)	382.9	N/A	1.0155 [ 1.0000 ]	101.6% { 9.9% }			
13C4_PFOS_IIS	(502.8 / 79.9) 30312	(9.50, N/A) (N/A, 0.05, N/A)	120.1	N/A	0.9497 [ 1.0000 ]	95.0% { 9.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 122062	(3.71, N/A) (N/A, 0.04, N/A)	847.1	N/A	0.6717 [ 0.8000 ]	84.0% { 9.7% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 68800	(5.02, N/A) (N/A, 0.05, N/A)	632.4	N/A	0.3578 [ 0.4000 ]	89.4% { 10.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 49937	(6.19, N/A) (N/A, 0.06, N/A)	358.7	N/A	0.1570 [ 0.2000 ]	78.5% { 9.5% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 41865	(7.12, N/A) (N/A, 0.05, N/A)	380.5	N/A	0.1509 [ 0.2000 ]	75.4% { 9.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 43628	(7.94, N/A) (N/A, 0.06, N/A)	315.5	N/A	0.1662 [ 0.2000 ]	83.1% { 8.5% }			
13C9_PFNA_EIS	(472.0 / 427.0) 20740	(8.68, N/A) (N/A, 0.05, N/A)	169.6	N/A	0.0979 [ 0.1000 ]	97.9% { 11.3% }			
13C6_PFDA_EIS	(519.0 / 474.0) 18493	(9.35, N/A) (N/A, 0.04, N/A)	213.4	N/A	0.0620 [ 0.1000 ]	62.0% { 7.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 22560	(9.74, N/A) (N/A, 0.03, N/A)	121.4	N/A	0.0532 [ 0.1000 ]	53.2% { 7.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 32206	(9.92, N/A) (N/A, 0.02, N/A)	328.0	N/A	0.0761 [ 0.1000 ]	76.1% { 8.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 17380	(10.15, N/A) (N/A, 0.03, N/A)	251.8	N/A	0.0619 [ 0.1000 ]	61.9% { 6.3% }			
13C3_PFBs_EIS	(302.0 / 80.0) 133277	(6.15, N/A) (N/A, 0.06, N/A)	439.0	N/A	0.1923 [ 0.2000 ]	96.1% { 9.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 68411	(8.07, N/A) (N/A, 0.05, N/A)	552.2	N/A	0.1855 [ 0.2000 ]	92.7% { 9.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 93414	(9.50, N/A) (N/A, 0.05, N/A)	170.8	N/A	0.1796 [ 0.2000 ]	89.8% { 8.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 25932	(5.86, N/A) (N/A, 0.05, N/A)	240.4	N/A	0.4417 [ 0.4000 ]	110.4% { 11.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 38286	(7.60, N/A) (N/A, 0.06, N/A)	237.6	N/A	0.5416 [ 0.4000 ]	135.4% { 13.3% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 16183	(9.03, N/A) (N/A, 0.06, N/A)	83.0	N/A	0.2287 [ 0.4000 ]	57.2% { 7.2% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 145365	(10.21, N/A) (N/A, 0.03, N/A)	383.9	N/A	0.2211 [ 0.2000 ]	110.5% { 10.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 13824	(10.63, N/A) (N/A, 0.02, N/A)	121.4	N/A	0.0963 [ 0.2000 ]	48.1% { 4.1% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 8181	(10.72, N/A) (N/A, 0.02, N/A)	127.7	N/A	0.0617 [ 0.2000 ]	30.9% { 2.7% }			





Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-06RE1@10  
 DF, IV: 1, 1.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (21)  
 Acquired: 2022/12/21 - 22:54

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 54388	(9.55, N/A) (N/A, 0.04, N/A)	169.7	N/A	0.4397 [ 0.4000 ]	109.9% { 9.4% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 41825	(9.72, N/A) (N/A, 0.03, N/A)	100.1	N/A	0.3836 [ 0.4000 ]	95.9% { 9.3% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 32336	(10.60, N/A) (N/A, 0.03, N/A)	351.2	N/A	1.6039 [ 2.0000 ]	80.2% { 6.9% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 14369	(10.69, N/A) (N/A, 0.03, N/A)	246.1	N/A	1.5656 [ 2.0000 ]	78.3% { 6.6% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 116105	(6.54, N/A) (N/A, 0.06, N/A)	474.0	N/A	0.6866 [ 0.8000 ]	85.8% { 9.6% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU04A-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-07
		File ID:	S2022-12-21B (22)
Sampled:	12/02/22 10:55	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 23:07
Solids:		Preparation:	PFAS Leachates
		Dilution:	1
Initial/Final:	109 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	73	7.3	3.7	0.96	
PFPEA	220	3.7	3.7	0.30	
PFHXA	110	1.8	1.8	0.25	
PFHPA	59	1.8	0.92	0.19	
PFOA	2.3	1.8	0.92	0.69	
PFNA	1.2 J	1.8	0.92	0.38	
PFDA	0.76 J	1.8	0.92	0.46	IR2,
PFUnA	0.92 U	1.8	0.92	0.73	IR2,
PFDOA	0.92 U	1.8	0.92	0.50	
PFTRDA	1.4 U	1.8	1.4	0.92	
PFTEDA	0.92 U	1.8	0.92	0.92	
PFBS	0.29 J	1.8	0.92	0.17	
PFPEs	0.92 U	1.8	0.92	0.29	
PFHXS	2.4	1.8	0.92	0.15	
PFHPS	0.92 U	1.8	0.92	0.23	
PFOS	42	1.8	0.92	0.29	
PFNS	0.92 U	1.8	0.92	0.55	
PFDS	0.92 U	1.8	0.92	0.69	IR1,
PFDOS	0.92 U	1.8	0.92	0.55	
4:2FTS	3.7 U	7.3	3.7	1.3	
6:2FTS	180	7.3	3.7	1.4	
8:2FTS	3.7 U	7.3	3.7	0.38	
PFOSA	2.5	1.8	0.92	0.46	
NMeFOSA	3.7 U	7.3	3.7	2.2	
NEtFOSA	3.7 U	7.3	3.7	1.9	
NMeFOSAA	0.92 U	1.8	0.92	0.50	
NEtFOSAA	0.92 U	1.8	0.92	0.50	
NMeFOSE	5.5 U	7.3	5.5	4.6	
NEtFOSE	5.5 U	7.3	5.5	4.6	
HFPO-DA	1.8 U	3.7	1.8	0.78	

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU04A-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-07
		File ID:	S2022-12-21B (22)
Sampled:	12/02/22 10:55	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 23:07
Solids:		Preparation:	PFAS Leachates
		Dilution:	1
Initial/Final:	109 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	1.8 U	3.7	1.8	0.55	
PFEESA	1.8 U	3.7	1.8	0.50	
PFMPA	1.8 U	3.7	1.8	0.25	
PFMBA	1.8 U	3.7	1.8	0.42	
NFDHA	1.8 U	3.7	1.8	1.4	
9CL-PF3ONS	1.8 U	3.7	1.8	0.96	
11CL-PF3OUDS	1.8 U	3.7	1.8	0.96	
3:3FTCA	3.6 J	7.3	3.7	2.6	
5:3FTCA	2.6 J	7.3	3.7	2.0	
7:3FTCA	3.7 U	7.3	3.7	2.5	



Chemist: ABK  
Instrument: Saphira  
Type: Sciex Q3 5500

Sample I.D.: 22L0023-07  
DF, IV: 1, 10.0µL  
Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
Path: S2022-12-21B (22)  
Acquired: 2022/12/21 - 23:07

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 447857	(3.70, 1.00) (0.00, N/A, 0.0)	62.1	N/A 0.0 0.0	3.9689	N/A			
PFPeA	(262.9 / 219.0) 2123175 (262.9 / 69.0) 24274	(5.02, 1.00) (0.00, N/A, 0.2)	721.8 197.0	0.0114 102.1 98.6	12.0292	N/A			
PFHxA	(313.0 / 269.0) 1519802 (313.0 / 119.0) 135767	(6.20, 1.00) (0.00, N/A, 0.0)	742.8 419.5	0.0893 91.4 96.4	5.8795	N/A			
PFHpA	(363.0 / 319.0) 814531 (363.0 / 169.0) 248674	(7.13, 1.00) (0.00, N/A, 0.2)	567.2 464.0	0.3053 98.0 97.9	3.2012	N/A			
PFOA	(413.0 / 369.0) 38880 (413.0 / 169.0) 9501	(7.94, 1.00) (0.00, N/A, 0.0)	87.3 107.3	0.2444 74.8 74.3	0.1230	N/A			
PFNA	(463.0 / 419.0) 14417 (463.0 / 169.0) 3160	(8.68, 1.00) (0.00, N/A, 0.1)	34.8 42.4	0.2192 113.7 95.5	0.0662	N/A			
PFDA	(513.0 / 469.0) 11436 (513.0 / 169.0) 1974	(9.36, 1.00) (0.00, N/A, -2.9)	26.5 210.8	0.1726 180.6 159.9	0.0413	N/A			IR2,
PFUnA	(563.0 / 519.0) 8971 (563.0 / 169.0) 1822	(9.74, 1.00) (0.00, N/A, -0.6)	38.3 62.2	0.2031 233.8 198.2	0.0310	N/A			IR2,
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-07  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (22)  
 Acquired: 2022/12/21 - 23:07

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 7184 (298.9 / 99.0) 3848	(6.15, 1.00) (0.00, N/A, 0.3)	55.9 17.4	0.5356 87.0 85.7	0.0156	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) 84659 (399.0 / 99.0) 32016	(8.07, 1.00) (0.00, N/A, 0.3)	1478.4 2284.1	0.3782 112.5 111.3	0.1331	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) 1480660 (499.0 / 99.0) 447245	(9.50, 1.00) (0.00, N/A, 0.3)	202.4 384.7	0.3021 124.2 140.7	2.2834	N/A			
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) 15318 (599.0 / 99.0) 1121	(9.89, 1.04) (N/A, -0.03, -2.5)	54.7 18.4	0.0732 32.5 35.3	0.0192	N/A			IR1,
PFDoS	(698.9 / 80.0) N/A (698.9 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	(327.0 / 307.0) N/A (327.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	(427.0 / 407.0) 1373672 (427.0 / 81.0) 1049530	(7.60, 1.00) (0.00, N/A, -0.1)	908.3 774.2	0.7640 98.2 118.0	9.6670	N/A			
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

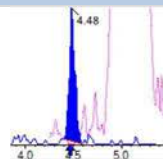
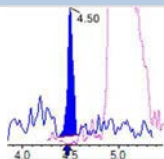
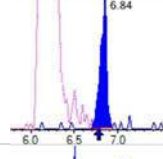
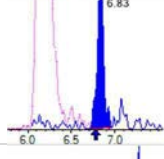
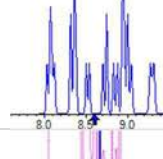
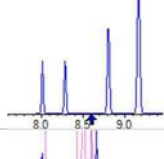
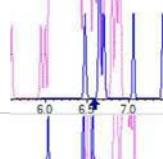
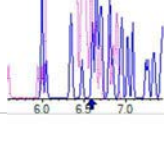
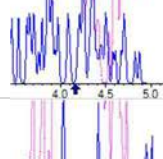
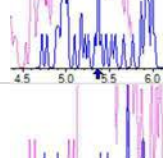
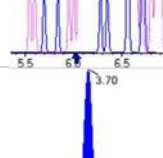
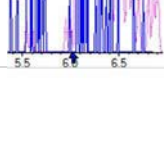
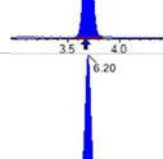
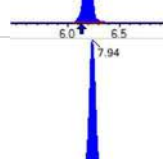
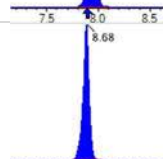



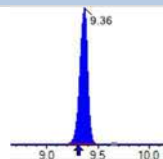
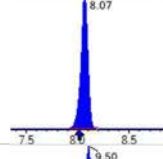
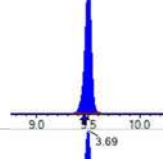
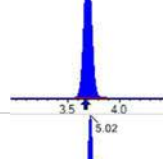
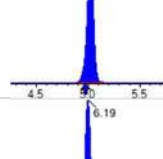
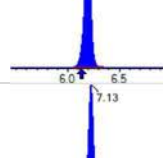
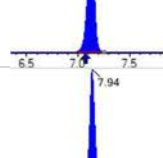
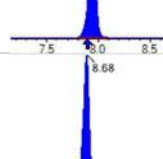
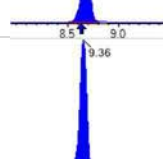
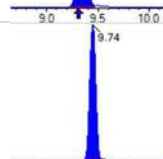
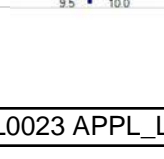
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-07  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

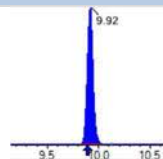
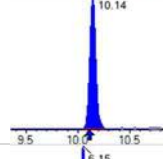
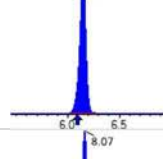
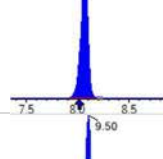
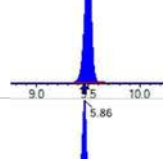
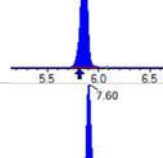
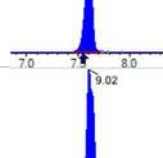
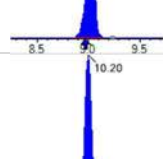
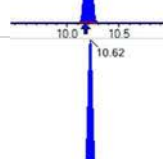
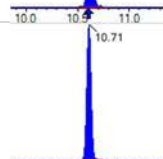
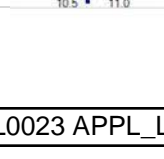
Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (22)  
 Acquired: 2022/12/21 - 23:07

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 88977 ( 498.0 / 478.0 ) 1510	( 10.20 , 1.00 ) ( 0.00 , N/A , 1.3)	291.1 950.6	0.0170 81.4 72.4	0.1369	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 1194 (241.0 / 117.0) 2237	(4.48, 0.89) (N/A, 0.03, -0.8)	80.8 34.4	1.8732 111.9 108.8	0.1960	N/A			
5:3FTCA	(341.0 / 236.7) 6421 (341.0 / 217.0) 12119	(6.84, 1.10) (N/A, 0.07, 0.4)	77.5 38.6	1.8872 128.9 121.9	0.1406	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 187610	(3.70, N/A) (N/A, 0.03, N/A)	715.5	N/A	1.3478 [ 1.0000 ]	134.8% { 115.1% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 323056	(6.20, N/A) (N/A, 0.06, N/A)	644.5	N/A	1.3990 [ 1.0000 ]	139.9% { 144.5% }			
13C4_PFOA_IIS	(417.0 / 372.0) 327797	(7.94, N/A) (N/A, 0.05, N/A)	571.6	N/A	1.4910 [ 1.0000 ]	149.1% { 134.5% }			
13C5_PFNA_IIS	(468.0 / 423.0) 265887	(8.68, N/A) (N/A, 0.05, N/A)	444.8	N/A	1.4358 [ 1.0000 ]	143.6% { 147.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 274301	(9.36, N/A) (N/A, 0.05, N/A)	370.0	N/A	1.4842 [ 1.0000 ]	148.4% { 137.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 547667	(8.07, N/A) (N/A, 0.05, N/A)	824.3	N/A	1.3566 [ 1.0000 ]	135.7% { 132.4% }			
13C4_PFOS_IIS	(502.8 / 79.9) 427642	(9.50, N/A) (N/A, 0.05, N/A)	494.7	N/A	1.3398 [ 1.0000 ]	134.0% { 126.7% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1383734	(3.69, N/A) (N/A, 0.03, N/A)	856.9	N/A	7.1662 [ 8.0000 ]	89.6% { 110.5% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 803879	(5.02, N/A) (N/A, 0.05, N/A)	795.3	N/A	3.5763 [ 4.0000 ]	89.4% { 121.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 601970	(6.19, N/A) (N/A, 0.06, N/A)	648.0	N/A	1.6192 [ 2.0000 ]	81.0% { 114.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 558284	(7.13, N/A) (N/A, 0.06, N/A)	743.0	N/A	1.7214 [ 2.0000 ]	86.1% { 120.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 642731	(7.94, N/A) (N/A, 0.05, N/A)	679.0	N/A	1.7879 [ 2.0000 ]	89.4% { 125.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 253987	(8.68, N/A) (N/A, 0.05, N/A)	400.4	N/A	0.8687 [ 1.0000 ]	86.9% { 138.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 290701	(9.36, N/A) (N/A, 0.05, N/A)	297.0	N/A	0.7452 [ 1.0000 ]	74.5% { 116.1% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 366729	(9.74, N/A) (N/A, 0.03, N/A)	407.2	N/A	0.6609 [ 1.0000 ]	66.1% { 114.0% }			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 327022	(9.92, N/A) (N/A, 0.02, N/A)	630.0	N/A	0.5904 [ 1.0000 ]	59.0% { 88.6% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 144440	(10.14, N/A) (N/A, 0.03, N/A)	278.8	N/A	0.3927 [ 1.0000 ]	39.3% { 52.2% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1675171	(6.15, N/A) (N/A, 0.06, N/A)	776.4	N/A	1.8091 [ 2.0000 ]	90.5% { 119.1% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 818802	(8.07, N/A) (N/A, 0.05, N/A)	830.4	N/A	1.6620 [ 2.0000 ]	83.1% { 118.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1194818	(9.50, N/A) (N/A, 0.04, N/A)	564.1	N/A	1.6279 [ 2.0000 ]	81.4% { 112.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 372497	(5.86, N/A) (N/A, 0.06, N/A)	667.2	N/A	4.7496 [ 4.0000 ]	118.7% { 165.3% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 369681	(7.60, N/A) (N/A, 0.06, N/A)	587.5	N/A	3.9151 [ 4.0000 ]	97.9% { 128.3% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 351200	(9.02, N/A) (N/A, 0.06, N/A)	412.5	N/A	3.7155 [ 4.0000 ]	92.9% { 155.9% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1375407	(10.20, N/A) (N/A, 0.02, N/A)	607.2	N/A	1.4825 [ 2.0000 ]	74.1% { 97.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 162433	(10.62, N/A) (N/A, 0.02, N/A)	516.3	N/A	0.8019 [ 2.0000 ]	40.1% { 47.9% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 146381	(10.71, N/A) (N/A, 0.01, N/A)	701.3	N/A	0.7828 [ 2.0000 ]	39.1% { 48.5% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-07  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (22)  
 Acquired: 2022/12/21 - 23:07

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 621579	(9.54, N/A) (N/A, 0.04, N/A)	526.8	N/A	3.5615 [ 4.0000 ]	89.0% { 107.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 544151	(9.71, N/A) (N/A, 0.03, N/A)	490.4	N/A	3.5374 [ 4.0000 ]	88.4% { 120.5% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 226272	(10.59, N/A) (N/A, 0.02, N/A)	777.9	N/A	7.9556 [ 20.0000 ]	39.8% { 48.2% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 110540	(10.68, N/A) (N/A, 0.02, N/A)	899.0	N/A	8.5371 [ 20.0000 ]	42.7% { 50.5% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1413679	(6.54, N/A) (N/A, 0.06, N/A)	726.5	N/A	7.1522 [ 8.0000 ]	89.4% { 116.3% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU01-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-08
		File ID:	S2022-12-21B (24)
Sampled:	12/02/22 13:00	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 23:32
Solids:		Preparation:	PFAS Leachates
		Dilution:	1
Initial/Final:	108.35 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	53	7.4	3.7	0.97	
PFPEA	140	3.7	3.7	0.30	
PFHXA	140	1.8	1.8	0.25	
PFHPA	34	1.8	0.92	0.19	
PFOA	6.1	1.8	0.92	0.69	
PFNA	1.7 J	1.8	0.92	0.38	
PFDA	1.1 J	1.8	0.92	0.46	IR2,
PFUnA	0.92 U	1.8	0.92	0.74	IR2,
PFDOA	0.92 U	1.8	0.92	0.51	
PFTRDA	1.4 U	1.8	1.4	0.92	
PFTEDA	0.92 U	1.8	0.92	0.92	
PFBS	0.42 J	1.8	0.92	0.17	
PFPEs	0.92 U	1.8	0.92	0.29	
PFHXS	2.6	1.8	0.92	0.15	
PFHPS	0.92 U	1.8	0.92	0.24	
PFOS	51	1.8	0.92	0.30	
PFNS	0.92 U	1.8	0.92	0.55	IR1,
PFDS	0.92 U	1.8	0.92	0.69	
PFDOS	0.92 U	1.8	0.92	0.55	
4:2FTS	17	7.4	3.7	1.3	
6:2FTS	2700	7.4	3.7	1.4	
8:2FTS	3.7 U	7.4	3.7	0.38	
PFOSA	0.48 J	1.8	0.92	0.46	
NMeFOSA	3.7 U	7.4	3.7	2.2	
NEtFOSA	3.7 U	7.4	3.7	1.9	
NMeFOSAA	0.92 U	1.8	0.92	0.51	
NEtFOSAA	0.92 U	1.8	0.92	0.51	
NMeFOSE	5.5 U	7.4	5.5	4.6	
NEtFOSE	5.5 U	7.4	5.5	4.6	
HFPO-DA	1.8 U	3.7	1.8	0.78	

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU01-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-08
		File ID:	S2022-12-21B (24)
Sampled:	12/02/22 13:00	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 23:32
Solids:		Preparation:	PFAS Leachates
		Dilution:	1
Initial/Final:	108.35 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	1.8 U	3.7	1.8	0.55	
PFEESA	1.8 U	3.7	1.8	0.51	
PFMPA	1.8 U	3.7	1.8	0.25	
PFMBA	1.8 U	3.7	1.8	0.42	
NFDHA	1.8 U	3.7	1.8	1.4	
9CL-PF3ONS	1.8 U	3.7	1.8	0.97	
11CL-PF3OUDS	1.8 U	3.7	1.8	0.97	
3:3FTCA	6.4 J	7.4	3.7	2.6	
5:3FTCA	55	7.4	3.7	2.0	
7:3FTCA	3.7 U	7.4	3.7	2.5	

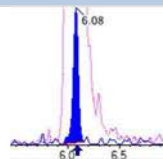
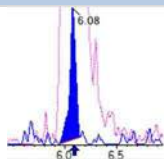
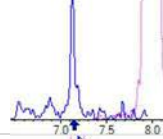
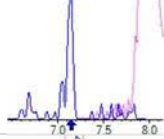
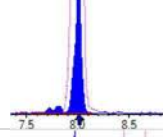
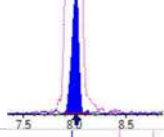
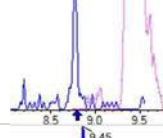
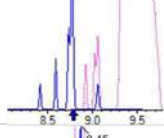
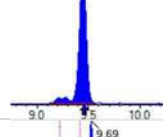
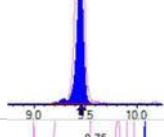
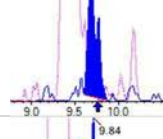
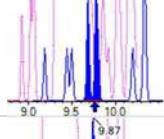
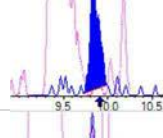
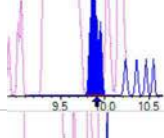
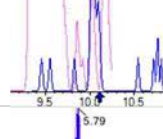
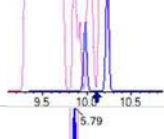
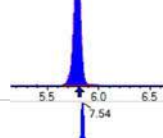
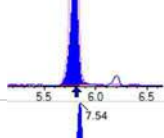
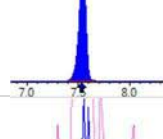
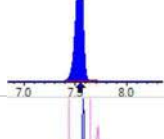
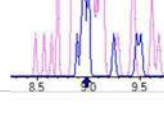
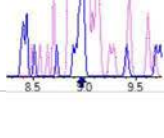


Chemist: ABK  
Instrument: Saphira  
Type: Sciex Q3 5500

Sample I.D.: 22L0023-08  
DF, IV: 1, 10.0µL  
Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
Path: S2022-12-21B (24)  
Acquired: 2022/12/21 - 23:32

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 325789	(3.65, 1.00) (0.00, N/A, 0.0)	63.2	N/A 0.0 0.0	2.8669	N/A			
PFPeA	(262.9 / 219.0) 1231727 (262.9 / 69.0) 14417	(4.96, 1.00) (0.00, N/A, 0.0)	654.7 242.7	0.0117 104.6 100.9	7.4593	N/A			
PFHxA	(313.0 / 269.0) 2045428 (313.0 / 119.0) 195080	(6.13, 1.00) (0.00, N/A, 0.0)	651.2 498.8	0.0954 97.5 102.9	7.4243	N/A			
PFHpA	(363.0 / 319.0) 442712 (363.0 / 169.0) 132184	(7.06, 1.00) (0.00, N/A, 0.0)	598.8 411.9	0.2986 95.9 95.8	1.8495	N/A			
PFOA	(413.0 / 369.0) 85123 (413.0 / 169.0) 26537	(7.88, 1.00) (0.00, N/A, -0.2)	194.1 189.2	0.3117 95.4 94.8	0.3285	N/A			
PFNA	(463.0 / 419.0) 16242 (463.0 / 169.0) 2842	(8.63, 1.00) (0.01, N/A, -0.5)	79.3 36.0	0.1750 90.8 76.2	0.0910	N/A			
PFDA	(513.0 / 469.0) 14993 (513.0 / 169.0) 2180	(9.30, 1.00) (0.00, N/A, -1.6)	34.9 35.5	0.1454 152.1 134.7	0.0572	N/A			IR2,
PFUnA	(563.0 / 519.0) 4232 (563.0 / 169.0) 1054	(9.72, 1.00) (0.01, N/A, -0.7)	21.0 30.1	0.2491 286.8 243.1	0.0173	N/A			IR2,
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 10514 (298.9 / 99.0) 5733	(6.08, 1.00) (0.00, N/A, 0.0)	74.0 43.3	0.5452 88.6 87.3	0.0228	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) 89081 (399.0 / 99.0) 25354	(8.01, 1.00) (0.00, N/A, -0.1)	1533.0 130226.2	0.2846 84.7 83.8	0.1399	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) 1455303 (499.0 / 99.0) 379201	(9.45, 1.00) (0.00, N/A, -0.2)	239.9 264.0	0.2606 107.1 121.4	2.7691	N/A			
PFNS	(549.0 / 80.0) 16840 (549.0 / 99.0) 1290	(9.69, 1.03) (N/A, -0.07, -3.1)	38.7 3983.9	0.0766 31.4 30.7	0.0289	N/A			IR1,
PFDS	(599.0 / 80.0) 10875 (599.0 / 99.0) 2786	(9.84, 1.04) (N/A, -0.08, -2.1)	36.6 18.7	0.2562 113.8 123.5	0.0168	N/A			
PFDoS	(698.9 / 80.0) N/A (698.9 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	(327.0 / 307.0) 227378 (327.0 / 81.0) 127009	(5.79, 1.00) (0.00, N/A, 0.2)	557.3 217.5	0.5586 113.1 108.3	0.9284	N/A			
6:2FTS	(427.0 / 407.0) 18521920 (427.0 / 81.0) 12726586	(7.54, 1.00) (-0.01, N/A, -0.1)	769.5 850.8	0.6871 88.3 106.1	147.9941	N/A			E,
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-08  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (24)  
 Acquired: 2022/12/21 - 23:32

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 19153 ( 498.0 / 478.0 ) 910	( 10.18 , 1.00 ) ( 0.01 , N/A , -1.0)	110.6 94.1	0.0475 227.9 202.6	0.0262	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



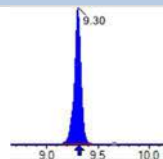
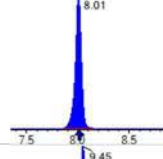
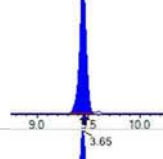
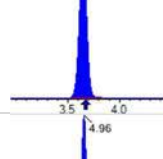
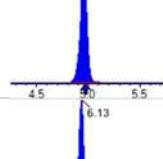
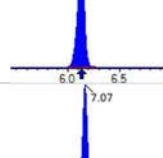
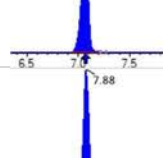
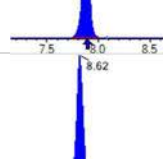
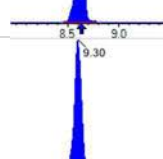
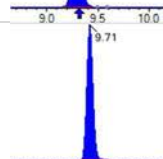
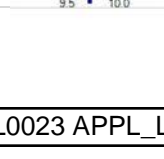
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-08  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (24)  
 Acquired: 2022/12/21 - 23:32

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 1963 (241.0 / 117.0) 3631	(4.44, 0.90) (N/A, -0.02, 0.2)	90.0 43.7	1.8503 110.6 107.5	0.3444	N/A			
5:3FTCA	(341.0 / 236.7) 144209 (341.0 / 217.0) 216674	(6.77, 1.10) (N/A, 0.00, -0.1)	579.6 395.6	1.5025 102.6 97.0	2.9623	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 184339	(3.65, N/A) (N/A, -0.02, N/A)	661.3	N/A	1.3243 [ 1.0000 ]	132.4% { 113.1% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 286885	(6.13, N/A) (N/A, -0.01, N/A)	565.2	N/A	1.2424 [ 1.0000 ]	124.2% { 128.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 258613	(7.88, N/A) (N/A, -0.01, N/A)	589.6	N/A	1.1763 [ 1.0000 ]	117.6% { 106.1% }			
13C5_PFNA_IIS	(468.0 / 423.0) 216657	(8.62, N/A) (N/A, -0.01, N/A)	488.6	N/A	1.1700 [ 1.0000 ]	117.0% { 120.2% }			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 207239	(9.30, N/A) (N/A, -0.01, N/A)	391.5	N/A	1.1214 [ 1.0000 ]	112.1% { 103.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 479797	(8.01, N/A) (N/A, -0.01, N/A)	807.7	N/A	1.1885 [ 1.0000 ]	118.8% { 116.0% }			
13C4_PFOS_IIS	(502.8 / 79.9) 391837	(9.45, N/A) (N/A, -0.01, N/A)	491.1	N/A	1.2276 [ 1.0000 ]	122.8% { 116.1% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1393522	(3.65, N/A) (N/A, -0.02, N/A)	1088.8	N/A	7.3450 [ 8.0000 ]	91.8% { 111.3% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 752067	(4.96, N/A) (N/A, -0.02, N/A)	733.3	N/A	3.7676 [ 4.0000 ]	94.2% { 113.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 641588	(6.13, N/A) (N/A, 0.00, N/A)	664.6	N/A	1.9434 [ 2.0000 ]	97.2% { 121.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 525192	(7.07, N/A) (N/A, 0.00, N/A)	617.6	N/A	1.8236 [ 2.0000 ]	91.2% { 112.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 526999	(7.88, N/A) (N/A, -0.01, N/A)	820.0	N/A	1.8582 [ 2.0000 ]	92.9% { 103.1% }			
13C9_PFNA_EIS	(472.0 / 427.0) 207934	(8.62, N/A) (N/A, -0.01, N/A)	364.7	N/A	0.8728 [ 1.0000 ]	87.3% { 113.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 275189	(9.30, N/A) (N/A, -0.01, N/A)	425.2	N/A	0.9337 [ 1.0000 ]	93.4% { 109.9% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 309737	(9.71, N/A) (N/A, 0.00, N/A)	542.9	N/A	0.7388 [ 1.0000 ]	73.9% { 96.3% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-08  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (24)  
 Acquired: 2022/12/21 - 23:32

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 374061	(9.89, N/A) (N/A, -0.01, N/A)	694.3	N/A	0.8939 [ 1.0000 ]	89.4% { 101.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 200848	(10.13, N/A) (N/A, 0.01, N/A)	294.5	N/A	0.7227 [ 1.0000 ]	72.3% { 72.7% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1680647	(6.08, N/A) (N/A, -0.01, N/A)	728.5	N/A	2.0718 [ 2.0000 ]	103.6% { 119.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 819558	(8.00, N/A) (N/A, -0.01, N/A)	897.1	N/A	1.8988 [ 2.0000 ]	94.9% { 118.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 968355	(9.44, N/A) (N/A, -0.01, N/A)	390.9	N/A	1.4399 [ 2.0000 ]	72.0% { 91.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 296296	(5.79, N/A) (N/A, -0.01, N/A)	715.5	N/A	4.3124 [ 4.0000 ]	107.8% { 131.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 325594	(7.55, N/A) (N/A, 0.00, N/A)	685.3	N/A	3.9360 [ 4.0000 ]	98.4% { 113.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 231535	(8.96, N/A) (N/A, 0.00, N/A)	481.4	N/A	2.7960 [ 4.0000 ]	69.9% { 102.8% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1547032	(10.18, N/A) (N/A, 0.00, N/A)	786.9	N/A	1.8199 [ 2.0000 ]	91.0% { 109.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 192879	(10.61, N/A) (N/A, 0.00, N/A)	608.1	N/A	1.0392 [ 2.0000 ]	52.0% { 56.9% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 177794	(10.69, N/A) (N/A, 0.00, N/A)	799.7	N/A	1.0377 [ 2.0000 ]	51.9% { 59.0% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-08  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (24)  
 Acquired: 2022/12/21 - 23:32

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 548650	(9.50, N/A) (N/A, 0.00, N/A)	286.9	N/A	3.4309 [ 4.0000 ]	85.8% { 94.4% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 493861	(9.68, N/A) (N/A, 0.00, N/A)	404.6	N/A	3.5038 [ 4.0000 ]	87.6% { 109.3% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 336781	(10.57, N/A) (N/A, 0.00, N/A)	793.8	N/A	12.9230 [ 20.0000 ]	64.6% { 71.8% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 156442	(10.66, N/A) (N/A, 0.00, N/A)	1237.5	N/A	13.1862 [ 20.0000 ]	65.9% { 71.5% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1340392	(6.48, N/A) (N/A, -0.01, N/A)	915.4	N/A	7.6364 [ 8.0000 ]	95.5% { 110.3% }			

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU04B-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-09
		File ID:	S2022-12-21B (26)
Sampled:	12/02/22 11:05	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 23:58
Solids:		Preparation:	PFAS Leachates
		Dilution:	1
Initial/Final:	106.8 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	66	7.5	3.7	0.98	
PFPEA	210	3.7	3.7	0.30	
PFHXA	93	1.9	1.9	0.26	
PFHPA	52	1.9	0.94	0.19	
PFOA	1.9	1.9	0.94	0.70	
PFNA	0.87 J	1.9	0.94	0.38	
PFDA	0.54 J	1.9	0.94	0.47	
PFUnA	0.94 U	1.9	0.94	0.75	
PFDOA	0.94 U	1.9	0.94	0.51	
PFTRDA	1.4 U	1.9	1.4	0.94	
PFTEDA	0.94 U	1.9	0.94	0.94	
PFBS	0.43 J	1.9	0.94	0.17	
PFPEs	0.94 U	1.9	0.94	0.29	
PFHXS	2.0	1.9	0.94	0.15	
PFHPS	0.94 U	1.9	0.94	0.24	
PFOS	25	1.9	0.94	0.30	
PFNS	0.94 U	1.9	0.94	0.56	
PFDS	0.94 U	1.9	0.94	0.70	
PFDOS	0.94 U	1.9	0.94	0.56	
4:2FTS	3.7 U	7.5	3.7	1.4	
6:2FTS	130	7.5	3.7	1.5	
8:2FTS	3.7 U	7.5	3.7	0.38	
PFOSA	1.6 J	1.9	0.94	0.47	
NMeFOSA	3.7 U	7.5	3.7	2.2	
NEtFOSA	3.7 U	7.5	3.7	1.9	
NMeFOSAA	0.94 U	1.9	0.94	0.51	
NEtFOSAA	0.94 U	1.9	0.94	0.51	
NMeFOSE	5.6 U	7.5	5.6	4.7	
NEtFOSE	5.6 U	7.5	5.6	4.7	
HFPO-DA	1.9 U	3.7	1.9	0.80	

**FORM I**  
**ANALYSIS DATA SHEET**  
ADIT6-DU04B-SON01MI-22DEC

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	22L0023-09
		File ID:	S2022-12-21B (26)
Sampled:	12/02/22 11:05	Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 23:58
Solids:		Preparation:	PFAS Leachates
		Dilution:	1
Initial/Final:	106.8 mL / 2 mL	Instrument:	Saphira
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	1.9 U	3.7	1.9	0.56	
PFEESA	1.9 U	3.7	1.9	0.51	
PFMPA	1.9 U	3.7	1.9	0.25	
PFMBA	1.9 U	3.7	1.9	0.43	
NFDHA	1.9 U	3.7	1.9	1.4	
9CL-PF3ONS	1.9 U	3.7	1.9	0.98	
11CL-PF3OUDS	1.9 U	3.7	1.9	0.98	
3:3FTCA	3.7 U	7.5	3.7	2.7	
5:3FTCA	2.5 J	7.5	3.7	2.1	
7:3FTCA	3.7 U	7.5	3.7	2.6	



Chemist: ABK  
Instrument: Saphira  
Type: Sciex Q3 5500

Sample I.D.: 22L0023-09  
DF, IV: 1, 10.0µL  
Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
Path: S2022-12-21B (26)  
Acquired: 2022/12/21 - 23:58

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 344075	(3.65, 1.00) (0.00, N/A, 0.0)	66.6	N/A 0.0 0.0	3.5253	N/A			
PFPeA	(262.9 / 219.0) 1680893 (262.9 / 69.0) 19438	(4.96, 1.00) (0.00, N/A, 0.0)	797.5 222.1	0.0116 103.3 99.7	11.1231	N/A			
PFHxA	(313.0 / 269.0) 1208333 (313.0 / 119.0) 106698	(6.10, 1.00) (0.00, N/A, 0.0)	648.0 493.8	0.0883 90.3 95.2	4.9409	N/A			
PFHpA	(363.0 / 319.0) 644553 (363.0 / 169.0) 182838	(7.02, 1.00) (0.00, N/A, 0.0)	632.7 454.1	0.2837 91.1 91.0	2.7613	N/A			
PFOA	(413.0 / 369.0) 26475 (413.0 / 169.0) 9282	(7.84, 1.00) (0.01, N/A, 0.5)	68.5 68.4	0.3506 107.3 106.6	0.1028	N/A			
PFNA	(463.0 / 419.0) 8024 (463.0 / 169.0) 1957	(8.57, 1.00) (0.00, N/A, 0.9)	52.2 11.0	0.2439 126.5 106.3	0.0463	N/A			
PFDA	(513.0 / 469.0) 7260 (513.0 / 169.0) 784	(9.26, 1.00) (0.01, N/A, 0.3)	16.0 6096.3	0.1080 113.0 100.1	0.0289	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-09  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (26)  
 Acquired: 2022/12/21 - 23:58

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) 8623 ( 298.9 / 99.0 ) 5090	( 6.05 , 1.00 ) ( 0.00 , N/A , -0.3)	60.2 43.6	0.5903 95.9 94.5	0.0227	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) 63530 ( 399.0 / 99.0 ) 19259	( 7.95 , 1.00 ) ( 0.00 , N/A , 0.1)	810.2 10743.1	0.3031 90.2 89.2	0.1052	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 815124 ( 499.0 / 99.0 ) 210090	( 9.40 , 1.00 ) ( 0.00 , N/A , -0.1)	170.0 218.1	0.2577 106.0 120.0	1.3501	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) 1018687 ( 427.0 / 81.0 ) 723665	( 7.49 , 1.00 ) ( 0.00 , N/A , -0.2)	782.8 778.6	0.7104 91.3 109.7	6.7116	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



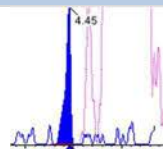
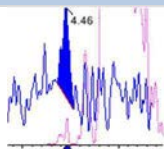
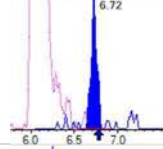
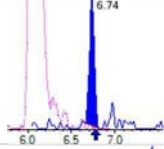
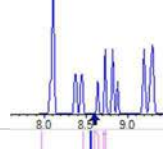
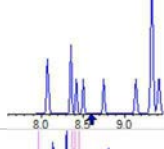
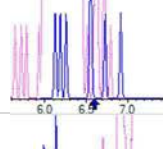
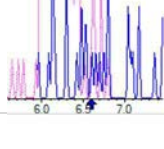
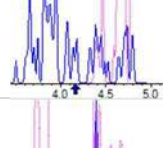
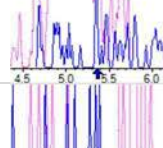
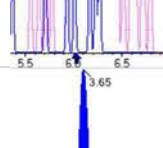
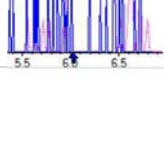
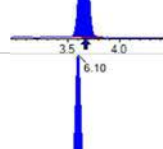
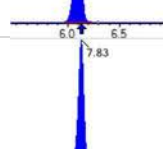
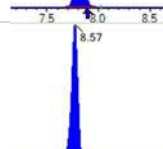

Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

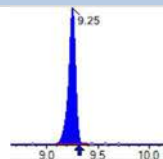
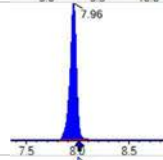
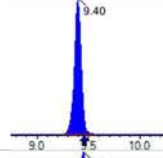
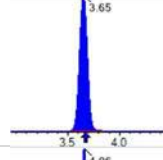
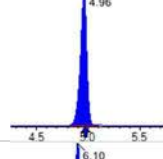
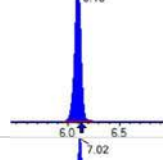
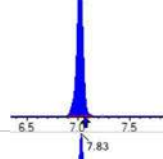
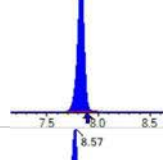
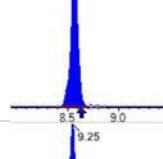
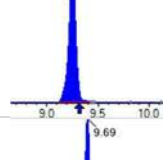
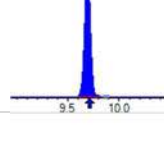
Sample I.D.: 22L0023-09  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (26)  
 Acquired: 2022/12/21 - 23:58

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 41827 ( 498.0 / 478.0 ) 631	( 10.16 , 1.00 ) ( 0.00 , N/A , 1.6 )	165.6 47349.8	0.0151 72.4 64.3	0.0839	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 535 (241.0 / 117.0) 753	(4.45, 0.90) (N/A, 0.00, -0.3)	38.5 8.8	1.4080 84.1 81.8	0.1025	N/A			
5:3FTCA	(341.0 / 236.7) 5671 (341.0 / 217.0) 8616	(6.72, 1.10) (N/A, -0.05, -0.8)	52.8 55.8	1.5192 103.8 98.1	0.1312	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 164207	(3.65, N/A) (N/A, -0.02, N/A)	720.6	N/A	1.1797 [ 1.0000 ]	118.0% { 100.7% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 287612	(6.10, N/A) (N/A, -0.04, N/A)	600.1	N/A	1.2455 [ 1.0000 ]	124.6% { 128.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 289009	(7.83, N/A) (N/A, -0.06, N/A)	633.9	N/A	1.3146 [ 1.0000 ]	131.5% { 118.6% }			
13C5_PFNA_IIS	(468.0 / 423.0) 239200	(8.57, N/A) (N/A, -0.06, N/A)	471.0	N/A	1.2917 [ 1.0000 ]	129.2% { 132.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 222384	(9.25, N/A) (N/A, -0.06, N/A)	412.9	N/A	1.2033 [ 1.0000 ]	120.3% { 111.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 506563	(7.96, N/A) (N/A, -0.05, N/A)	800.3	N/A	1.2548 [ 1.0000 ]	125.5% { 122.5% }			
13C4_PFOS_IIS	(502.8 / 79.9) 399477	(9.40, N/A) (N/A, -0.05, N/A)	456.6	N/A	1.2516 [ 1.0000 ]	125.2% { 118.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1196869	(3.65, N/A) (N/A, -0.02, N/A)	1055.6	N/A	7.0819 [ 8.0000 ]	88.5% { 95.6% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 688263	(4.96, N/A) (N/A, -0.02, N/A)	690.6	N/A	3.4393 [ 4.0000 ]	86.0% { 103.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 569517	(6.10, N/A) (N/A, -0.04, N/A)	632.9	N/A	1.7207 [ 2.0000 ]	86.0% { 107.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 512152	(7.02, N/A) (N/A, -0.05, N/A)	728.1	N/A	1.7738 [ 2.0000 ]	88.7% { 110.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 523833	(7.83, N/A) (N/A, -0.05, N/A)	728.6	N/A	1.6528 [ 2.0000 ]	82.6% { 102.5% }			
13C9_PFNA_EIS	(472.0 / 427.0) 201927	(8.57, N/A) (N/A, -0.06, N/A)	424.4	N/A	0.7677 [ 1.0000 ]	76.8% { 110.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 263697	(9.25, N/A) (N/A, -0.06, N/A)	321.0	N/A	0.8337 [ 1.0000 ]	83.4% { 105.3% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 300754	(9.69, N/A) (N/A, -0.03, N/A)	513.6	N/A	0.6685 [ 1.0000 ]	66.9% { 93.5% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-09  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (26)  
 Acquired: 2022/12/21 - 23:58

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 281235	(9.87, N/A) (N/A, -0.02, N/A)	605.4	N/A	0.6263 [ 1.0000 ]	62.6% { 76.2% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 119525	(10.11, N/A) (N/A, -0.01, N/A)	325.3	N/A	0.4008 [ 1.0000 ]	40.1% { 43.2% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1383633	(6.05, N/A) (N/A, -0.04, N/A)	772.9	N/A	1.6155 [ 2.0000 ]	80.8% { 98.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 777551	(7.96, N/A) (N/A, -0.06, N/A)	1025.6	N/A	1.7063 [ 2.0000 ]	85.3% { 112.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1112458	(9.40, N/A) (N/A, -0.05, N/A)	470.9	N/A	1.6226 [ 2.0000 ]	81.1% { 104.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 317355	(5.77, N/A) (N/A, -0.03, N/A)	611.9	N/A	4.3748 [ 4.0000 ]	109.4% { 140.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 394866	(7.49, N/A) (N/A, -0.05, N/A)	799.4	N/A	4.5212 [ 4.0000 ]	113.0% { 137.1% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 321984	(8.91, N/A) (N/A, -0.06, N/A)	613.8	N/A	3.6828 [ 4.0000 ]	92.1% { 143.0% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1055222	(10.16, N/A) (N/A, -0.02, N/A)	733.5	N/A	1.2176 [ 2.0000 ]	60.9% { 74.5% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 123975	(10.59, N/A) (N/A, -0.02, N/A)	892.2	N/A	0.6552 [ 2.0000 ]	32.8% { 36.6% }			
D5_NeIFOSA_EIS	(531.1 / 169.0) 110384	(10.67, N/A) (N/A, -0.02, N/A)	1058.3	N/A	0.6319 [ 2.0000 ]	31.6% { 36.6% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: 22L0023-09  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (26)  
 Acquired: 2022/12/21 - 23:58

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 509811	(9.45, N/A) (N/A, -0.05, N/A)	382.4	N/A	3.1271 [ 4.0000 ]	78.2% { 87.8% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 522003	(9.65, N/A) (N/A, -0.03, N/A)	401.6	N/A	3.6326 [ 4.0000 ]	90.8% { 115.6% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 184810	(10.55, N/A) (N/A, -0.02, N/A)	880.5	N/A	6.9559 [ 20.0000 ]	34.8% { 39.4% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 77258	(10.65, N/A) (N/A, -0.02, N/A)	894.0	N/A	6.3874 [ 20.0000 ]	31.9% { 35.3% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1207921	(6.44, N/A) (N/A, -0.04, N/A)	575.9	N/A	6.8643 [ 8.0000 ]	85.8% { 99.4% }			

# QUALITY CONTROL

# SURROGATE SUMMARY SHEET

## EPA 1633 SPLP

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>ADIT6-IDW-SON01MI-22DEC (22L0023-01) . ng/L</b>		Lab File ID: S2022-12-21B (10)		Analyzed: 12/21/22 20:35
13C4-PFBA	149	93.7	20 - 150	
13C5-PFPEA	74.4	97.0	20 - 150	
13C5-PFHXA	37.2	95.9	20 - 150	
13C4-PFHPA	37.2	86.1	20 - 150	
13C8-PFOA	37.2	86.1	20 - 150	
13C9-PFNA	18.6	92.3	20 - 150	
13C6-PFDA	18.6	84.7	20 - 150	
13C7-PFUnA	18.6	41.4	20 - 150	
13C2-PFDOA	18.6	79.8	20 - 150	
13C2-PFTEDA	18.6	62.3	20 - 150	
13C3-PFBS	37.2	117	20 - 150	
13C3-PFHXS	37.2	90.5	20 - 150	
13C8-PFOS	37.2	98.9	20 - 150	
13C2-4:2FTS	74.4	141	20 - 150	
13C2-6:2FTS	74.4	121	20 - 150	
13C2-8:2FTS	74.4	25.9	20 - 150	
13C8-PFOSA	37.2	81.0	20 - 150	
D5-NETFOSA	37.2	50.5	20 - 150	
D3-NMEFOSA	37.2	54.2	20 - 150	
D3-NMEFOSAA	74.4	129	20 - 150	
D5-NETFOSAA	74.4	94.8	20 - 150	
D7-NMEFOSE	372	96.1	20 - 150	
D9-NETFOSE	372	89.2	20 - 150	
13C3-HFPO-DA	149	92.9	20 - 150	
<b>ADIT6-IDW-SON01MI-22DEC (22L0023-01RE1) . ng/L</b>		Lab File ID: S2022-12-21B (11)		Analyzed: 12/21/22 20:47
13C2-6:2FTS	74.4	138	20 - 150	

# SURROGATE SUMMARY SHEET

EPA 1633 SPLP

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>ADIT6-IDW-SOFD01MI-22DEC (22L0023-02) . ng/L</b>		Lab File ID: S2022-12-21B (12)		Analyzed: 12/21/22 21:00
13C4-PFBA	152	94.3	20 - 150	
13C5-PFPEA	76.2	94.7	20 - 150	
13C5-PFHXA	38.1	94.0	20 - 150	
13C4-PFHPA	38.1	85.6	20 - 150	
13C8-PFOA	38.1	91.6	20 - 150	
13C9-PFNA	19.0	97.7	20 - 150	
13C6-PFDA	19.0	85.0	20 - 150	
13C7-PFUnA	19.0	43.3	20 - 150	
13C2-PFDOA	19.0	97.6	20 - 150	
13C2-PFTEDA	19.0	50.7	20 - 150	
13C3-PFBS	38.1	121	20 - 150	
13C3-PFHXS	38.1	85.5	20 - 150	
13C8-PFOS	38.1	103	20 - 150	
13C2-4:2FTS	76.2	169	20 - 150	*
13C2-6:2FTS	76.2	120	20 - 150	
13C2-8:2FTS	76.2	32.9	20 - 150	
13C8-PFOSA	38.1	107	20 - 150	
D5-NETFOSA	38.1	64.1	20 - 150	
D3-NMEFOSA	38.1	67.4	20 - 150	
D3-NMEFOSAA	76.2	151	20 - 150	*
D5-NETFOSAA	76.2	104	20 - 150	
D7-NMEFOSE	381	109	20 - 150	
D9-NETFOSE	381	108	20 - 150	
13C3-HFPO-DA	152	97.0	20 - 150	
<b>ADIT6-IDW-SOFD01MI-22DEC (22L0023-02RE1) . ng/L</b>		Lab File ID: S2022-12-21B (13)		Analyzed: 12/21/22 21:13
13C2-4:2FTS	76.2	96.6	20 - 150	
13C2-6:2FTS	76.2	170	20 - 150	*
D3-NMEFOSAA	76.2	94.4	20 - 150	

## SURROGATE SUMMARY SHEET

EPA 1633 SPLP

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>ADIT6-IDW-SOFT01MI-22DEC (22L0023-03) . ng/L</b>				
		Lab File ID: S2022-12-21B (14)		Analyzed: 12/21/22 21:25
13C4-PFBA	148	98.9	20 - 150	
13C5-PFPEA	73.8	96.0	20 - 150	
13C5-PFHXA	36.9	93.5	20 - 150	
13C4-PFHPA	36.9	86.5	20 - 150	
13C8-PFOA	36.9	92.7	20 - 150	
13C9-PFNA	18.5	88.8	20 - 150	
13C6-PFDA	18.5	83.2	20 - 150	
13C7-PFUnA	18.5	40.5	20 - 150	
13C2-PFDOA	18.5	70.5	20 - 150	
13C2-PFTEDA	18.5	58.0	20 - 150	
13C3-PFBS	36.9	116	20 - 150	
13C3-PFHXS	36.9	91.7	20 - 150	
13C8-PFOS	36.9	102	20 - 150	
13C2-4:2FTS	73.8	162	20 - 150	*
13C2-6:2FTS	73.8	123	20 - 150	
13C2-8:2FTS	73.8	35.0	20 - 150	
13C8-PFOSA	36.9	91.8	20 - 150	
D5-NETFOSA	36.9	52.2	20 - 150	
D3-NMEFOSA	36.9	50.0	20 - 150	
D3-NMEFOSAA	73.8	111	20 - 150	
D5-NETFOSAA	73.8	108	20 - 150	
D7-NMEFOSE	369	97.3	20 - 150	
D9-NETFOSSE	369	90.3	20 - 150	
13C3-HFPO-DA	148	91.9	20 - 150	
<b>ADIT6-IDW-SOFT01MI-22DEC (22L0023-03RE1) . ng/L</b>				
		Lab File ID: S2022-12-21B (15)		Analyzed: 12/21/22 21:38
13C2-4:2FTS	73.8	97.0	20 - 150	
13C2-6:2FTS	73.8	165	20 - 150	*



# SURROGATE SUMMARY SHEET

EPA 1633 SPLP

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>ADIT6-DU02-SON01MI-22DEC (22L0023-04) . ng/L</b>				
		Lab File ID: S2022-12-21B (16)		Analyzed: 12/21/22 21:51
13C4-PFBA	147	92.0	20 - 150	
13C5-PFPEA	73.3	92.0	20 - 150	
13C5-PFHXA	36.7	81.0	20 - 150	
13C4-PFHFA	36.7	75.7	20 - 150	
13C8-PFOA	36.7	86.5	20 - 150	
13C9-PFNA	18.3	92.6	20 - 150	
13C6-PFDA	18.3	86.2	20 - 150	
13C7-PFUnA	18.3	22.8	20 - 150	
13C2-PFDOA	18.3	79.9	20 - 150	
13C2-PFTEDA	18.3	54.7	20 - 150	
13C3-PFBS	36.7	128	20 - 150	
13C3-PFHXS	36.7	88.3	20 - 150	
13C8-PFOS	36.7	102	20 - 150	
13C2-4:2FTS	73.3	174	20 - 150	*
13C2-6:2FTS	73.3	103	20 - 150	
13C2-8:2FTS	73.3	8.84	20 - 150	*
13C8-PFOSA	36.7	56.0	20 - 150	
D5-NETFOSA	36.7	71.4	20 - 150	
D3-NMEFOSA	36.7	64.9	20 - 150	
D3-NMEFOSAA	73.3	196	20 - 150	*
D5-NETFOSAA	73.3	124	20 - 150	
D7-NMEFOSE	367	135	20 - 150	
D9-NETFOSE	367	118	20 - 150	
13C3-HFPO-DA	147	85.2	20 - 150	
<b>ADIT6-DU02-SON01MI-22DEC (22L0023-04RE1) . ng/L</b>				
		Lab File ID: S2022-12-21B (17)		Analyzed: 12/21/22 22:03
13C2-4:2FTS	73.3	103	20 - 150	
13C2-6:2FTS	73.3	160	20 - 150	*
13C2-8:2FTS	73.3	48.8	20 - 150	
D3-NMEFOSAA	73.3	101	20 - 150	

# SURROGATE SUMMARY SHEET

## EPA 1633 SPLP

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>ADIT6-DU02-SOFD01MI-22DEC (22L0023-05) . ng/L</b>		Lab File ID: S2022-12-21B (18)		Analyzed: 12/21/22 22:16
13C4-PFBA	149	95.7	20 - 150	
13C5-PFPEA	74.4	108	20 - 150	
13C5-PFHXA	37.2	89.5	20 - 150	
13C4-PFHFA	37.2	82.1	20 - 150	
13C8-PFOA	37.2	90.0	20 - 150	
13C9-PFNA	18.6	82.1	20 - 150	
13C6-PFDA	18.6	73.8	20 - 150	
13C7-PFUnA	18.6	26.8	20 - 150	
13C2-PFDOA	18.6	72.8	20 - 150	
13C2-PFTEDA	18.6	44.8	20 - 150	
13C3-PFBS	37.2	128	20 - 150	
13C3-PFHXS	37.2	89.9	20 - 150	
13C8-PFOS	37.2	95.7	20 - 150	
13C2-4:2FTS	74.4	180	20 - 150	*
13C2-6:2FTS	74.4	87.3	20 - 150	
13C2-8:2FTS	74.4	10.9	20 - 150	*
13C8-PFOSA	37.2	50.1	20 - 150	
D5-NETFOSA	37.2	61.9	20 - 150	
D3-NMEFOSA	37.2	63.0	20 - 150	
D3-NMEFOSAA	74.4	193	20 - 150	*
D5-NETFOSAA	74.4	116	20 - 150	
D7-NMEFOSE	372	122	20 - 150	
D9-NETFOSSE	372	118	20 - 150	
13C3-HFPO-DA	149	93.6	20 - 150	
<b>ADIT6-DU02-SOFD01MI-22DEC (22L0023-05RE1) . ng/L</b>		Lab File ID: S2022-12-21B (19)		Analyzed: 12/21/22 22:29
13C5-PFHXA	37.2	92.2	20 - 150	
13C2-4:2FTS	74.4	121	20 - 150	
13C2-6:2FTS	74.4	194	20 - 150	*
13C2-8:2FTS	74.4	38.6	20 - 150	
D3-NMEFOSAA	74.4	83.6	20 - 150	

# SURROGATE SUMMARY SHEET

EPA 1633 SPLP

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>ADIT6-DU02-SOFT01MI-22DEC (22L0023-06 ) ng/L</b>		Lab File ID: S2022-12-21B (20)		Analyzed: 12/21/22 22:42
13C4-PFBA	146	91.5	20 - 150	
13C5-PFPEA	72.9	90.8	20 - 150	
13C5-PFHXA	36.4	82.3	20 - 150	
13C4-PFHFA	36.4	82.1	20 - 150	
13C8-PFOA	36.4	81.2	20 - 150	
13C9-PFNA	18.2	80.0	20 - 150	
13C6-PFDA	18.2	67.7	20 - 150	
13C7-PFUnA	18.2	38.9	20 - 150	
13C2-PFDOA	18.2	75.3	20 - 150	
13C2-PFTEDA	18.2	43.4	20 - 150	
13C3-PFBS	36.4	106	20 - 150	
13C3-PFHXS	36.4	82.3	20 - 150	
13C8-PFOS	36.4	93.6	20 - 150	
13C2-4:2FTS	72.9	137	20 - 150	
13C2-6:2FTS	72.9	122	20 - 150	
13C2-8:2FTS	72.9	17.7	20 - 150	*
13C8-PFOSA	36.4	67.3	20 - 150	
D5-NETFOSA	36.4	37.7	20 - 150	
D3-NMEFOSA	36.4	41.3	20 - 150	
D3-NMEFOSAA	72.9	128	20 - 150	
D5-NETFOSAA	72.9	110	20 - 150	
D7-NMEFOSE	364	87.7	20 - 150	
D9-NETFOSE	364	86.8	20 - 150	
13C3-HFPO-DA	146	85.5	20 - 150	
<b>ADIT6-DU02-SOFT01MI-22DEC (22L0023-06RE1 ) ng/L</b>		Lab File ID: S2022-12-21B (21)		Analyzed: 12/21/22 22:54
13C2-6:2FTS	72.9	135	20 - 150	
13C2-8:2FTS	72.9	57.2	20 - 150	

# SURROGATE SUMMARY SHEET

EPA 1633 SPLP

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>ADIT6-DU04A-SON01MI-22DEC (22L0023-07) . ng/L</b>	Lab File ID: S2022-12-21B (22)			Analyzed: 12/21/22 23:07
13C4-PFBA	147	89.6	20 - 150	
13C5-PFPEA	73.4	89.4	20 - 150	
13C5-PFHXA	36.7	81.0	20 - 150	
13C4-PFHFA	36.7	86.1	20 - 150	
13C8-PFOA	36.7	89.4	20 - 150	
13C9-PFNA	18.3	86.9	20 - 150	
13C6-PFDA	18.3	74.5	20 - 150	
13C7-PFUnA	18.3	66.1	20 - 150	
13C2-PFDOA	18.3	59.0	20 - 150	
13C2-PFTEDA	18.3	39.3	20 - 150	
13C3-PFBS	36.7	90.5	20 - 150	
13C3-PFHXS	36.7	83.1	20 - 150	
13C8-PFOS	36.7	81.4	20 - 150	
13C2-4:2FTS	73.4	119	20 - 150	
13C2-6:2FTS	73.4	97.9	20 - 150	
13C2-8:2FTS	73.4	92.9	20 - 150	
13C8-PFOSA	36.7	74.1	20 - 150	
D5-NETFOSA	36.7	39.1	20 - 150	
D3-NMEFOSA	36.7	40.1	20 - 150	
D3-NMEFOSAA	73.4	89.0	20 - 150	
D5-NETFOSAA	73.4	88.4	20 - 150	
D7-NMEFOSE	367	39.8	20 - 150	
D9-NETFOSE	367	42.7	20 - 150	
13C3-HFPO-DA	147	89.4	20 - 150	

# SURROGATE SUMMARY SHEET

EPA 1633 SPLP

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>ADIT6-DU01-SON01MI-22DEC (22L0023-08) . ng/L</b>	Lab File ID: S2022-12-21B (24)			Analyzed: 12/21/22 23:32
13C4-PFBA	148	91.8	20 - 150	
13C5-PFPEA	73.8	94.2	20 - 150	
13C5-PFHXA	36.9	97.2	20 - 150	
13C4-PFHFA	36.9	91.2	20 - 150	
13C8-PFOA	36.9	92.9	20 - 150	
13C9-PFNA	18.5	87.3	20 - 150	
13C6-PFDA	18.5	93.4	20 - 150	
13C7-PFUnA	18.5	73.9	20 - 150	
13C2-PFDOA	18.5	89.4	20 - 150	
13C2-PFTEDA	18.5	72.3	20 - 150	
13C3-PFBS	36.9	104	20 - 150	
13C3-PFHXS	36.9	94.9	20 - 150	
13C8-PFOS	36.9	72.0	20 - 150	
13C2-4:2FTS	73.8	108	20 - 150	
13C2-6:2FTS	73.8	98.4	20 - 150	
13C2-8:2FTS	73.8	69.9	20 - 150	
13C8-PFOSA	36.9	91.0	20 - 150	
D5-NETFOSA	36.9	51.9	20 - 150	
D3-NMEFOSA	36.9	52.0	20 - 150	
D3-NMEFOSAA	73.8	85.8	20 - 150	
D5-NETFOSAA	73.8	87.6	20 - 150	
D7-NMEFOSE	369	64.6	20 - 150	
D9-NETFOSE	369	65.9	20 - 150	
13C3-HFPO-DA	148	95.5	20 - 150	

# SURROGATE SUMMARY SHEET

EPA 1633 SPLP

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>ADIT6-DU04B-SON01MI-22DEC (22L0023-09) . ng/L</b>	Lab File ID: S2022-12-21B (26)			Analyzed: 12/21/22 23:58
13C4-PFBA	150	88.5	20 - 150	
13C5-PFPEA	74.9	86.0	20 - 150	
13C5-PFHXA	37.5	86.0	20 - 150	
13C4-PFHFA	37.5	88.7	20 - 150	
13C8-PFOA	37.5	82.6	20 - 150	
13C9-PFNA	18.7	76.8	20 - 150	
13C6-PFDA	18.7	83.4	20 - 150	
13C7-PFUnA	18.7	66.9	20 - 150	
13C2-PFDOA	18.7	62.6	20 - 150	
13C2-PFTEDA	18.7	40.1	20 - 150	
13C3-PFBS	37.5	80.8	20 - 150	
13C3-PFHXS	37.5	85.3	20 - 150	
13C8-PFOS	37.5	81.1	20 - 150	
13C2-4:2FTS	74.9	109	20 - 150	
13C2-6:2FTS	74.9	113	20 - 150	
13C2-8:2FTS	74.9	92.1	20 - 150	
13C8-PFOSA	37.5	60.9	20 - 150	
D5-NETFOSA	37.5	31.6	20 - 150	
D3-NMEFOSA	37.5	32.8	20 - 150	
D3-NMEFOSAA	74.9	78.2	20 - 150	
D5-NETFOSAA	74.9	90.8	20 - 150	
D7-NMEFOSE	375	34.8	20 - 150	
D9-NETFOSE	375	31.9	20 - 150	
13C3-HFPO-DA	150	85.8	20 - 150	

# SURROGATE SUMMARY SHEET

EPA 1633 SPLP

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>Blank (BBL0372-BLK1) . ng/L</b>	Lab File ID: S2022-12-21B (7)			Analyzed: 12/21/22 19:57
13C4-PFBA	160	94.4	20 - 150	
13C5-PFPEA	80.0	90.8	20 - 150	
13C5-PFHXA	40.0	87.4	20 - 150	
13C4-PFHPA	40.0	86.2	20 - 150	
13C8-PFOA	40.0	85.7	20 - 150	
13C9-PFNA	20.0	75.8	20 - 150	
13C6-PFDA	20.0	86.4	20 - 150	
13C7-PFUnA	20.0	66.8	20 - 150	
13C2-PFDOA	20.0	76.9	20 - 150	
13C2-PFTEDA	20.0	82.4	20 - 150	
13C3-PFBS	40.0	90.5	20 - 150	
13C3-PFHXS	40.0	82.1	20 - 150	
13C8-PFOS	40.0	75.7	20 - 150	
13C2-4:2FTS	80.0	82.2	20 - 150	
13C2-6:2FTS	80.0	73.6	20 - 150	
13C2-8:2FTS	80.0	79.8	20 - 150	
13C8-PFOSA	40.0	77.8	20 - 150	
D5-NETFOSA	40.0	21.6	20 - 150	
D3-NMEFOSA	40.0	24.9	20 - 150	
D3-NMEFOSAA	80.0	78.6	20 - 150	
D5-NETFOSAA	80.0	85.2	20 - 150	
D7-NMEFOSE	400	47.2	20 - 150	
D9-NETFOSE	400	41.2	20 - 150	
13C3-HFPO-DA	160	83.8	20 - 150	

# SURROGATE SUMMARY SHEET

EPA 1633 SPLP

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>LCS (BBL0372-BS1) . ng/L</b>	Lab File ID: S2022-12-21B (8)			Analyzed: 12/21/22 20:09
13C4-PFBA	160	90.9	20 - 150	
13C5-PFPEA	80.0	94.5	20 - 150	
13C5-PFHXA	40.0	86.1	20 - 150	
13C4-PFHFA	40.0	89.1	20 - 150	
13C8-PFOA	40.0	87.2	20 - 150	
13C9-PFNA	20.0	89.9	20 - 150	
13C6-PFDA	20.0	80.8	20 - 150	
13C7-PFUnA	20.0	78.6	20 - 150	
13C2-PFDOA	20.0	68.7	20 - 150	
13C2-PFTEDA	20.0	68.2	20 - 150	
13C3-PFBS	40.0	89.4	20 - 150	
13C3-PFHXS	40.0	81.4	20 - 150	
13C8-PFOS	40.0	69.7	20 - 150	
13C2-4:2FTS	80.0	86.3	20 - 150	
13C2-6:2FTS	80.0	80.1	20 - 150	
13C2-8:2FTS	80.0	73.9	20 - 150	
13C8-PFOSA	40.0	76.3	20 - 150	
D5-NETFOSA	40.0	18.3	20 - 150	*
D3-NMEFOSA	40.0	22.5	20 - 150	
D3-NMEFOSAA	80.0	68.1	20 - 150	
D5-NETFOSAA	80.0	66.1	20 - 150	
D7-NMEFOSE	400	41.3	20 - 150	
D9-NETFOSE	400	37.0	20 - 150	
13C3-HFPO-DA	160	91.9	20 - 150	



# SURROGATE SUMMARY SHEET

EPA 1633 SPLP

Client: AECOM  
 Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
<b>MRL Check (BBL0372-MRL1) . ng/L</b>	Lab File ID: S2022-12-21B (9)			Analyzed: 12/21/22 20:22
13C4-PFBA	160	91.8	20 - 150	
13C5-PFPEA	80.0	91.0	20 - 150	
13C5-PFHXA	40.0	88.5	20 - 150	
13C4-PFHFA	40.0	91.5	20 - 150	
13C8-PFOA	40.0	86.0	20 - 150	
13C9-PFNA	20.0	76.0	20 - 150	
13C6-PFDA	20.0	73.3	20 - 150	
13C7-PFUnA	20.0	71.8	20 - 150	
13C2-PFDOA	20.0	81.5	20 - 150	
13C2-PFTEDA	20.0	85.1	20 - 150	
13C3-PFBS	40.0	78.5	20 - 150	
13C3-PFHXS	40.0	79.2	20 - 150	
13C8-PFOS	40.0	79.5	20 - 150	
13C2-4:2FTS	80.0	87.0	20 - 150	
13C2-6:2FTS	80.0	81.0	20 - 150	
13C2-8:2FTS	80.0	72.9	20 - 150	
13C8-PFOSA	40.0	73.5	20 - 150	
D5-NETFOSA	40.0	24.5	20 - 150	
D3-NMEFOSA	40.0	28.2	20 - 150	
D3-NMEFOSAA	80.0	76.3	20 - 150	
D5-NETFOSAA	80.0	73.8	20 - 150	
D7-NMEFOSE	400	49.7	20 - 150	
D9-NETFOSE	400	47.2	20 - 150	
13C3-HFPO-DA	160	89.9	20 - 150	



# ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0372-BLK1
Sampled:		File ID:	S2022-12-21B (7)
		Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 19:57
Solids:		Preparation:	PFAS Leachates
		Dilution:	1
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011
		Instrument:	Saphira
Column:	1		

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	4.0 U	8.0	4.0	1.0	U
PFPEA	4.0 U	4.0	4.0	0.32	U
PFHXA	2.0 U	2.0	2.0	0.28	U
PFHPA	1.0 U	2.0	1.0	0.20	U
PFOA	1.0 U	2.0	1.0	0.75	IR2, U
PFNA	1.0 U	2.0	1.0	0.41	U
PFDA	1.0 U	2.0	1.0	0.50	U
PFUnA	1.0 U	2.0	1.0	0.80	U
PFDOA	1.0 U	2.0	1.0	0.55	U
PFTRDA	1.5 U	2.0	1.5	1.0	U
PFTEDA	1.0 U	2.0	1.0	1.0	U
PFBS	1.0 U	2.0	1.0	0.18	U
PFPEs	1.0 U	2.0	1.0	0.32	U
PFHXS	1.0 U	2.0	1.0	0.16	U
PFHPS	1.0 U	2.0	1.0	0.26	U
PFOS	0.604 J	2.0	1.0	0.32	J
PFNS	1.0 U	2.0	1.0	0.60	U
PFDS	1.0 U	2.0	1.0	0.75	U
PFDOS	1.0 U	2.0	1.0	0.60	U
4:2FTS	4.0 U	8.0	4.0	1.4	U
6:2FTS	4.0 U	8.0	4.0	1.6	U
8:2FTS	4.0 U	8.0	4.0	0.41	U
PFOSA	1.0 U	2.0	1.0	0.50	U
NMeFOSA	4.0 U	8.0	4.0	2.4	U
NEtFOSA	4.0 U	8.0	4.0	2.0	U
NMeFOSAA	1.0 U	2.0	1.0	0.55	U
NEtFOSAA	1.0 U	2.0	1.0	0.55	U
NMeFOSE	6.0 U	8.0	6.0	5.0	U
NEtFOSE	6.0 U	8.0	6.0	5.0	U
HFPO-DA	2.0 U	4.0	2.0	0.85	U

**ANALYSIS DATA SHEET**

Blank

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0372-BLK1
Sampled:		File ID:	S2022-12-21B (7)
		Prepared:	12/19/22 12:22
Solids:		Analyzed:	12/21/22 19:57
		Preparation:	PFAS Leachates
Batch:	BBL0372	Dilution:	1
Column:	1	Sequence:	SB03942
		Calibration:	2252011
		Instrument:	Saphira

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	2.0 U	4.0	2.0	0.60	U
PFEESA	2.0 U	4.0	2.0	0.55	U
PFMPA	2.0 U	4.0	2.0	0.27	U
PFMBA	2.0 U	4.0	2.0	0.46	U
NFDHA	2.0 U	4.0	2.0	1.5	U
9CL-PF3ONS	2.0 U	4.0	2.0	1.0	U
11CL-PF3OUDS	2.0 U	4.0	2.0	1.0	U
3:3FTCA	4.0 U	8.0	4.0	2.8	U
5:3FTCA	4.0 U	8.0	4.0	2.2	U
7:3FTCA	4.0 U	8.0	4.0	2.8	U

**LCS / LCS DUPLICATE RECOVERY****EPA 1633 SPLP**

Laboratory: APPL, LLC

Work Order: 22L0023

Client: AECOM

Project: Red Hill AFFF Assessment Sampling

Matrix: Solid

Preparation: PFAS Leachates

Batch: BBL0372

Laboratory ID: BBL0372-BS1

Column:

<b>ANALYTE</b>	<b>SPIKE ADDED (ng/L)</b>	<b>LCS CONCENTRATION (ng/L)</b>	<b>LCS % REC.</b>	<b>QC LIMITS REC.</b>
PFBA	80.0	79.8	99.7	40 - 150
PFPEA	40.0	39.7	99.3	40 - 150
PFHXA	20.0	20.9	105	40 - 150
PFHPA	20.0	19.3	96.7	40 - 150
PFOA	20.0	19.6	98.0	40 - 150
PFNA	20.0	21.7	109	40 - 150
PFDA	20.0	19.3	96.5	40 - 150
PFUnA	20.0	19.4	96.8	40 - 150
PFDOA	20.0	21.4	107	40 - 150
PFTRDA	20.0	20.5	102	40 - 150
PFTEDA	20.0	21.9	109	40 - 150
PFBS	17.7	18.7	106	40 - 150
PFPEs	18.8	20.5	109	40 - 150
PFHXS	18.3	19.1	104	40 - 150
PFHPS	19.1	21.1	111	40 - 150
PFOS	18.6	19.8	106	40 - 150
PFNS	19.2	19.3	100	40 - 150
PFDS	19.3	19.0	98.3	40 - 150
PFDOS	19.4	20.3	104	40 - 150
4:2FTS	75.0	76.8	102	40 - 150
6:2FTS	76.0	81.0	107	40 - 150
8:2FTS	76.8	77.3	101	40 - 150
PFOSA	20.0	20.5	103	40 - 150
NMeFOSA	80.0	87.1	109	40 - 150
NEtFOSA	80.0	91.7	115	40 - 150
NMeFOSAA	20.0	23.5	117	40 - 150
NEtFOSAA	20.0	23.3	116	40 - 150
NMeFOSE	80.0	71.2	89.0	40 - 150
NEtFOSE	80.0	58.1	72.6	40 - 150
HFPO-DA	40.0	37.4	93.6	40 - 150
ADONA	37.8	35.7	94.4	40 - 150
PFEESA	35.6	36.6	103	40 - 150
PFMPA	40.0	40.7	102	40 - 150
PFMBA	40.0	36.6	91.6	40 - 150

**LCS / LCS DUPLICATE RECOVERY****EPA 1633 SPLP**

Laboratory: APPL, LLC

Work Order: 22L0023

Client: AECOM

Project: Red Hill AFFF Assessment Sampling

Matrix: Solid

Preparation: PFAS Leachates

Batch: BBL0372

Laboratory ID: BBL0372-BS1

Column:

<b>ANALYTE</b>	<b>SPIKE ADDED (ng/L)</b>	<b>LCS CONCENTRATION (ng/L)</b>	<b>LCS % REC.</b>	<b>QC LIMITS REC.</b>
NFDHA	40.0	44.2	110	40 - 150
9CL-PF3ONS	37.4	29.5	79.0	40 - 150
11CL-PF3OUDS	37.8	29.1	76.9	40 - 150
3:3FTCA	80.0	77.0	96.2	40 - 150
5:3FTCA	80.0	80.7	101	40 - 150
7:3FTCA	80.0	82.3	103	40 - 150

# CALIBRATION SUMMARY

Analyte	( Q1 / Q3 )	Internal Standard	Multiplier	AcidFactor	Function	Qualifier
PFBA	( 212.9 / 169.0 )	13C4_PFBA_EIS	4.0000	1.0000	y = 0.32619 x (std. dev. = 0.01628) (weighting: None)	%RSE=5.0
PFPeA	( 262.9 / 219.0 )	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.43913 x (std. dev. = 0.01863) (weighting: None)	%RSE=4.2
PFHxA	( 313.0 / 269.0 )	13C5_PFHxA_EIS	1.0000	1.0000	y = 0.42941 x (std. dev. = 0.01769) (weighting: None)	%RSE=4.1
PFHpA	( 363.0 / 319.0 )	13C4_PFHpA_EIS	1.0000	1.0000	y = 0.45577 x (std. dev. = 0.01668) (weighting: None)	%RSE=3.7
PFOA	( 413.0 / 369.0 )	13C8_PFOA_EIS	1.0000	1.0000	y = 0.49169 x (std. dev. = 0.02929) (weighting: None)	%RSE=6.0
PFNA	( 463.0 / 419.0 )	13C9_PFNA_EIS	1.0000	1.0000	y = 0.85807 x (std. dev. = 0.06798) (weighting: None)	%RSE=7.9
PFDA	( 513.0 / 469.0 )	13C6_PFDA_EIS	1.0000	1.0000	y = 0.95185 x (std. dev. = 0.07020) (weighting: None)	%RSE=7.4
PFUnA	( 563.0 / 519.0 )	13C7_PFUnA_EIS	1.0000	1.0000	y = 0.79028 x (std. dev. = 0.12920) (weighting: None)	%RSE=16.3
PFDoA	( 613.0 / 569.0 )	13C2_PFDoA_EIS	1.0000	1.0000	y = 0.86208 x (std. dev. = 0.12117) (weighting: None)	%RSE=14.1
PFTTrDA	( 663.0 / 619.0 )	13C2_PFTTrDA_EIS	1.0000	1.0000	y = 0.74691 x (std. dev. = 0.10467) (weighting: None)	%RSE=14.0
PFTeDA	( 713.0 / 669.0 )	13C2_PFTeDA_EIS	1.0000	1.0000	y = 0.88627 x (std. dev. = 0.09361) (weighting: None)	%RSE=10.6
PFBS	( 298.9 / 80.0 )	13C3_PFBS_EIS	1.0000	0.8847	y = 0.24253 x (std. dev. = 0.01275) (weighting: None)	%RSE=5.3
PFPeS	( 349.0 / 80.0 )	13C3_PFPeS_EIS	1.0000	0.9384	y = 0.83819 x (std. dev. = 0.04088) (weighting: None)	%RSE=4.9
PFHxS	( 399.0 / 80.0 )	13C3_PFHxS_EIS	1.0000	0.9110	y = 0.70765 x (std. dev. = 0.03393) (weighting: None)	%RSE=4.8
PFHpS	( 449.0 / 80.0 )	13C8_PFOS_EIS	1.0000	0.9514	y = 0.41508 x (std. dev. = 0.03452) (weighting: None)	%RSE=8.3
PFOS	( 499.0 / 80.0 )	13C8_PFOS_EIS	1.0000	0.9275	y = 0.50337 x (std. dev. = 0.03410) (weighting: None)	%RSE=6.8
PFNS	( 549.0 / 80.0 )	13C8_PFOS_EIS	1.0000	0.9599	y = 0.57789 x (std. dev. = 0.04314) (weighting: None)	%RSE=7.5
PFDS	( 599.0 / 80.0 )	13C8_PFOS_EIS	1.0000	0.9631	y = 0.64371 x (std. dev. = 0.05256) (weighting: None)	%RSE=8.2
PFDoS	( 698.9 / 80.0 )	13C8_PFOS_EIS	1.0000	0.9696	y = 0.27084 x (std. dev. = 0.02152) (weighting: None)	%RSE=7.9
4:2FTS	( 327.0 / 307.0 )	13C2_4:2FTS_EIS	4.0000	0.9345	y = 3.09002 x (std. dev. = 0.26815) (weighting: None)	%RSE=8.7
6:2FTS	( 427.0 / 407.0 )	13C2_6:2FTS_EIS	4.0000	0.9490	y = 1.45919 x (std. dev. = 0.11873) (weighting: None)	%RSE=8.1
8:2FTS	( 527.0 / 507.0 )	13C2_8:2FTS_EIS	4.0000	0.9583	y = 1.51823 x (std. dev. = 0.27229) (weighting: None)	%RSE=17.9
PFOSA	( 498.0 / 78.0 )	13C8_PFOSA_EIS	1.0000	1.0000	y = 0.47254 x (std. dev. = 0.03538) (weighting: None)	%RSE=7.5
NMeFOSA	( 511.9 / 219.0 )	D3_NMeFOSA_EIS	4.0000	1.0000	y = 1.63031 x (std. dev. = 0.18278) (weighting: None)	%RSE=11.2
NEiFOSA	( 526.0 / 219.0 )	D5_NEiFOSA_EIS	4.0000	1.0000	y = 1.80404 x (std. dev. = 0.10773) (weighting: None)	%RSE=6.0
NMeFOSAA	( 570.0 / 419.0 )	D3_MeFOSAA_EIS	1.0000	1.0000	y = 0.19482 x (std. dev. = 0.02187) (weighting: None)	%RSE=11.2
NEiFOSAA	( 584.0 / 419.0 )	D5_EiFOSAA_EIS	1.0000	1.0000	y = 0.22445 x (std. dev. = 0.03244) (weighting: None)	%RSE=14.5
NMeFOSE	( 616.1 / 59.0 )	D7_NMeFOSE_EIS	4.0000	1.0000	y = 0.25244 x (std. dev. = 0.02362) (weighting: None)	%RSE=9.4
NEiFOSE	( 630.0 / 59.0 )	D9_NEiFOSE_EIS	4.0000	1.0000	y = 0.10241 x (std. dev. = 0.01427) (weighting: None)	%RSE=13.9
HFPO-DA	( 285.0 / 169.0 )	13C3_HFPODA_EIS	2.0000	1.0000	y = 0.15195 x (std. dev. = 0.00913) (weighting: None)	%RSE=6.0
ADONA	( 377.0 / 85.0 )	13C3_HFPODA_EIS	2.0000	0.9427	y = 0.63625 x (std. dev. = 0.02798) (weighting: None)	%RSE=4.4
9Cl-Pf3ONS	( 531.0 / 351.0 )	13C3_HFPODA_EIS	2.0000	0.9333	y = -0.01255 x <sup>2</sup> + 1.77065 x + 0.01174 (r = 0.99899) (weighting: 1 / x <sup>2</sup> )	%RSE=4.6
11Cl-Pf3OUDS	( 631.0 / 451.0 )	13C3_HFPODA_EIS	2.0000	0.9432	y = 0.88975 x (std. dev. = 0.09345) (weighting: None)	%RSE=10.5
3:3FTCA	( 241.0 / 177.0 )	13C5_PFPeA_EIS	4.0000	1.0000	y = 0.03031 x (std. dev. = 0.00217) (weighting: None)	%RSE=7.2
5:3FTCA	( 341.0 / 236.7 )	13C5_PFHxA_EIS	4.0000	1.0000	y = 0.30350 x (std. dev. = 0.02546) (weighting: None)	%RSE=8.4
7:3FTCA	( 441.0 / 317.0 )	13C5_PFHxA_EIS	4.0000	1.0000	y = 0.34922 x (std. dev. = 0.01514) (weighting: None)	%RSE=4.3
PFEESA	( 315.0 / 135.0 )	13C5_PFHxA_EIS	2.0000	0.8925	y = 0.83914 x (std. dev. = 0.06120) (weighting: None)	%RSE=7.3
PFMPA	( 229.0 / 85.0 )	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.12052 x (std. dev. = 0.00587) (weighting: None)	%RSE=4.9
PFMBA	( 279.0 / 85.0 )	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.41658 x (std. dev. = 0.00844) (weighting: None)	%RSE=2.0
NFDHA	( 295.0 / 201.0 )	13C5_PFHxA_EIS	2.0000	1.0000	y = 0.43305 x (std. dev. = 0.01639) (weighting: None)	%RSE=3.8
13C3_PFBA_IIS	( 216.0 / 172.0 )	13C3_PFBA_IIS	1.0000	1.0000	y = 139193.5476 x	%RSD=8.2
13C2_PFHxA_IIS	( 315.1 / 270.0 )	13C2_PFHxA_IIS	1.0000	1.0000	y = 230918.4261 x	%RSD=8.2
13C4_PFOA_IIS	( 417.0 / 372.0 )	13C4_PFOA_IIS	1.0000	1.0000	y = 219848.0773 x	%RSD=7.7
13C5_PFNA_IIS	( 468.0 / 423.0 )	13C5_PFNA_IIS	1.0000	1.0000	y = 185181.4072 x	%RSD=9.2
13C2_PFDA_IIS	( 515.1 / 470.1 )	13C2_PFDA_IIS	1.0000	1.0000	y = 184809.0456 x	%RSD=11.0
18O2_PFHxS_IIS	( 403.0 / 83.9 )	18O2_PFHxS_IIS	1.0000	1.0000	y = 403709.6695 x	%RSD=4.9
13C4_PFOS_IIS	( 502.8 / 79.9 )	13C4_PFOS_IIS	1.0000	1.0000	y = 319178.8209 x	%RSD=6.9



Analyte	( Q1 / Q3 )	Internal Standard	Multiplier	AcidFactor	Function	Qualifier
13C4_PFBa_EIS	( 217.0 / 172.0 )	13C3_PFBa_IIS	8.0000	1.0000	y = 8.2337 x	%RSD=3.2
13C5_PFPaA_EIS	( 267.9 / 223.0 )	13C2_PFHxA_IIS	4.0000	1.0000	y = 2.7832 x	%RSD=7.7
13C5_PFHxA_EIS	( 318.0 / 273.0 )	13C2_PFHxA_IIS	2.0000	1.0000	y = 2.3015 x	%RSD=6.9
13C4_PFHpA_EIS	( 367.0 / 322.0 )	13C2_PFHxA_IIS	2.0000	1.0000	y = 2.0078 x	%RSD=6.4
13C8_PFOA_EIS	( 421.0 / 376.0 )	13C4_PFOA_IIS	2.0000	1.0000	y = 2.1933 x	%RSD=5.9
13C9_PFNA_EIS	( 472.0 / 427.0 )	13C5_PFNA_IIS	1.0000	1.0000	y = 1.0996 x	%RSD=3.4
13C6_PFDA_EIS	( 519.0 / 474.0 )	13C2_PFDA_IIS	1.0000	1.0000	y = 1.4222 x	%RSD=14.3
13C7_PFUaA_EIS	( 570.0 / 525.0 )	13C2_PFDA_IIS	1.0000	1.0000	y = 2.0230 x	%RSD=15.9
13C2_PFDaA_EIS	( 615.0 / 570.0 )	13C2_PFDA_IIS	1.0000	1.0000	y = 2.0192 x	%RSD=15.8
13C2_PFTeDA_EIS	( 715.0 / 670.0 )	13C2_PFDA_IIS	1.0000	1.0000	y = 1.3410 x	%RSD=16.6
13C3_PFBs_EIS	( 302.0 / 80.0 )	18O2_PFHxS_IIS	2.0000	1.0000	y = 3.3815 x	%RSD=8.1
13C3_PFHxS_EIS	( 402.0 / 80.0 )	18O2_PFHxS_IIS	2.0000	1.0000	y = 1.7992 x	%RSD=5.5
13C8_PFOs_EIS	( 507.0 / 80.0 )	13C4_PFOs_IIS	2.0000	1.0000	y = 3.4325 x	%RSD=6.1
13C2_4:2FTS_EIS	( 329.0 / 81.0 )	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.5728 x	%RSD=7.1
13C2_6:2FTS_EIS	( 429.0 / 81.0 )	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.6896 x	%RSD=7.7
13C2_8:2FTS_EIS	( 529.0 / 81.0 )	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.6904 x	%RSD=7.1
13C8_PFOsA_EIS	( 506.0 / 78.0 )	13C4_PFOs_IIS	2.0000	1.0000	y = 4.3389 x	%RSD=5.1
D3_NMeFOsA_EIS	( 515.0 / 169.0 )	13C4_PFOs_IIS	2.0000	1.0000	y = 0.9473 x	%RSD=12.5
D5_NEtFOsA_EIS	( 531.1 / 169.0 )	13C4_PFOs_IIS	2.0000	1.0000	y = 0.8745 x	%RSD=6.8
D3_MeFOsAA_EIS	( 573.0 / 419.0 )	13C4_PFOs_IIS	4.0000	1.0000	y = 1.6324 x	%RSD=5.4
D5_EtFOsAA_EIS	( 589.0 / 419.0 )	13C4_PFOs_IIS	4.0000	1.0000	y = 1.4389 x	%RSD=12.4
D7_NMeFOsE_EIS	( 623.2 / 58.9 )	13C4_PFOs_IIS	20.0000	1.0000	y = 1.3302 x	%RSD=9.0
D9_NEtFOsE_EIS	( 639.2 / 58.9 )	13C4_PFOs_IIS	20.0000	1.0000	y = 0.6056 x	%RSD=7.0
13C3_HFOpDA_EIS	( 287.0 / 169.0 )	13C2_PFHxA_IIS	8.0000	1.0000	y = 4.8947 x	%RSD=6.9

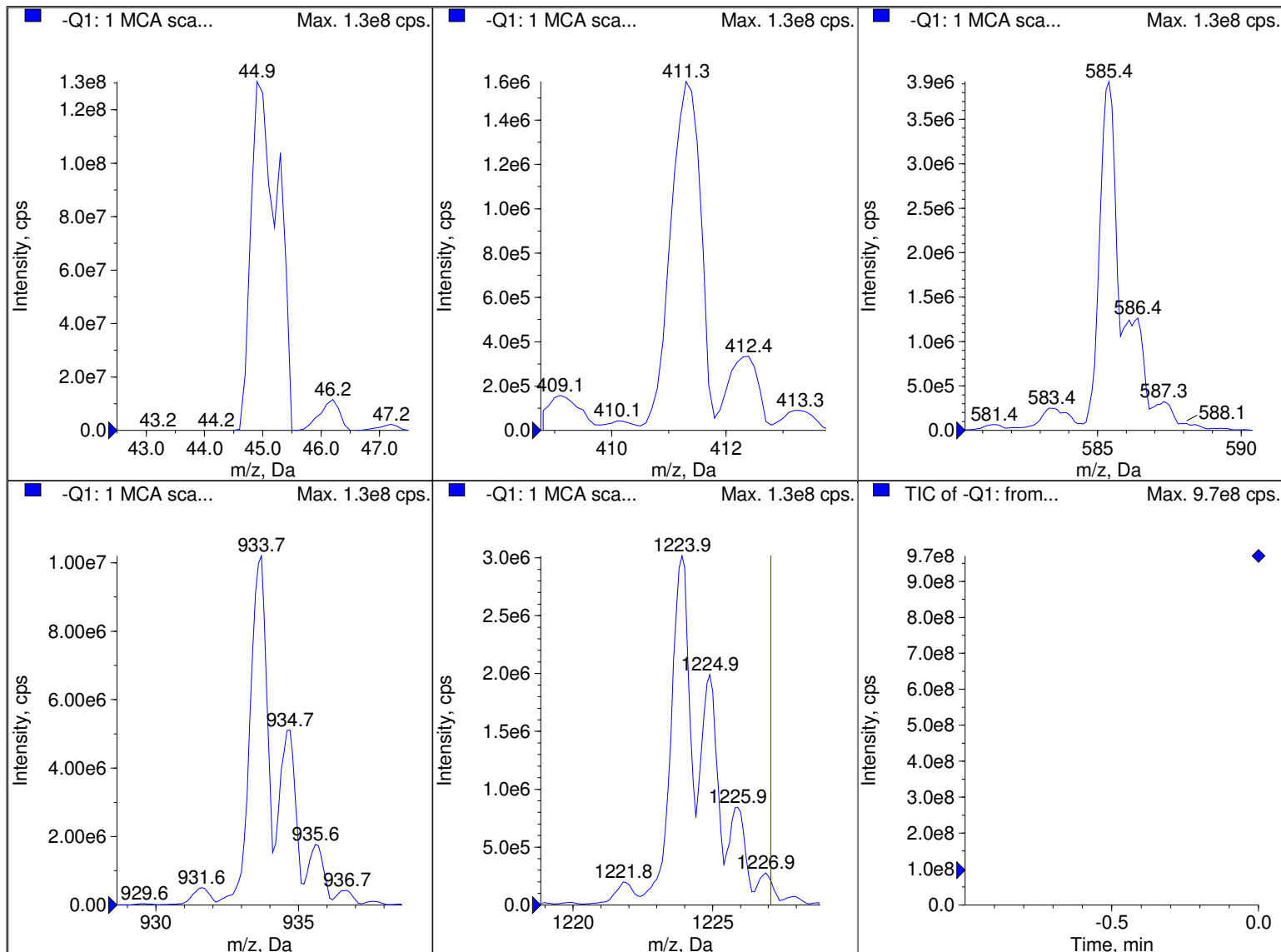
x= Concentration Analyte

$$y = \text{Area Ratio} = \frac{\text{Area Analyte}}{\text{Area Internal Standard}}$$

$$\text{Acid Factor} = \frac{\text{Molecular weight Acid}}{\text{Molecular weight Salt}}$$

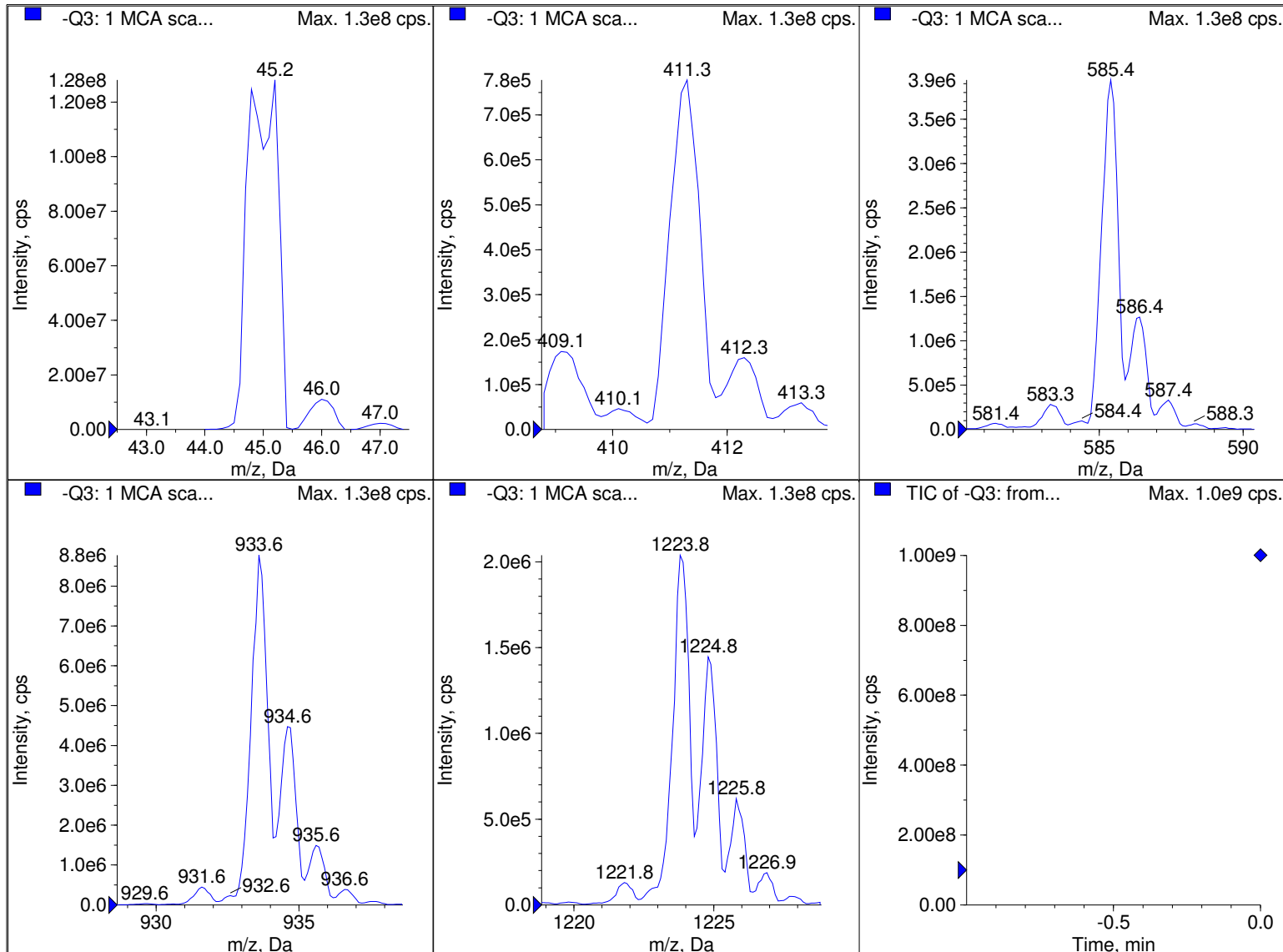
$$\text{Multiplier} = \frac{\text{Concentration of Analyte}}{\text{Concentration of PFOA}} \text{ in curve standard mix}$$

$$\text{Result} \left( \frac{\text{ng}}{\text{ml}} \right) = x * \text{Multiplier} * \text{Acid Factor}$$



Peak List for "-Q1: 1 MCA scans from Sample 1 (TuneSampleID) of MT20221111142838.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	45.0305	1.3061e8	0.6158	-0.0325
2	411.2590	411.3148	1.5745e6	0.6085	-0.0558
3	585.3850	585.3651	3.9270e6	0.6307	0.0199
4	933.6360	933.6197	1.0205e7	0.6552	0.0163
5	1223.8450	1223.8627	3.0170e6	0.6967	-0.0177
6	1572.0970	n/a	n/a	n/a	n/a
7	1863.3060	n/a	n/a	n/a	n/a
8	1979.3890	n/a	n/a	n/a	n/a

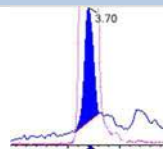
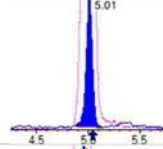
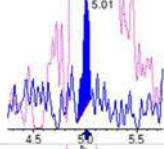
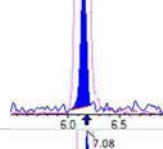
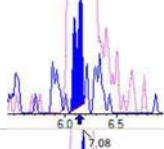
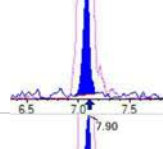
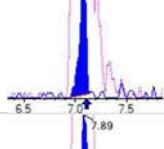
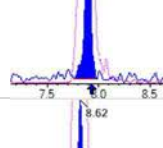
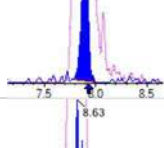
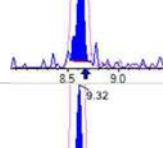
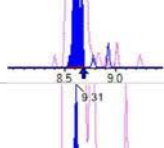
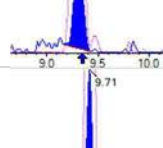
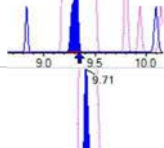
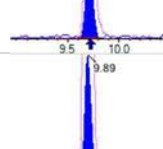
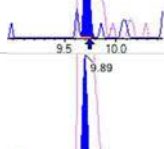
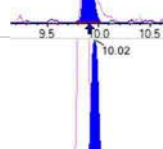
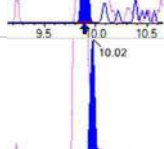
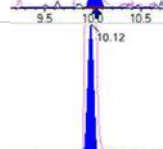
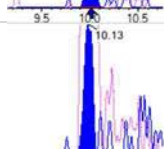
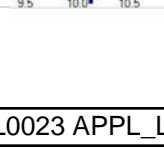
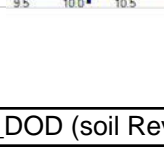


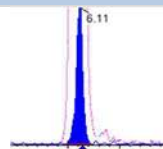
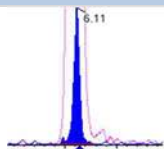
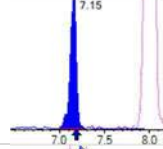
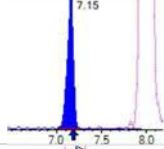
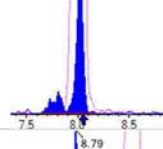
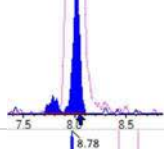
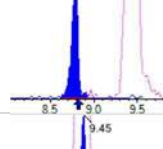
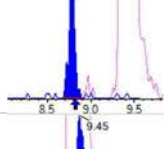
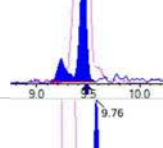
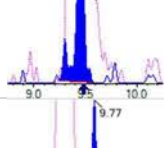
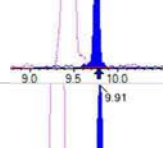
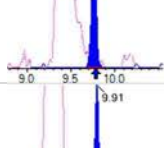
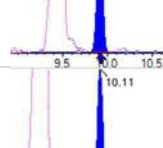
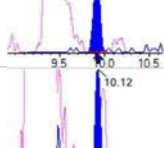
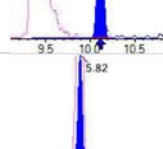
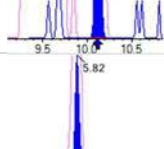
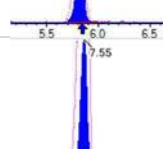
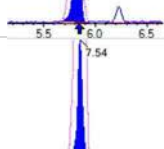
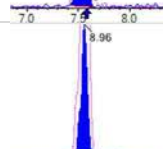
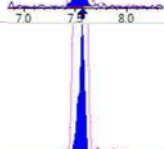

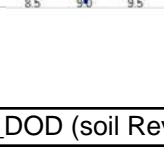
Peak List for "-Q3: 1 MCA scans from Sample 1 (TuneSampleID) of MT20221111142403.wiff (Turbo Spray)"

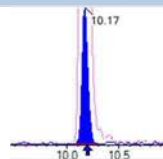
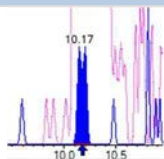
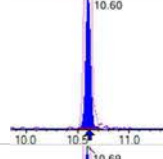
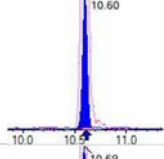
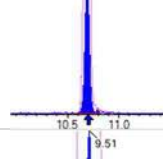
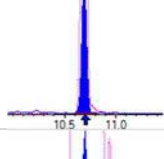
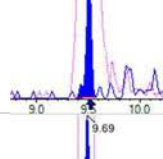
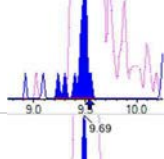
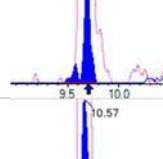
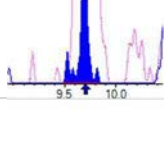
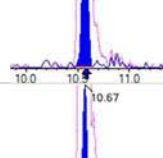
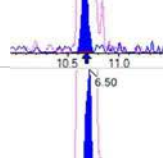
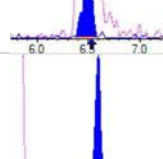
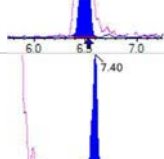
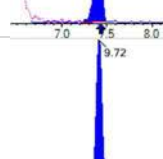
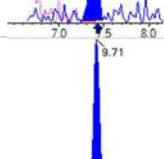
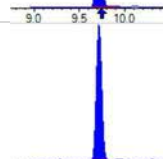
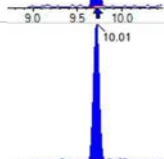
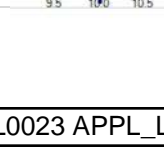
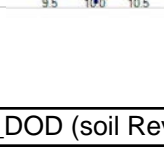
	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	44.9799	1.2814e8	0.6414	0.0181
2	411.2590	411.2677	7.7810e5	0.6076	-8.6898e-3
3	585.3850	585.3784	3.9438e6	0.6511	6.5868e-3
4	933.6360	933.6279	8.7759e6	0.6302	8.0526e-3
5	1223.8450	1223.8609	2.0397e6	0.6225	-0.0159
6	1572.0970	n/a	n/a	n/a	n/a
7	1863.3060	n/a	n/a	n/a	n/a
8	1979.3890	n/a	n/a	n/a	n/a

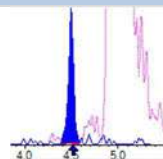
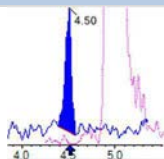
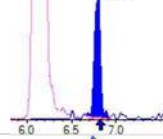
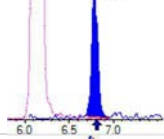
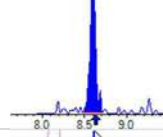
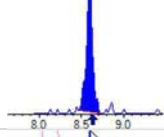
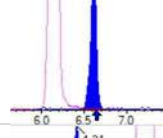
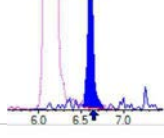
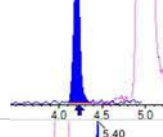
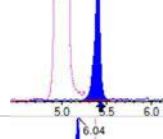
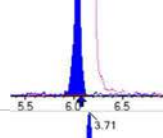
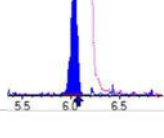
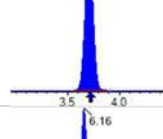
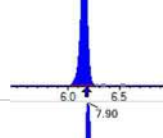
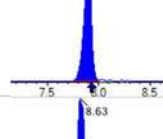
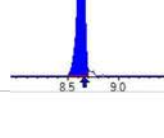
# EPA 1633 SPLP

Initial Calibration: SB03941

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-Imin, $\Delta$ RT-CVmin, $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 33232	(3.70, 1.00) (0.00, N/A, 0.0)	38.7	N/A 0.0 0.0	0.3669 [0.4000]	91.7%			
PFPeA	(262.9 / 219.0) 29292 (262.9 / 69.0) 400	(5.01, 1.00) (0.00, N/A, 0.0)	185.1 11.6	0.0136 121.9 121.9	0.2148 [0.2000]	107.4%			
PFHxA	(313.0 / 269.0) 21402 (313.0 / 119.0) 1522	(6.15, 1.00) (0.00, N/A, 0.9)	65.5 16.5	0.0711 72.7 72.7	0.0985 [0.1000]	98.5%			
PFHpA	(363.0 / 319.0) 20982 (363.0 / 169.0) 6156	(7.08, 1.00) (0.00, N/A, 0.1)	90.6 69.9	0.2934 94.2 94.2	0.1029 [0.1000]	102.9%			
PFOA	(413.0 / 369.0) 24265 (413.0 / 169.0) 8577	(7.90, 1.00) (0.00, N/A, 0.2)	63.6 78.4	0.3535 108.2 108.2	0.1081 [0.1000]	108.1%			
PFNA	(463.0 / 419.0) 12946 (463.0 / 169.0) 4470	(8.62, 1.00) (-0.01, N/A, -0.3)	48.4 29.7	0.3453 179.1 179.1	0.0879 [0.1000]	87.9%			IR2,
PFDA	(513.0 / 469.0) 23366 (513.0 / 169.0) 1070	(9.32, 1.00) (0.00, N/A, 0.1)	57.7 566.2	0.0458 47.9 47.9	0.1078 [0.1000]	107.8%			IR1,
PFUnA	(563.0 / 519.0) 38565 (563.0 / 169.0) 3911	(9.71, 1.00) (0.00, N/A, 0.1)	137.9 44.4	0.1014 116.8 116.8	0.1273 [0.1000]	127.3%			
PFDoA	(613.0 / 569.0) 35780 (613.0 / 169.0) 5060	(9.89, 1.00) (0.00, N/A, -0.1)	145.7 35.8	0.1414 101.6 101.6	0.1293 [0.1000]	129.3%			
PFTrDA	(663.0 / 619.0) 31090 (663.0 / 169.0) 6638	(10.02, 1.01) (N/A, -0.01, -0.4)	110.4 53.1	0.2135 104.3 104.3	0.1296 [0.1000]	129.6%			
PFTeDA	(713.0 / 669.0) 25589 (713.0 / 169.0) 4161	(10.12, 1.00) (0.00, N/A, -0.5)	94.3 12.4	0.1626 79.9 79.9	0.1029 [0.1000]	102.9%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-Imin, $\Delta$ RT-CVmin, $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 31824 (298.9 / 99.0) 25667	(6.11, 1.00) (0.00, N/A, -0.1)	228.6 158.1	0.8066 131.1 131.1	0.0899 [0.0885]	101.6%			
PFPeS	(349.0 / 80.0) 61392 (349.0 / 99.0) 26354	(7.15, 0.89) (N/A, -0.03, -0.1)	200.8 251.0	0.4293 120.6 120.6	0.0959 [0.0938]	102.2%			
PFHxS	(399.0 / 80.0) 54752 (399.0 / 99.0) 16706	(8.02, 1.00) (0.00, N/A, 0.2)	16908.1 6180.4	0.3051 90.8 90.8	0.0983 [0.0911]	107.9%			
PFHpS	(449.0 / 80.0) 40149 (449.0 / 99.0) 13981	(8.79, 0.93) (N/A, -0.03, 0.3)	153.7 102.5	0.3482 127.2 127.2	0.0837 [0.0951]	88.0%			
PFOS	(499.0 / 80.0) 63112 (499.0 / 99.0) 14475	(9.45, 1.00) (0.00, N/A, -0.1)	158.9 43.2	0.2294 94.3 94.3	0.1057 [0.0927]	114.0%			
PFNS	(549.0 / 80.0) 63295 (549.0 / 99.0) 15388	(9.76, 1.03) (N/A, -0.02, -0.6)	172.2 304.3	0.2431 99.6 99.6	0.0956 [0.0960]	99.6%			
PFDS	(599.0 / 80.0) 66751 (599.0 / 99.0) 15205	(9.91, 1.05) (N/A, -0.01, 0.0)	278.7 65.1	0.2278 101.2 101.2	0.0908 [0.0963]	94.3%			
PFDoS	(698.9 / 80.0) 32302 (698.9 / 99.0) 2212	(10.11, 1.07) (N/A, -0.01, -0.4)	151.2 18.9	0.0685 28.0 28.0	0.1051 [0.0970]	108.4%			IR1,
4:2FTS	(327.0 / 307.0) 73840 (327.0 / 81.0) 44310	(5.82, 1.00) (0.00, N/A, 0.1)	398.1 178.0	0.6001 121.5 121.5	0.3917 [0.3738]	104.8%			
6:2FTS	(427.0 / 407.0) 37991 (427.0 / 81.0) 30069	(7.55, 1.00) (0.00, N/A, 0.6)	171.3 166.4	0.7915 101.7 101.7	0.3927 [0.3796]	103.4%			
8:2FTS	(527.0 / 507.0) 54208 (527.0 / 81.0) 22387	(8.96, 1.00) (0.00, N/A, -0.5)	239.2 132.1	0.4130 73.0 73.0	0.5390 [0.3833]	140.6%			QC,

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-Imin, $\Delta$ RT-CVmin, $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 58943 (498.0 / 478.0) 1534	(10.17, 1.00) (0.00, N/A, -0.2)	160.7 16.7	0.0260 124.9 124.9	0.1005 [0.1000]	100.5%			
NMeFOSA	(511.9 / 219.0) 43872 (511.9 / 169.0) 26519	(10.60, 1.00) (0.00, N/A, 0.1)	298.9 244.3	0.6045 83.9 83.9	0.4219 [0.4000]	105.5%			
NEFOSA	(526.0 / 219.0) 44346 (526.0 / 169.0) 51516	(10.69, 1.00) (0.00, N/A, 0.0)	466.2 369.0	1.1617 109.8 109.8	0.3771 [0.4000]	94.3%			
NMeFOSAA	(570.0 / 419.0) 8400 (570.0 / 483.0) 3567	(9.51, 1.00) (0.01, N/A, 0.9)	51.6 212.6	0.4247 69.1 69.1	0.0791 [0.1000]	79.1%			
NEIFOSAA	(584.0 / 419.0) 14604 (584.0 / 526.0) 5838	(9.69, 1.00) (0.01, N/A, 0.0)	4382.3 108.5	0.3998 54.5 54.5	0.1309 [0.1000]	130.9%			QC,
NMeFOSE	(616.1 / 59.0) 9057	(10.57, 1.00) (0.00, N/A, 0.0)	71.0	N/A 0.0 0.0	0.3368 [0.4000]	84.2%			
NEtFOSE	(630.0 / 59.0) 2592	(10.67, 1.00) (0.01, N/A, 0.0)	55.9	N/A 0.0 0.0	0.5290 [0.4000]	132.3%			QC,
HFPO-DA	(285.0 / 169.0) 18333 (285.0 / 185.0) 52126	(6.50, 1.00) (0.00, N/A, 0.2)	196.1 229.6	2.8433 103.6 103.6	0.2191 [0.2000]	109.5%			
ADONA	(377.0 / 85.0) 66900 (377.0 / 251.0) 10886	(7.40, 1.14) (N/A, -0.03, 0.0)	225.5 39.2	0.1627 130.7 130.7	0.1800 [0.1885]	95.5%			
9CI-Pf3ONS	(531.0 / 351.0) 210135 (533.0 / 353.0) 57347	(9.72, 1.49) (N/A, -0.01, 0.2)	525.6 173.1	0.2729 92.2 92.2	0.1889 [0.1867]	101.2%			
11CI-PF3OUDS	(631.0 / 451.0) 110528 (633.0 / 453.0) 41123	(10.00, 1.54) (N/A, -0.01, -0.3)	422.1 246.1	0.3721 112.5 112.5	0.2127 [0.1886]	112.8%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-Imin, $\Delta$ RT-CVmin, $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 1752 (241.0 / 117.0) 3522	(4.50, 0.90) (N/A, -0.02, -0.1)	83.0 47.1	2.0106 120.1 120.1	0.3722 [0.4000]	93.0%			
5:3FTCA	(341.0 / 236.7) 13037 (341.0 / 217.0) 28648	(6.79, 1.10) (N/A, -0.03, 0.1)	86.9 98.3	2.1975 150.1 150.1	0.3394 [0.4000]	84.9%			IR2,
7:3FTCA	(441.0 / 317.0) 16935 (441.0 / 337.0) 16853	(8.60, 1.40) (N/A, -0.03, 0.2)	63.0 96.2	0.9952 118.8 118.8	0.3832 [0.4000]	95.8%			
PFEESA	(315.0 / 135.0) 48752 (315.0 / 83.0) 14590	(6.61, 1.07) (N/A, -0.03, 0.3)	297.4 57.3	0.2993 97.5 97.5	0.2049 [0.1785]	114.8%			
PFMPA	(229.0 / 85.0) 8084	(4.21, 0.84) (N/A, -0.02, 0.0)	159.7	N/A 0.0 0.0	0.2160 [0.2000]	108.0%			
PFMBA	(279.0 / 85.0) 26278	(5.40, 1.08) (N/A, -0.03, 0.0)	279.2	N/A 0.0 0.0	0.2031 [0.2000]	101.6%			
NFDHA	(295.0 / 201.0) 22691 (295.0 / 85.0) 23611	(6.04, 0.98) (N/A, -0.03, 0.3)	161.6 125.5	1.0405 117.9 117.9	0.2070 [0.2000]	103.5%			
13C3_PFBA_IIS	(216.0 / 172.0) 129665	(3.71, N/A) (N/A, -0.01, N/A)	734.9	N/A	0.9315 [1.0000]	93.2% {85.4%}			
13C2_PFHxA_IIS	(315.1 / 270.0) 201573	(6.16, N/A) (N/A, -0.03, N/A)	556.3	N/A	0.8729 [1.0000]	87.3% {86.2%}			
13C4_PFOA_IIS	(417.0 / 372.0) 188558	(7.90, N/A) (N/A, -0.03, N/A)	449.6	N/A	0.8577 [1.0000]	85.8% {79.2%}			
13C5_PFNA_IIS	(468.0 / 423.0) 150014	(8.63, N/A) (N/A, -0.04, N/A)	351.9	N/A	0.8101 [1.0000]	81.0% {74.2%}			



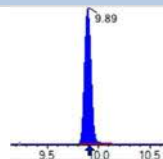
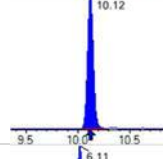
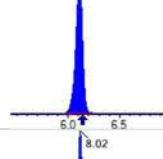
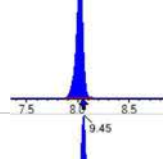
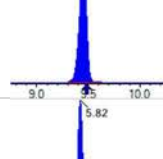
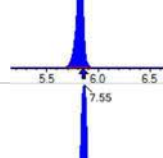
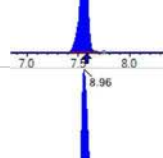
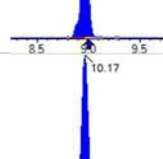
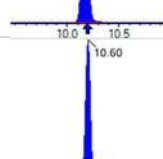
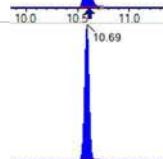
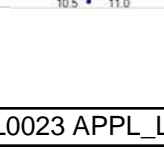


Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03941-CAL1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21A (1)  
 Acquired: 2022/12/21 - 14:26

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 182339	(9.31, N/A) (N/A, -0.03, N/A)	393.6	N/A	0.9866 [1.0000]	98.7% {104.9%}			
18O2_PFHxS_IIS	(403.0 / 83.9) 376592	(8.02, N/A) (N/A, -0.03, N/A)	863.0	N/A	0.9328 [1.0000]	93.3% {89.1%}			
13C4_PFOS_IIS	(502.8 / 79.9) 319349	(9.45, N/A) (N/A, -0.03, N/A)	441.2	N/A	1.0005 [1.0000]	100.1% {97.4%}			
13C4_PFBA_EIS	(217.0 / 172.0) 1110686	(3.71, N/A) (N/A, -0.01, N/A)	922.4	N/A	8.3227 [8.0000]	104.0% {93.3%}			
13C5_PFPeA_EIS	(267.9 / 223.0) 621129	(5.01, N/A) (N/A, -0.03, N/A)	742.0	N/A	4.4287 [4.0000]	110.7% {89.2%}			
13C5_PFHxA_EIS	(318.0 / 273.0) 506172	(6.15, N/A) (N/A, -0.03, N/A)	648.4	N/A	2.1821 [2.0000]	109.1% {93.9%}			
13C4_PFHpA_EIS	(367.0 / 322.0) 447320	(7.08, N/A) (N/A, -0.03, N/A)	438.8	N/A	2.2105 [2.0000]	110.5% {91.1%}			
13C8_PFOA_EIS	(421.0 / 376.0) 456439	(7.89, N/A) (N/A, -0.03, N/A)	477.0	N/A	2.2073 [2.0000]	110.4% {91.7%}			
13C9_PFNA_EIS	(472.0 / 427.0) 171585	(8.63, N/A) (N/A, -0.04, N/A)	503.1	N/A	1.0402 [1.0000]	104.0% {78.4%}			
13C6_PFDA_EIS	(519.0 / 474.0) 227812	(9.31, N/A) (N/A, -0.03, N/A)	316.3	N/A	0.8785 [1.0000]	87.8% {81.0%}			
13C7_PFUnA_EIS	(570.0 / 525.0) 383307	(9.71, N/A) (N/A, -0.01, N/A)	510.8	N/A	1.0391 [1.0000]	103.9% {96.2%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 321089	(9.89, N/A) (N/A, -0.01, N/A)	437.4	N/A	0.8721 [1.0000]	87.2% {82.8%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 280643	(10.12, N/A) (N/A, -0.01, N/A)	381.3	N/A	1.1478 [1.0000]	114.8% {116.0%}			
13C3_PFBs_EIS	(302.0 / 80.0) 1291973	(6.11, N/A) (N/A, -0.03, N/A)	870.8	N/A	2.0291 [2.0000]	101.5% {94.1%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 716988	(8.02, N/A) (N/A, -0.03, N/A)	976.1	N/A	2.1164 [2.0000]	105.8% {95.1%}			
13C8_PFOS_EIS	(507.0 / 80.0) 1099756	(9.45, N/A) (N/A, -0.03, N/A)	492.9	N/A	2.0065 [2.0000]	100.3% {92.4%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 228032	(5.82, N/A) (N/A, -0.03, N/A)	818.1	N/A	4.2284 [4.0000]	105.7% {101.7%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 251709	(7.55, N/A) (N/A, -0.03, N/A)	625.3	N/A	3.8767 [4.0000]	96.9% {91.7%}			
13C2_8:2FTS_EIS	(529.0 / 81.0) 253898	(8.96, N/A) (N/A, -0.04, N/A)	403.4	N/A	3.9063 [4.0000]	97.7% {85.8%}			
13C8_PFOA_EIS	(506.0 / 78.0) 1240858	(10.17, N/A) (N/A, -0.01, N/A)	815.5	N/A	1.7911 [2.0000]	89.6% {84.7%}			
D3_NMeFOA_EIS	(515.0 / 169.0) 255122	(10.60, N/A) (N/A, -0.01, N/A)	937.9	N/A	1.6866 [2.0000]	84.3% {77.3%}			
D5_NEtFOA_EIS	(531.1 / 169.0) 260767	(10.69, N/A) (N/A, -0.01, N/A)	1231.1	N/A	1.8675 [2.0000]	93.4% {91.6%}			

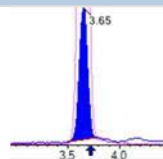
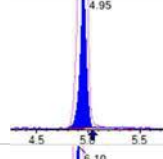
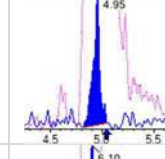
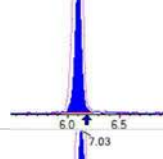
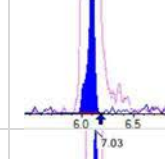
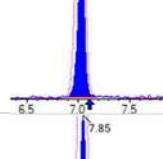
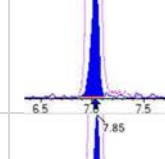
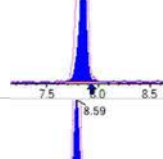
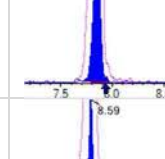
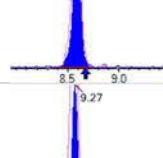
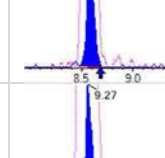
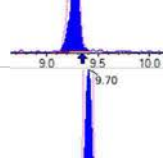
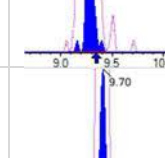
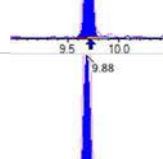
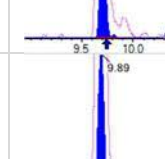
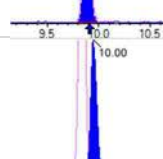
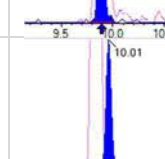
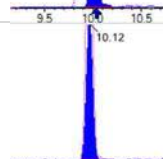
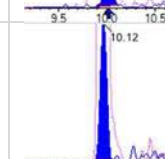
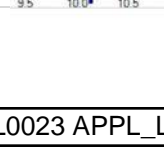
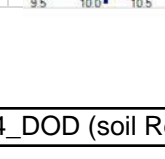


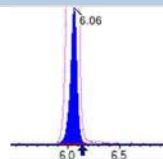
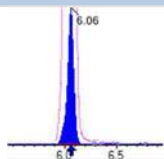
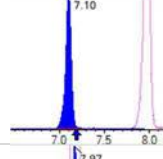
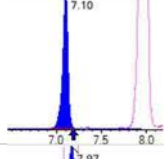
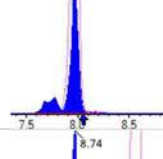
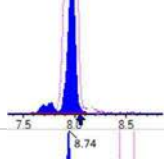
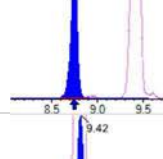
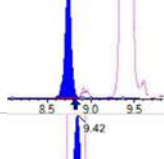
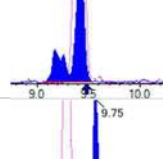
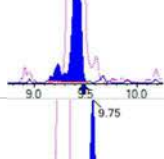
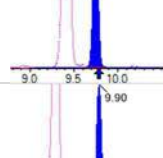
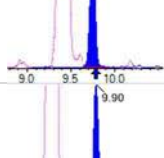
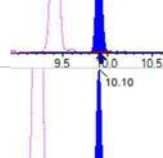
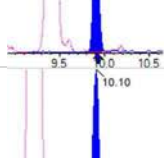
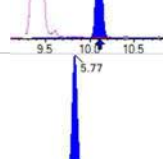
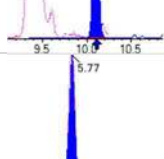
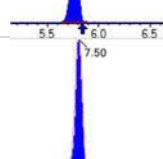
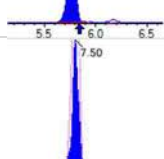
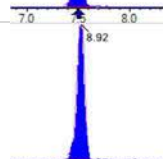
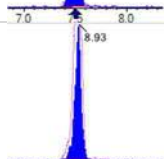
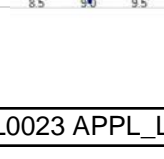
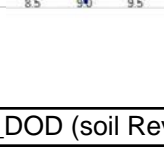
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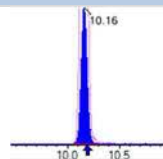
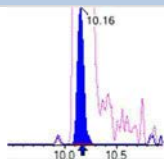
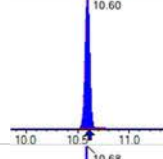
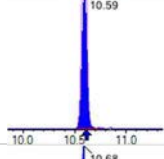
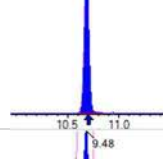
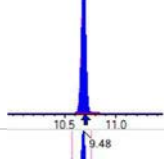
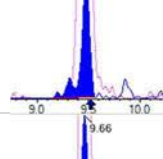
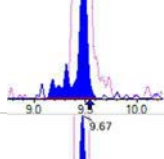
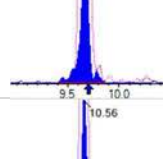
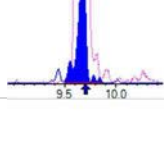
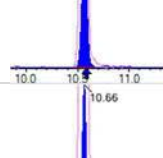
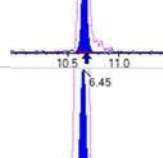
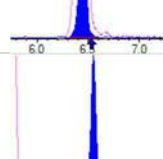
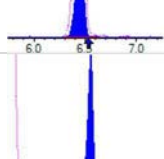
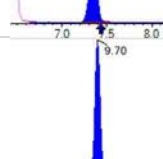
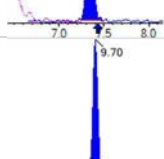
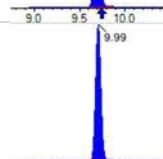
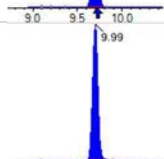
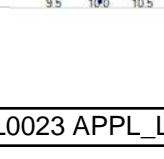
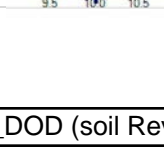
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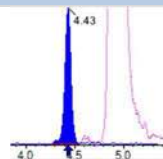
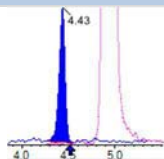
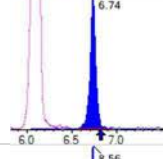
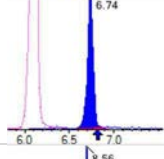
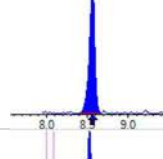
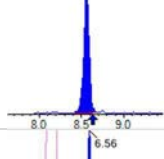
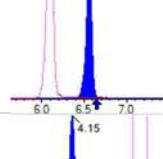
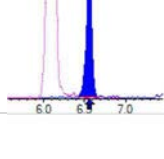
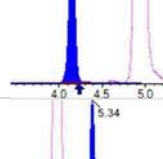
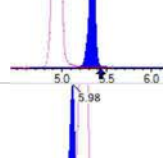
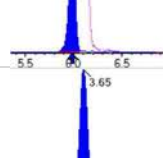
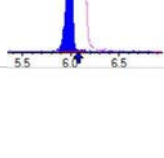
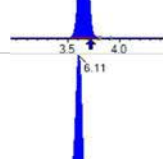
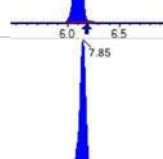
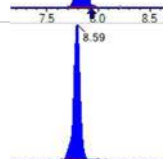
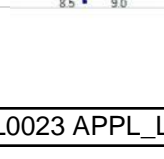
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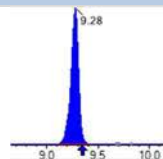
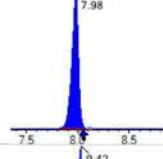
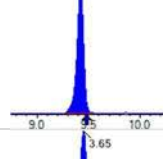
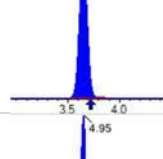
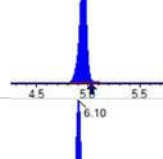
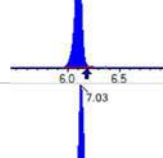
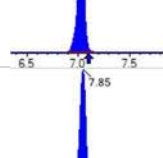
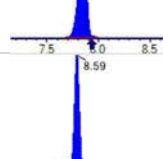
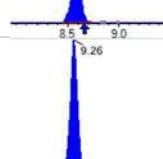
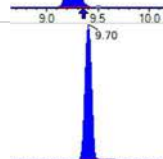
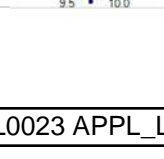
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 544985	(9.50, N/A) (N/A, -0.03, N/A)	407.2	N/A	4.1816 [4.0000]	104.5% {106.7%}			
D5_EtFOSAA_EIS	(589.0 / 419.0) 497176	(9.68, N/A) (N/A, -0.02, N/A)	540.1	N/A	4.3280 [4.0000]	108.2% {105.5%}			
D7_NMeFOSE_EIS	(623.2 / 58.9) 426059	(10.56, N/A) (N/A, -0.01, N/A)	1224.8	N/A	20.0598 [20.0000]	100.3% {98.7%}			
D9_NEtFOSE_EIS	(639.2 / 58.9) 191338	(10.66, N/A) (N/A, -0.01, N/A)	1253.8	N/A	19.7881 [20.0000]	98.9% {104.9%}			
13C3_HFPODA_EIS	(287.0 / 169.0) 1101544	(6.50, N/A) (N/A, -0.03, N/A)	840.6	N/A	8.9317 [8.0000]	111.6% {93.8%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 188421	(3.65, 1.00) (0.00, N/A, 0.0)	60.5	N/A 0.0 0.0	1.9028 [2.0000]	95.1%			
PFPeA	(262.9 / 219.0) 139219 (262.9 / 69.0) 1694	(4.95, 1.00) (0.00, N/A, 0.1)	388.4 40.0	0.0122 108.7 108.7	0.9614 [1.0000]	96.1%			
PFHxA	(313.0 / 269.0) 115909 (313.0 / 119.0) 10897	(6.10, 1.00) (0.00, N/A, 0.2)	310.0 98.6	0.0940 96.2 96.2	0.4941 [0.5000]	98.8%			
PFHpA	(363.0 / 319.0) 110782 (363.0 / 169.0) 29592	(7.03, 1.00) (0.00, N/A, 0.0)	210.6 163.1	0.2671 85.8 85.8	0.5195 [0.5000]	103.9%			
PFOA	(413.0 / 369.0) 131268 (413.0 / 169.0) 45112	(7.85, 1.00) (0.00, N/A, 0.2)	272.1 247.3	0.3437 105.2 105.2	0.5483 [0.5000]	109.7%			
PFNA	(463.0 / 419.0) 93190 (463.0 / 169.0) 19066	(8.59, 1.00) (0.00, N/A, -0.1)	270.2 71.5	0.2046 106.2 106.2	0.4982 [0.5000]	99.6%			
PFDA	(513.0 / 469.0) 116985 (513.0 / 169.0) 7443	(9.27, 1.00) (0.01, N/A, 0.2)	179.0 455.7	0.0636 66.6 66.6	0.4923 [0.5000]	98.5%			
PFUnA	(563.0 / 519.0) 112638 (563.0 / 169.0) 16433	(9.70, 1.00) (0.00, N/A, -0.2)	261.9 192.3	0.1459 168.0 168.0	0.3772 [0.5000]	75.4%			IR2,
PFDoA	(613.0 / 569.0) 170817 (613.0 / 169.0) 22966	(9.88, 1.00) (0.00, N/A, -0.1)	386.2 148.3	0.1344 96.6 96.6	0.5314 [0.5000]	106.3%			
PFTrDA	(663.0 / 619.0) 139394 (663.0 / 169.0) 23330	(10.00, 1.01) (N/A, -0.02, -0.6)	293.8 128.9	0.1674 81.8 81.8	0.5005 [0.5000]	100.1%			
PFTeDA	(713.0 / 669.0) 107548 (713.0 / 169.0) 13556	(10.12, 1.00) (0.00, N/A, 0.0)	266.4 52.5	0.1260 62.0 62.0	0.5082 [0.5000]	101.6%			

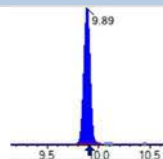
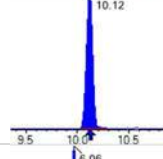
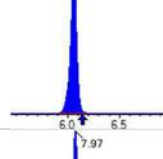
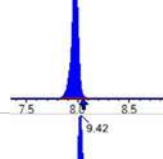
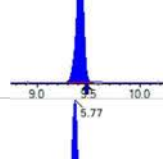
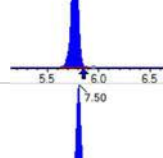
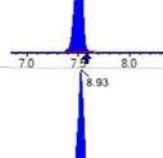
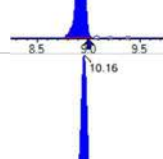
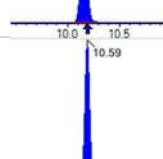
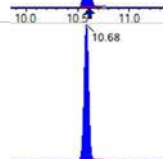
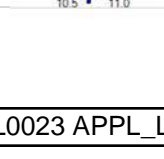
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 169308 (298.9 / 99.0) 116887	(6.06, 1.00) (0.00, N/A, 0.1)	532.3 438.0	0.6904 112.2 112.2	0.4218 [0.4424]	95.4%			
PFPeS	(349.0 / 80.0) 303756 (349.0 / 99.0) 113877	(7.10, 0.89) (N/A, -0.08, 0.0)	643.5 533.0	0.3749 105.3 105.3	0.4401 [0.4692]	93.8%			
PFHxS	(399.0 / 80.0) 254653 (399.0 / 99.0) 87687	(7.97, 1.00) (0.00, N/A, 0.0)	2864.9 16565.2	0.3443 102.4 102.4	0.4242 [0.4555]	93.1%			
PFHpS	(449.0 / 80.0) 232130 (449.0 / 99.0) 63281	(8.74, 0.93) (N/A, -0.07, 0.2)	720.8 355.5	0.2726 99.6 99.6	0.4831 [0.4757]	101.5%			
PFOS	(499.0 / 80.0) 271232 (499.0 / 99.0) 55582	(9.42, 1.00) (0.00, N/A, 0.2)	71.7 84.7	0.2049 84.3 84.3	0.4537 [0.4637]	97.8%			
PFNS	(549.0 / 80.0) 326430 (549.0 / 99.0) 76899	(9.75, 1.03) (N/A, -0.03, 0.0)	700.8 332.3	0.2356 96.5 96.5	0.4923 [0.4799]	102.6%			
PFDS	(599.0 / 80.0) 361311 (599.0 / 99.0) 88020	(9.90, 1.05) (N/A, -0.02, 0.0)	528.4 257.7	0.2436 108.2 108.2	0.4908 [0.4816]	101.9%			
PFDoS	(698.9 / 80.0) 143379 (698.9 / 99.0) 39342	(10.10, 1.07) (N/A, -0.01, 0.0)	394.0 390.0	0.2744 112.1 112.1	0.4660 [0.4848]	96.1%			
4:2FTS	(327.0 / 307.0) 369834 (327.0 / 81.0) 206873	(5.77, 1.00) (0.00, N/A, -0.2)	740.7 453.5	0.5594 113.2 113.2	1.8624 [1.8691]	99.6%			
6:2FTS	(427.0 / 407.0) 212400 (427.0 / 81.0) 133719	(7.50, 1.00) (0.00, N/A, 0.2)	557.0 426.3	0.6296 80.9 80.9	1.8471 [1.8981]	97.3%			
8:2FTS	(527.0 / 507.0) 187570 (527.0 / 81.0) 119060	(8.92, 1.00) (0.00, N/A, -0.3)	288.9 320.4	0.6348 112.1 112.1	1.8629 [1.9166]	97.2%			

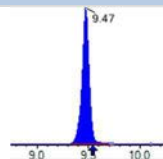
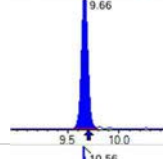
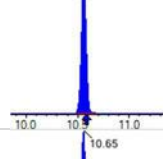
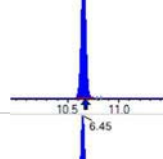
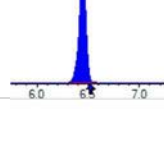
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 352198 (498.0 / 478.0) 8651	(10.16, 1.00) (0.00, N/A, 0.4)	513.9 157.2	0.0246 117.8 117.8	0.4906 [0.5000]	98.1%			
NMeFOSA	(511.9 / 219.0) 263260 (511.9 / 169.0) 153613	(10.60, 1.00) (0.00, N/A, 0.0)	638.7 672.6	0.5835 81.0 81.0	2.2704 [2.0000]	113.5%			
NEtFOSA	(526.0 / 219.0) 251838 (526.0 / 169.0) 278757	(10.68, 1.00) (0.00, N/A, 0.0)	1012.6 877.2	1.1069 104.7 104.7	1.9774 [2.0000]	98.9%			
NMeFOSAA	(570.0 / 419.0) 51544 (570.0 / 483.0) 33073	(9.48, 1.00) (0.00, N/A, -0.3)	116.9 95.9	0.6416 104.4 104.4	0.5096 [0.5000]	101.9%			
NEtFOSAA	(584.0 / 419.0) 57365 (584.0 / 526.0) 31030	(9.66, 1.00) (0.00, N/A, -0.4)	562.4 124.4	0.5409 73.8 73.8	0.5544 [0.5000]	110.9%			
NMeFOSE	(616.1 / 59.0) 54315	(10.56, 1.00) (0.00, N/A, 0.0)	454.0	N/A 0.0 0.0	1.8098 [2.0000]	90.5%			
NEtFOSE	(630.0 / 59.0) 10545	(10.66, 1.00) (0.01, N/A, 0.0)	298.7	N/A 0.0 0.0	1.8678 [2.0000]	93.4%			
HFPO-DA	(285.0 / 169.0) 90628 (285.0 / 185.0) 244184	(6.45, 1.00) (0.00, N/A, 0.3)	355.2 511.8	2.6944 98.2 98.2	1.0286 [1.0000]	102.9%			
ADONA	(377.0 / 85.0) 360241 (377.0 / 251.0) 45845	(7.35, 1.14) (N/A, -0.08, 0.0)	653.3 198.6	0.1273 102.2 102.2	0.9205 [0.9427]	97.6%			
9CI-Pf3ONS	(531.0 / 351.0) 951547 (533.0 / 353.0) 308143	(9.70, 1.50) (N/A, -0.03, 0.0)	461.5 485.9	0.3238 109.4 109.4	0.8553 [0.9333]	91.7%			
11CI-PF3OUDS	(631.0 / 451.0) 560809 (633.0 / 453.0) 162858	(9.99, 1.55) (N/A, -0.02, 0.0)	818.9 500.2	0.2904 87.8 87.8	1.0253 [0.9432]	108.7%			

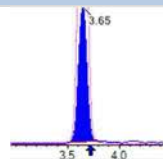
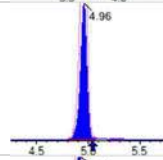
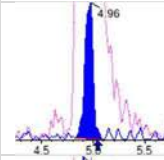
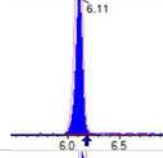
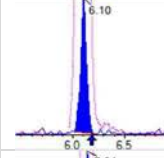
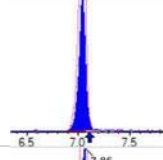
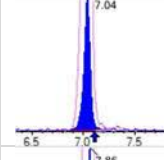
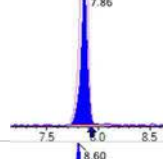
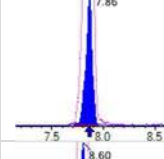
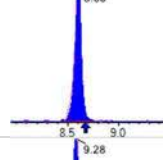
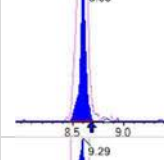
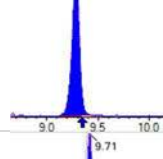
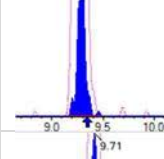
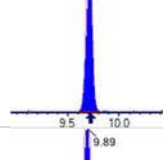
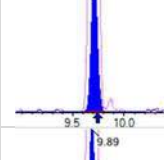
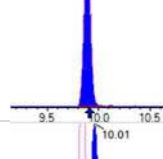
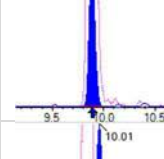
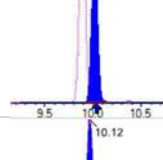
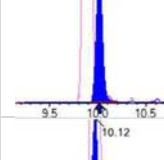
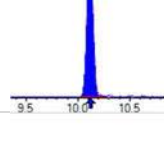
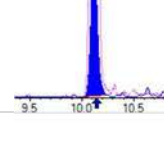
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 8941 (241.0 / 117.0) 17863	(4.43, 0.89) (N/A, -0.08, -0.1)	270.0 173.3	1.9979 119.4 119.4	1.7890 [ 2.0000 ]	89.5%			
5:3FTCA	(341.0 / 236.7) 83112 (341.0 / 217.0) 121575	(6.74, 1.10) (N/A, -0.08, 0.0)	282.1 320.5	1.4628 99.9 99.9	2.0050 [ 2.0000 ]	100.2%			
7:3FTCA	(441.0 / 317.0) 94595 (441.0 / 337.0) 73967	(8.56, 1.40) (N/A, -0.07, 0.0)	212.2 275.3	0.7819 93.4 93.4	1.9833 [ 2.0000 ]	99.2%			
PFEESA	(315.0 / 135.0) 227230 (315.0 / 83.0) 64514	(6.56, 1.07) (N/A, -0.08, 0.1)	666.6 216.3	0.2839 92.5 92.5	0.8847 [ 0.8925 ]	99.1%			
PFMPA	(229.0 / 85.0) 38716	(4.15, 0.84) (N/A, -0.08, 0.0)	651.7	N/A 0.0 0.0	0.9742 [ 1.0000 ]	97.4%			
PFMBA	(279.0 / 85.0) 138545	(5.34, 1.08) (N/A, -0.09, 0.0)	716.8	N/A 0.0 0.0	1.0085 [ 1.0000 ]	100.9%			
NFDHA	(295.0 / 201.0) 109976 (295.0 / 85.0) 101086	(5.98, 0.98) (N/A, -0.08, 0.0)	530.5 312.3	0.9192 104.1 104.1	0.9297 [ 1.0000 ]	93.0%			
13C3_PFBA_IIS	(216.0 / 172.0) 145032	(3.65, N/A) (N/A, -0.07, N/A)	748.9	N/A	1.0419 [ 1.0000 ]	104.2% { 95.6% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 249645	(6.11, N/A) (N/A, -0.08, N/A)	617.2	N/A	1.0811 [ 1.0000 ]	108.1% { 106.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 223206	(7.85, N/A) (N/A, -0.08, N/A)	653.2	N/A	1.0153 [ 1.0000 ]	101.5% { 93.8% }			
13C5_PFNA_IIS	(468.0 / 423.0) 192740	(8.59, N/A) (N/A, -0.08, N/A)	339.0	N/A	1.0408 [ 1.0000 ]	104.1% { 95.3% }			

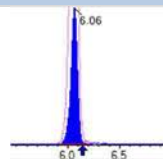
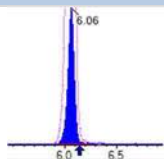
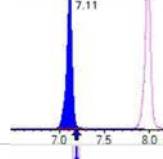
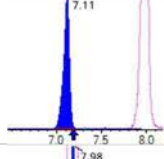
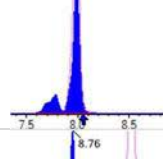
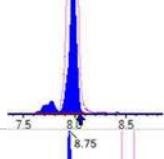
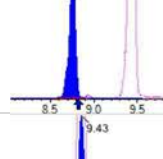
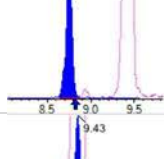
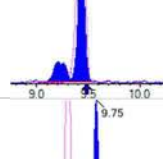
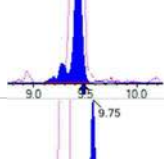
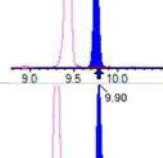
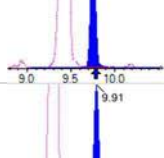
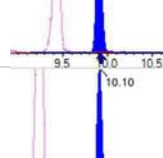
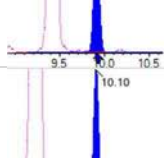
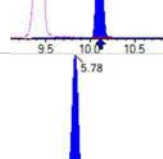
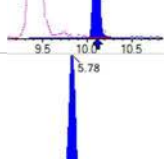
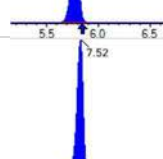
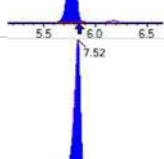
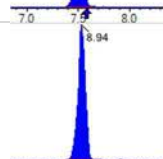
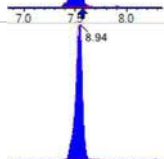
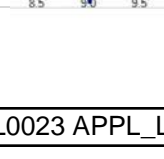
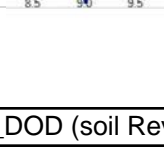
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 201200	(9.28, N/A) (N/A, -0.07, N/A)	450.6	N/A	1.0887 [ 1.0000 ]	108.9% { 115.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 391808	(7.98, N/A) (N/A, -0.07, N/A)	810.8	N/A	0.9705 [ 1.0000 ]	97.1% { 92.7% }			
13C4_PFOS_IIS	(502.8 / 79.9) 350992	(9.42, N/A) (N/A, -0.06, N/A)	464.9	N/A	1.0997 [ 1.0000 ]	110.0% { 107.1% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1214259	(3.65, N/A) (N/A, -0.07, N/A)	905.9	N/A	8.1347 [ 8.0000 ]	101.7% { 102.0% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 659529	(4.95, N/A) (N/A, -0.08, N/A)	789.0	N/A	3.7969 [ 4.0000 ]	94.9% { 94.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 546323	(6.10, N/A) (N/A, -0.08, N/A)	742.9	N/A	1.9017 [ 2.0000 ]	95.1% { 101.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 467878	(7.03, N/A) (N/A, -0.08, N/A)	943.4	N/A	1.8669 [ 2.0000 ]	93.3% { 95.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 486948	(7.85, N/A) (N/A, -0.08, N/A)	788.4	N/A	1.9893 [ 2.0000 ]	99.5% { 97.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 217999	(8.59, N/A) (N/A, -0.08, N/A)	418.4	N/A	1.0286 [ 1.0000 ]	102.9% { 99.7% }			
13C6_PFDA_EIS	(519.0 / 474.0) 249666	(9.26, N/A) (N/A, -0.08, N/A)	346.2	N/A	0.8725 [ 1.0000 ]	87.2% { 88.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 377869	(9.70, N/A) (N/A, -0.03, N/A)	445.6	N/A	0.9284 [ 1.0000 ]	92.8% { 94.9% }			

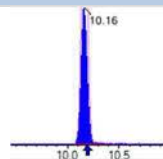
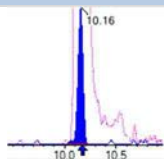
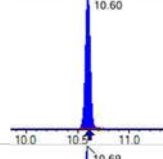
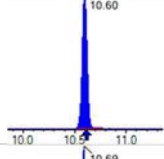
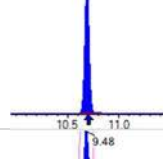
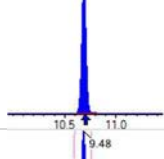
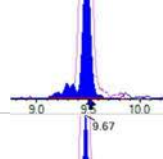
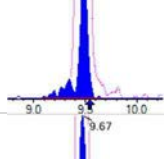
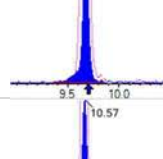
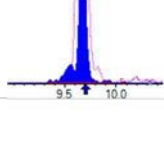
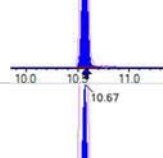
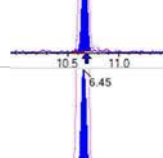
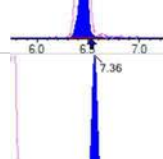
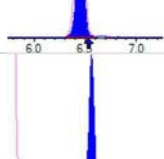
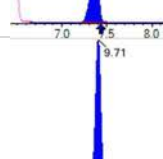
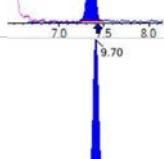
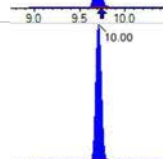
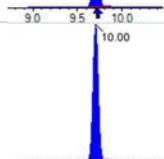
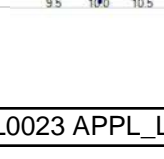
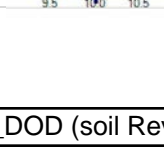


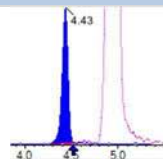
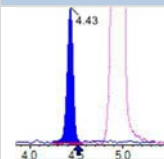
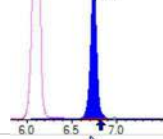
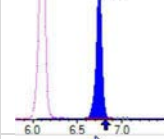
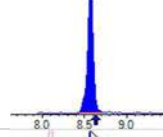
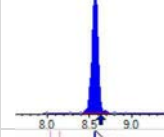
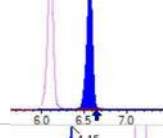
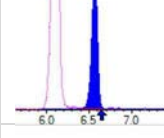
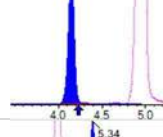
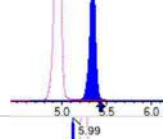
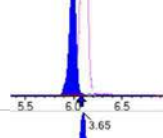
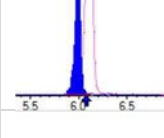
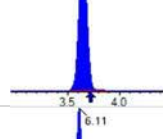
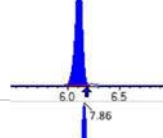
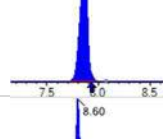
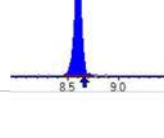
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 372869	(9.89, N/A) (N/A, -0.02, N/A)	424.9	N/A	0.9178 [ 1.0000 ]	91.8% { 96.2% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 238784	(10.12, N/A) (N/A, -0.01, N/A)	386.9	N/A	0.8850 [ 1.0000 ]	88.5% { 98.7% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1464188	(6.06, N/A) (N/A, -0.08, N/A)	862.0	N/A	2.2103 [ 2.0000 ]	110.5% { 106.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 772747	(7.97, N/A) (N/A, -0.08, N/A)	946.5	N/A	2.1924 [ 2.0000 ]	109.6% { 102.5% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1101471	(9.42, N/A) (N/A, -0.06, N/A)	400.8	N/A	1.8285 [ 2.0000 ]	91.4% { 92.5% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 240226	(5.77, N/A) (N/A, -0.08, N/A)	728.1	N/A	4.2815 [ 4.0000 ]	107.0% { 107.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 299151	(7.50, N/A) (N/A, -0.08, N/A)	829.8	N/A	4.4285 [ 4.0000 ]	110.7% { 109.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 254209	(8.93, N/A) (N/A, -0.07, N/A)	387.1	N/A	3.7592 [ 4.0000 ]	94.0% { 85.9% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1519271	(10.16, N/A) (N/A, -0.02, N/A)	650.9	N/A	1.9952 [ 2.0000 ]	99.8% { 103.7% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 284500	(10.59, N/A) (N/A, -0.02, N/A)	1128.4	N/A	1.7113 [ 2.0000 ]	85.6% { 86.2% }			
D5_NeIFOSA_EIS	(531.1 / 169.0) 282389	(10.68, N/A) (N/A, -0.01, N/A)	1021.0	N/A	1.8400 [ 2.0000 ]	92.0% { 99.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 519161	(9.47, N/A) (N/A, -0.06, N/A)	335.3	N/A	3.6243 [ 4.0000 ]	90.6% { 101.7% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 461032	(9.66, N/A) (N/A, -0.03, N/A)	492.8	N/A	3.6515 [ 4.0000 ]	91.3% { 97.8% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 475546	(10.56, N/A) (N/A, -0.02, N/A)	945.0	N/A	20.3712 [ 20.0000 ]	101.9% { 110.2% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 220531	(10.65, N/A) (N/A, -0.02, N/A)	1126.5	N/A	20.7511 [ 20.0000 ]	103.8% { 120.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1159691	(6.45, N/A) (N/A, -0.08, N/A)	900.5	N/A	7.5925 [ 8.0000 ]	94.9% { 98.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 364131	(3.65, 1.00) (0.00, N/A, 0.0)	70.2	N/A 0.0 0.0	3.8803 [4.0000]	97.0%			
PFPeA	(262.9 / 219.0) 278554 (262.9 / 69.0) 3213	(4.96, 1.00) (0.00, N/A, -0.1)	617.6 57.0	0.0115 103.0 103.0	1.9980 [2.0000]	99.9%			
PFHxA	(313.0 / 269.0) 230736 (313.0 / 119.0) 17813	(6.11, 1.00) (0.00, N/A, 0.3)	411.0 127.8	0.0772 79.0 79.0	1.0595 [1.0000]	106.0%			
PFHpA	(363.0 / 319.0) 200810 (363.0 / 169.0) 53734	(7.04, 1.00) (0.00, N/A, 0.1)	368.9 203.8	0.2676 85.9 85.9	0.9983 [1.0000]	99.8%			
PFOA	(413.0 / 369.0) 205143 (413.0 / 169.0) 72948	(7.86, 1.00) (0.00, N/A, 0.0)	303.6 404.0	0.3556 108.8 108.8	0.9507 [1.0000]	95.1%			
PFNA	(463.0 / 419.0) 167406 (463.0 / 169.0) 35020	(8.60, 1.00) (0.00, N/A, 0.2)	279.7 86.6	0.2092 108.5 108.5	1.0679 [1.0000]	106.8%			
PFDA	(513.0 / 469.0) 260310 (513.0 / 169.0) 19191	(9.28, 1.00) (0.00, N/A, -0.3)	246.9 388.3	0.0737 77.1 77.1	0.9614 [1.0000]	96.1%			
PFUnA	(563.0 / 519.0) 242766 (563.0 / 169.0) 29112	(9.71, 1.00) (0.00, N/A, 0.0)	470.3 179.8	0.1199 138.1 138.1	0.8605 [1.0000]	86.1%			
PFDoA	(613.0 / 569.0) 276870 (613.0 / 169.0) 37204	(9.89, 1.00) (0.00, N/A, 0.1)	510.1 202.8	0.1344 96.5 96.5	0.8423 [1.0000]	84.2%			
PFTrDA	(663.0 / 619.0) 272310 (663.0 / 169.0) 51052	(10.01, 1.01) (N/A, -0.01, 0.2)	518.4 210.4	0.1875 91.6 91.6	0.9561 [1.0000]	95.6%			
PFTeDA	(713.0 / 669.0) 202539 (713.0 / 169.0) 35837	(10.12, 1.00) (0.00, N/A, -0.1)	464.6 111.3	0.1769 87.0 87.0	0.9914 [1.0000]	99.1%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 319512 (298.9 / 99.0) 214428	(6.06, 1.00) (0.00, N/A, 0.1)	552.7 573.6	0.6711 109.0 109.0	0.8374 [0.8847]	94.7%			
PFPeS	(349.0 / 80.0) 558156 (349.0 / 99.0) 204172	(7.11, 0.89) (N/A, -0.07, -0.2)	726.6 707.2	0.3658 102.8 102.8	0.9319 [0.9384]	99.3%			
PFHxS	(399.0 / 80.0) 460645 (399.0 / 99.0) 168480	(7.99, 1.00) (0.00, N/A, 0.2)	4071.9 6022.7	0.3657 108.8 108.8	0.8844 [0.9110]	97.1%			
PFHpS	(449.0 / 80.0) 399999 (449.0 / 99.0) 119983	(8.76, 0.93) (N/A, -0.06, -0.2)	473.2 390.9	0.3000 109.6 109.6	0.8477 [0.9514]	89.1%			
PFOS	(499.0 / 80.0) 510216 (499.0 / 99.0) 119134	(9.43, 1.00) (0.00, N/A, 0.3)	371.9 120.6	0.2335 96.0 96.0	0.8692 [0.9275]	93.7%			
PFNS	(549.0 / 80.0) 600745 (549.0 / 99.0) 129442	(9.75, 1.03) (N/A, -0.02, 0.2)	640.1 539.0	0.2155 88.3 88.3	0.9226 [0.9599]	96.1%			
PFDS	(599.0 / 80.0) 650063 (599.0 / 99.0) 165992	(9.90, 1.05) (N/A, -0.02, -0.4)	597.2 555.1	0.2553 113.4 113.4	0.8993 [0.9631]	93.4%			
PFDoS	(698.9 / 80.0) 310556 (698.9 / 99.0) 62440	(10.10, 1.07) (N/A, -0.01, 0.2)	612.5 270.2	0.2011 82.2 82.2	1.0279 [0.9696]	106.0%			
4:2FTS	(327.0 / 307.0) 734838 (327.0 / 81.0) 391330	(5.78, 1.00) (0.00, N/A, 0.0)	955.1 537.9	0.5325 107.8 107.8	3.8805 [3.7381]	103.8%			
6:2FTS	(427.0 / 407.0) 417365 (427.0 / 81.0) 267446	(7.52, 1.00) (0.00, N/A, -0.3)	653.9 548.6	0.6408 82.3 82.3	3.6814 [3.7962]	97.0%			
8:2FTS	(527.0 / 507.0) 398366 (527.0 / 81.0) 261360	(8.94, 1.00) (0.00, N/A, -0.3)	438.4 397.1	0.6561 115.9 115.9	3.3122 [3.8332]	86.4%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 634394 (498.0 / 478.0) 14236	(10.16, 1.00) (0.00, N/A, 0.3)	672.1 142.6	0.0224 107.7 107.7	1.0186 [1.0000]	101.9%			
NMeFOSA	(511.9 / 219.0) 481844 (511.9 / 169.0) 311400	(10.60, 1.00) (0.00, N/A, 0.1)	1243.8 1242.2	0.6463 89.7 89.7	3.9784 [4.0000]	99.5%			
NEiFOSA	(526.0 / 219.0) 509457 (526.0 / 169.0) 556544	(10.69, 1.00) (0.00, N/A, 0.0)	1029.5 1040.4	1.0924 103.3 103.3	3.8752 [4.0000]	96.9%			
NMeFOSAA	(570.0 / 419.0) 98460 (570.0 / 483.0) 45291	(9.48, 1.00) (0.00, N/A, -0.2)	201.1 368.1	0.4600 74.8 74.8	0.9589 [1.0000]	95.9%			
NEiFOSAA	(584.0 / 419.0) 100078 (584.0 / 526.0) 64349	(9.67, 1.00) (0.00, N/A, 0.1)	308.0 11085.9	0.6430 87.7 87.7	0.9729 [1.0000]	97.3%			
NMeFOSE	(616.1 / 59.0) 109477	(10.57, 1.00) (0.00, N/A, 0.0)	635.3	N/A 0.0 0.0	4.0466 [4.0000]	101.2%			
NEiFOSE	(630.0 / 59.0) 18470	(10.67, 1.00) (0.01, N/A, 0.0)	332.3	N/A 0.0 0.0	3.6420 [4.0000]	91.1%			
HFPO-DA	(285.0 / 169.0) 157217 (285.0 / 185.0) 447290	(6.45, 1.00) (0.00, N/A, 0.0)	473.3 607.4	2.8450 103.7 103.7	1.8500 [2.0000]	92.5%			
ADONA	(377.0 / 85.0) 712997 (377.0 / 251.0) 91158	(7.36, 1.14) (N/A, -0.07, 0.0)	873.4 270.7	0.1279 102.7 102.7	1.8890 [1.8854]	100.2%			
9CI-Pf3ONS	(531.0 / 351.0) 2025171 (533.0 / 353.0) 608975	(9.71, 1.50) (N/A, -0.03, 0.1)	727.3 554.2	0.3007 101.6 101.6	1.9101 [1.8665]	102.3%			
11CI-PF3OUDS	(631.0 / 451.0) 945192 (633.0 / 453.0) 304735	(10.00, 1.55) (N/A, -0.01, -0.1)	1065.3 837.5	0.3224 97.5 97.5	1.7916 [1.8864]	95.0%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 19424 (241.0 / 117.0) 28656	(4.43, 0.89) (N/A, -0.08, 0.0)	383.0 238.7	1.4753 88.2 88.2	4.0370 [4.0000]	100.9%			
5:3FTCA	(341.0 / 236.7) 163618 (341.0 / 217.0) 258573	(6.74, 1.10) (N/A, -0.08, -0.1)	567.6 530.2	1.5803 108.0 108.0	4.2520 [4.0000]	106.3%			
7:3FTCA	(441.0 / 317.0) 173439 (441.0 / 337.0) 148204	(8.57, 1.40) (N/A, -0.06, 0.2)	277.8 265.5	0.8545 102.0 102.0	3.9172 [4.0000]	97.9%			
PFEESA	(315.0 / 135.0) 425676 (315.0 / 83.0) 120482	(6.57, 1.08) (N/A, -0.07, 0.1)	558.7 464.3	0.2830 92.2 92.2	1.7854 [1.7849]	100.0%			
PFMPA	(229.0 / 85.0) 73196	(4.15, 0.84) (N/A, -0.08, 0.0)	797.4	N/A 0.0 0.0	1.9130 [2.0000]	95.6%			
PFMBA	(279.0 / 85.0) 259517	(5.34, 1.08) (N/A, -0.08, 0.0)	721.2	N/A 0.0 0.0	1.9622 [2.0000]	98.1%			
NFDHA	(295.0 / 201.0) 219791 (295.0 / 85.0) 199407	(5.99, 0.98) (N/A, -0.08, -0.1)	614.7 459.5	0.9073 102.8 102.8	2.0016 [2.0000]	100.1%			
13C3_PFBA_IIS	(216.0 / 172.0) 133715	(3.65, N/A) (N/A, -0.07, N/A)	699.9	N/A	0.9606 [1.0000]	96.1% {88.1%}			
13C2_PFHxA_IIS	(315.1 / 270.0) 210807	(6.11, N/A) (N/A, -0.08, N/A)	520.8	N/A	0.9129 [1.0000]	91.3% {90.1%}			
13C4_PFOA_IIS	(417.0 / 372.0) 203834	(7.86, N/A) (N/A, -0.07, N/A)	799.6	N/A	0.9272 [1.0000]	92.7% {85.6%}			
13C5_PFNA_IIS	(468.0 / 423.0) 176714	(8.60, N/A) (N/A, -0.07, N/A)	380.6	N/A	0.9543 [1.0000]	95.4% {87.4%}			

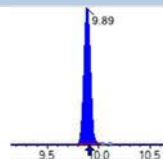
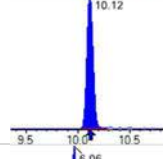
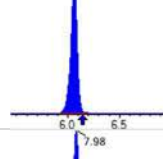
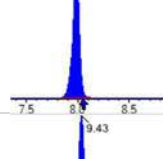
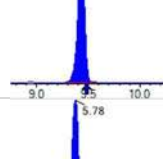
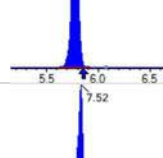
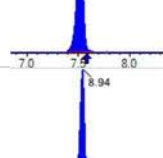
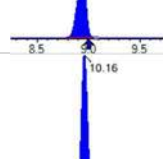
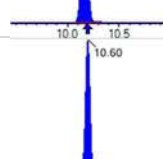
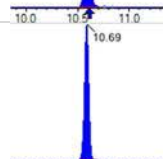
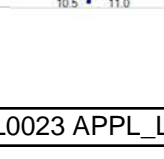


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 Instrument: Saphira  
 Type: Sciex Q3 5500

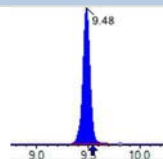
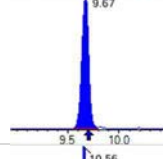
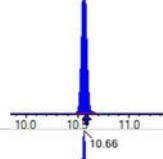
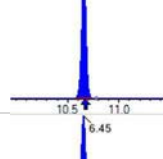
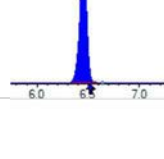
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 Acquisition Method: 1633 2022-12-21.dam

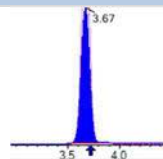
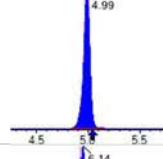
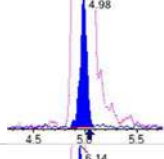
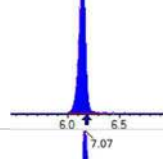
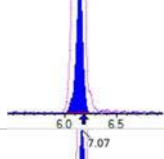
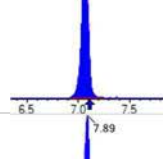
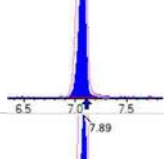
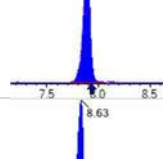
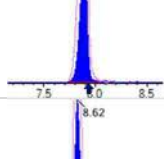
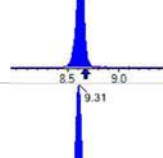
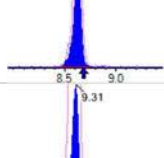
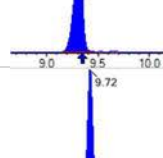
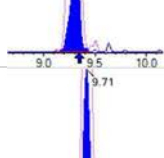
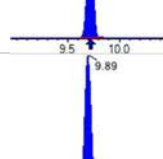
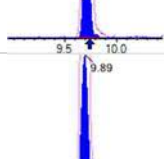
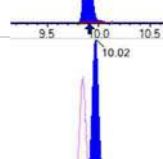
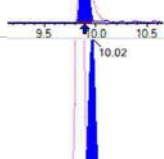
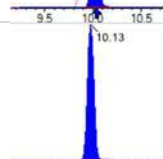
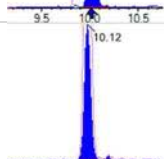
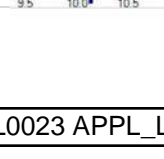
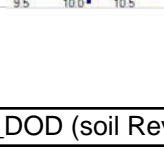
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 Path: S2022-12-21A (3)  
 Acquired: 2022/12/21 - 14:51

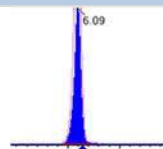
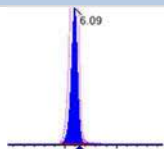
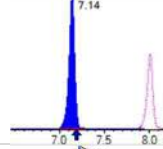
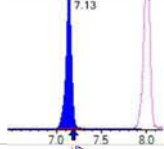
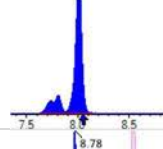
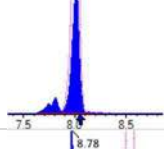
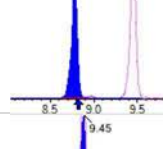
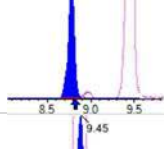
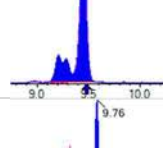
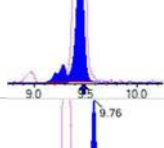
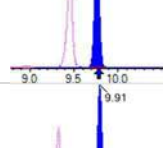
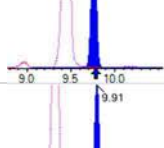
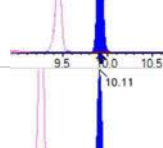
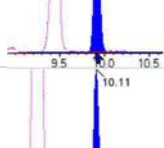
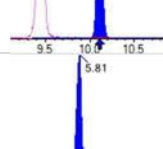
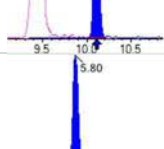
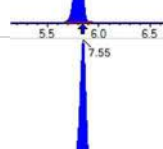
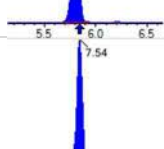
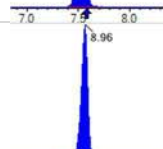
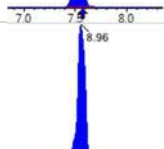

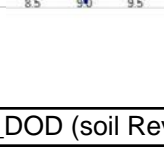
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 164172	(9.29, N/A) (N/A, -0.05, N/A)	395.8	N/A	0.8883 [ 1.0000 ]	88.8% { 94.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 382941	(7.99, N/A) (N/A, -0.06, N/A)	781.0	N/A	0.9486 [ 1.0000 ]	94.9% { 90.6% }			
13C4_PFOS_IIS	(502.8 / 79.9) 302129	(9.43, N/A) (N/A, -0.05, N/A)	425.5	N/A	0.9466 [ 1.0000 ]	94.7% { 92.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1150744	(3.65, N/A) (N/A, -0.07, N/A)	926.2	N/A	8.3617 [ 8.0000 ]	104.5% { 96.7% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 634958	(4.96, N/A) (N/A, -0.08, N/A)	725.6	N/A	4.3289 [ 4.0000 ]	108.2% { 91.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 507144	(6.11, N/A) (N/A, -0.08, N/A)	760.2	N/A	2.0905 [ 2.0000 ]	104.5% { 94.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 441364	(7.04, N/A) (N/A, -0.07, N/A)	592.1	N/A	2.0856 [ 2.0000 ]	104.3% { 89.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 438874	(7.86, N/A) (N/A, -0.06, N/A)	718.6	N/A	1.9633 [ 2.0000 ]	98.2% { 88.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 182699	(8.60, N/A) (N/A, -0.07, N/A)	305.7	N/A	0.9402 [ 1.0000 ]	94.0% { 83.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 284465	(9.29, N/A) (N/A, -0.06, N/A)	596.1	N/A	1.2183 [ 1.0000 ]	121.8% { 101.1% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 356973	(9.71, N/A) (N/A, -0.02, N/A)	765.7	N/A	1.0748 [ 1.0000 ]	107.5% { 89.6% }			

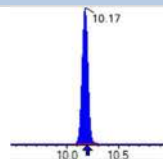
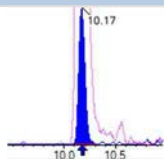
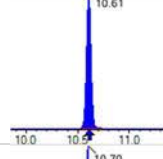
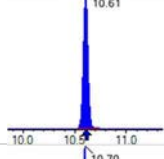
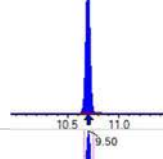
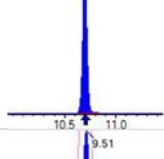
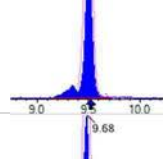
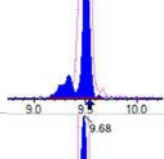
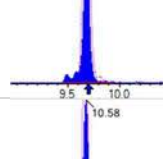
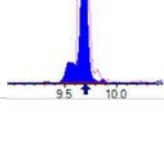
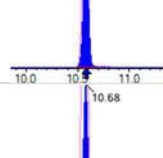
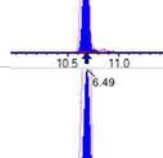
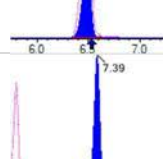
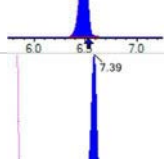
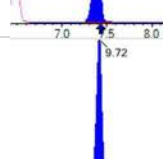
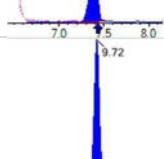
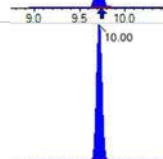
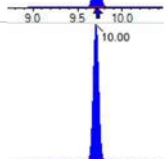
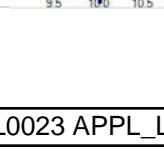
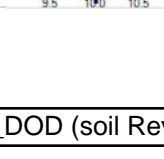
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 381316	(9.89, N/A) (N/A, -0.02, N/A)	333.2	N/A	1.1503 [ 1.0000 ]	115.0% { 98.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 230518	(10.12, N/A) (N/A, -0.02, N/A)	370.4	N/A	1.0471 [ 1.0000 ]	104.7% { 95.3% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1391867	(6.06, N/A) (N/A, -0.08, N/A)	799.8	N/A	2.1497 [ 2.0000 ]	107.5% { 101.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 670509	(7.98, N/A) (N/A, -0.07, N/A)	1003.2	N/A	1.9464 [ 2.0000 ]	97.3% { 88.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1081560	(9.43, N/A) (N/A, -0.05, N/A)	480.5	N/A	2.0858 [ 2.0000 ]	104.3% { 90.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 229082	(5.78, N/A) (N/A, -0.08, N/A)	619.0	N/A	4.1774 [ 4.0000 ]	104.4% { 102.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 294946	(7.52, N/A) (N/A, -0.06, N/A)	799.8	N/A	4.4673 [ 4.0000 ]	111.7% { 107.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 303660	(8.94, N/A) (N/A, -0.06, N/A)	479.0	N/A	4.5945 [ 4.0000 ]	114.9% { 102.6% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1318009	(10.16, N/A) (N/A, -0.02, N/A)	652.5	N/A	2.0109 [ 2.0000 ]	100.5% { 89.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 297155	(10.60, N/A) (N/A, -0.01, N/A)	855.7	N/A	2.0764 [ 2.0000 ]	103.8% { 90.0% }			
D5_NEtFOSA_EIS	(531.1 / 169.0) 291494	(10.69, N/A) (N/A, -0.01, N/A)	862.4	N/A	2.2065 [ 2.0000 ]	110.3% { 102.4% }			

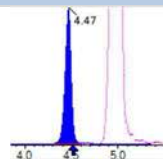
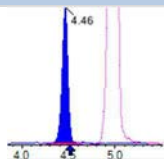
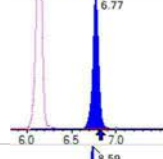
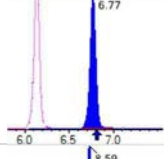
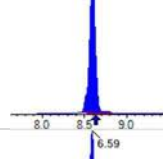
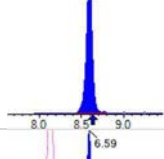
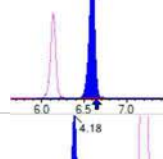
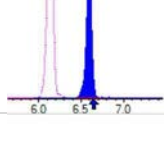
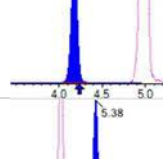
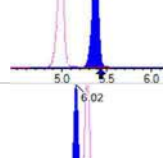
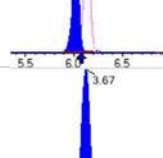
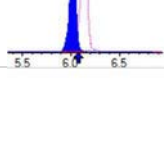
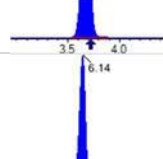
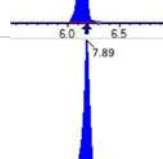
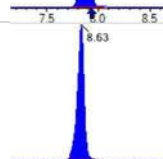
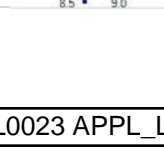


Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 527024	(9.48, N/A) (N/A, -0.05, N/A)	346.8	N/A	4.2742 [ 4.0000 ]	106.9% { 103.2% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 458315	(9.67, N/A) (N/A, -0.02, N/A)	278.5	N/A	4.2171 [ 4.0000 ]	105.4% { 97.2% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 428676	(10.56, N/A) (N/A, -0.01, N/A)	1166.0	N/A	21.3333 [ 20.0000 ]	106.7% { 99.3% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 198093	(10.66, N/A) (N/A, -0.01, N/A)	1164.8	N/A	21.6544 [ 20.0000 ]	108.3% { 108.6% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1118507	(6.45, N/A) (N/A, -0.07, N/A)	638.3	N/A	8.6720 [ 8.0000 ]	108.4% { 95.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 819896	(3.67, 1.00) (0.00, N/A, 0.0)	63.2	N/A 0.0 0.0	8.3322 [ 8.0000 ]	104.2%			
PFPeA	(262.9 / 219.0) 603288 (262.9 / 69.0) 6873	(4.99, 1.00) (0.00, N/A, 0.1)	714.5 139.6	0.0114 101.8 101.8	4.1560 [ 4.0000 ]	103.9%			
PFHxA	(313.0 / 269.0) 494481 (313.0 / 119.0) 48652	(6.14, 1.00) (0.00, N/A, -0.1)	480.7 302.7	0.0984 100.6 100.6	1.9728 [ 2.0000 ]	98.6%			
PFHpA	(363.0 / 319.0) 430799 (363.0 / 169.0) 129319	(7.07, 1.00) (0.00, N/A, -0.1)	617.2 361.9	0.3002 96.4 96.4	1.9616 [ 2.0000 ]	98.1%			
PFOA	(413.0 / 369.0) 498516 (413.0 / 169.0) 142531	(7.89, 1.00) (0.00, N/A, 0.1)	597.7 530.3	0.2859 87.5 87.5	1.9165 [ 2.0000 ]	95.8%			
PFNA	(463.0 / 419.0) 393754 (463.0 / 169.0) 83708	(8.63, 1.00) (0.00, N/A, 0.1)	416.4 106.0	0.2126 110.3 110.3	2.1745 [ 2.0000 ]	108.7%			
PFDA	(513.0 / 469.0) 564787 (513.0 / 169.0) 47750	(9.31, 1.00) (0.01, N/A, 0.1)	378.6 169.7	0.0845 88.5 88.5	2.2443 [ 2.0000 ]	112.2%			
PFUnA	(563.0 / 519.0) 658503 (563.0 / 169.0) 61653	(9.72, 1.00) (0.00, N/A, 0.4)	479.7 518.5	0.0936 107.8 107.8	2.0992 [ 2.0000 ]	105.0%			
PFDoA	(613.0 / 569.0) 675921 (613.0 / 169.0) 81123	(9.89, 1.00) (0.00, N/A, 0.2)	691.3 232.1	0.1200 86.2 86.2	1.9103 [ 2.0000 ]	95.5%			
PFTrDA	(663.0 / 619.0) 588988 (663.0 / 169.0) 110050	(10.02, 1.01) (N/A, 0.00, 0.1)	577.9 302.6	0.1868 91.3 91.3	1.9213 [ 2.0000 ]	96.1%			
PFTeDA	(713.0 / 669.0) 446345 (713.0 / 169.0) 83837	(10.13, 1.00) (0.00, N/A, 0.2)	486.0 629.5	0.1878 92.4 92.4	2.0034 [ 2.0000 ]	100.2%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 711903 (298.9 / 99.0) 484739	(6.09, 1.00) (0.00, N/A, 0.1)	731.9 757.9	0.6809 110.6 110.6	1.7756 [ 1.7695 ]	100.3%			
PFPeS	(349.0 / 80.0) 1288227 (349.0 / 99.0) 474774	(7.14, 0.89) (N/A, -0.04, 0.1)	707.6 705.0	0.3685 103.5 103.5	2.0076 [ 1.8768 ]	107.0%			
PFHxS	(399.0 / 80.0) 1027828 (399.0 / 99.0) 345011	(8.01, 1.00) (0.00, N/A, 0.0)	4264.5 49182.2	0.3357 99.9 99.9	1.8419 [ 1.8220 ]	101.1%			
PFHpS	(449.0 / 80.0) 977429 (449.0 / 99.0) 288763	(8.78, 0.93) (N/A, -0.04, 0.1)	730.0 481.1	0.2954 107.9 107.9	1.9191 [ 1.9028 ]	100.9%			
PFOS	(499.0 / 80.0) 1204037 (499.0 / 99.0) 223557	(9.45, 1.00) (0.00, N/A, 0.0)	87.9 105.3	0.1857 76.3 76.3	1.9004 [ 1.8550 ]	102.4%			
PFNS	(549.0 / 80.0) 1450440 (549.0 / 99.0) 305867	(9.76, 1.03) (N/A, -0.01, 0.0)	792.8 564.7	0.2109 86.4 86.4	2.0637 [ 1.9198 ]	107.5%			
PFDS	(599.0 / 80.0) 1519940 (599.0 / 99.0) 390353	(9.91, 1.05) (N/A, -0.01, -0.1)	861.1 462.0	0.2568 114.1 114.1	1.9480 [ 1.9262 ]	101.1%			
PFDoS	(698.9 / 80.0) 616036 (698.9 / 99.0) 122817	(10.11, 1.07) (N/A, -0.01, 0.2)	806.8 368.4	0.1994 81.5 81.5	1.8891 [ 1.9391 ]	97.4%			
4:2FTS	(327.0 / 307.0) 1460214 (327.0 / 81.0) 931969	(5.81, 1.00) (0.00, N/A, 0.3)	781.6 741.8	0.6382 129.2 129.2	7.3058 [ 7.4762 ]	97.7%			
6:2FTS	(427.0 / 407.0) 816068 (427.0 / 81.0) 629698	(7.55, 1.00) (0.00, N/A, 0.2)	696.5 806.5	0.7716 99.2 99.2	8.1240 [ 7.5923 ]	107.0%			
8:2FTS	(527.0 / 507.0) 874574 (527.0 / 81.0) 575440	(8.96, 1.00) (0.00, N/A, 0.1)	521.2 496.1	0.6580 116.2 116.2	7.8272 [ 7.6663 ]	102.1%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 1485959 (498.0 / 478.0) 31674	(10.17, 1.00) (0.00, N/A, 0.2)	990.0 142.4	0.0213 102.3 102.3	2.1663 [2.0000]	108.3%			
NMeFOSA	(511.9 / 219.0) 1078575 (511.9 / 169.0) 708121	(10.61, 1.00) (0.00, N/A, 0.0)	1225.7 994.7	0.6565 91.2 91.2	8.7756 [8.0000]	109.7%			
NEIFOSA	(526.0 / 219.0) 1148331 (526.0 / 169.0) 1200365	(10.70, 1.00) (0.00, N/A, 0.0)	776.2 1306.9	1.0453 98.8 98.8	8.6933 [8.0000]	108.7%			
NMeFOSAA	(570.0 / 419.0) 241345 (570.0 / 483.0) 110259	(9.50, 1.00) (0.00, N/A, -0.4)	387.8 310.6	0.4569 74.3 74.3	2.3829 [2.0000]	119.1%			
NEIFOSAA	(584.0 / 419.0) 216496 (584.0 / 526.0) 131164	(9.68, 1.00) (0.00, N/A, -0.3)	488.0 17276.9	0.6059 82.6 82.6	1.8426 [2.0000]	92.1%			
NMeFOSE	(616.1 / 59.0) 263519	(10.58, 1.00) (0.01, N/A, 0.0)	1098.0	N/A 0.0 0.0	8.8080 [8.0000]	110.1%			
NEtFOSE	(630.0 / 59.0) 44341	(10.68, 1.00) (0.01, N/A, 0.0)	785.9	N/A 0.0 0.0	8.2657 [8.0000]	103.3%			
HFPO-DA	(285.0 / 169.0) 361196 (285.0 / 185.0) 1050555	(6.49, 1.00) (0.00, N/A, 0.1)	772.7 816.6	2.9085 106.0 106.0	4.2149 [4.0000]	105.4%			
ADONA	(377.0 / 85.0) 1531070 (377.0 / 251.0) 192620	(7.39, 1.14) (N/A, -0.04, 0.0)	808.7 452.2	0.1258 101.0 101.0	4.0224 [3.7708]	106.7%			
9CI-Pf3ONS	(531.0 / 351.0) 4127226 (533.0 / 353.0) 1353329	(9.72, 1.50) (N/A, -0.01, 0.1)	633.0 677.8	0.3279 110.8 110.8	3.9027 [3.7330]	104.5%			
11CI-PF3OUDS	(631.0 / 451.0) 2164994 (633.0 / 453.0) 639114	(10.00, 1.54) (N/A, -0.01, 0.2)	1045.2 822.2	0.2952 89.2 89.2	4.0695 [3.7728]	107.9%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 40453 (241.0 / 117.0) 66448	(4.47, 0.90) (N/A, -0.05, 0.1)	490.7 413.9	1.6426 98.2 98.2	8.0746 [ 8.0000 ]	100.9%			
5:3FTCA	(341.0 / 236.7) 329758 (341.0 / 217.0) 527254	(6.77, 1.10) (N/A, -0.05, 0.1)	661.0 537.3	1.5989 109.2 109.2	7.4457 [ 8.0000 ]	93.1%			
7:3FTCA	(441.0 / 317.0) 392499 (441.0 / 337.0) 316116	(8.59, 1.40) (N/A, -0.04, 0.1)	337.8 309.6	0.8054 96.2 96.2	7.7021 [ 8.0000 ]	96.3%			
PFEESA	(315.0 / 135.0) 963848 (315.0 / 83.0) 290484	(6.59, 1.07) (N/A, -0.05, 0.0)	701.2 684.7	0.3014 98.2 98.2	3.5124 [ 3.5698 ]	98.4%			
PFMPA	(229.0 / 85.0) 159859	(4.18, 0.84) (N/A, -0.05, 0.0)	785.7	N/A 0.0 0.0	4.0125 [ 4.0000 ]	100.3%			
PFMBA	(279.0 / 85.0) 557038	(5.38, 1.08) (N/A, -0.05, 0.0)	765.0	N/A 0.0 0.0	4.0451 [ 4.0000 ]	101.1%			
NFDHA	(295.0 / 201.0) 513792 (295.0 / 85.0) 442175	(6.02, 0.98) (N/A, -0.05, 0.0)	639.9 677.3	0.8606 97.5 97.5	4.0653 [ 4.0000 ]	101.6%			
13C3_PFBA_IIS	(216.0 / 172.0) 147062	(3.67, N/A) (N/A, -0.05, N/A)	798.2	N/A	1.0565 [ 1.0000 ]	105.7% { 96.9% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 235070	(6.14, N/A) (N/A, -0.04, N/A)	582.4	N/A	1.0180 [ 1.0000 ]	101.8% { 100.5% }			
13C4_PFOA_IIS	(417.0 / 372.0) 228180	(7.89, N/A) (N/A, -0.04, N/A)	542.9	N/A	1.0379 [ 1.0000 ]	103.8% { 95.9% }			
13C5_PFNA_IIS	(468.0 / 423.0) 190318	(8.63, N/A) (N/A, -0.04, N/A)	398.2	N/A	1.0277 [ 1.0000 ]	102.8% { 94.1% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03941-CAL4  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21A (4)  
 Acquired: 2022/12/21 - 15:04

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 163196	(9.30, N/A) (N/A, -0.04, N/A)	351.2	N/A	0.8831 [ 1.0000 ]	88.3% { 93.9% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 399114	(8.01, N/A) (N/A, -0.04, N/A)	644.1	N/A	0.9886 [ 1.0000 ]	98.9% { 94.4% }			
13C4_PFOS_IIS	(502.8 / 79.9) 313371	(9.45, N/A) (N/A, -0.03, N/A)	470.2	N/A	0.9818 [ 1.0000 ]	98.2% { 95.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1206655	(3.67, N/A) (N/A, -0.05, N/A)	920.8	N/A	7.9721 [ 8.0000 ]	99.7% { 101.3% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 661139	(4.99, N/A) (N/A, -0.05, N/A)	803.5	N/A	4.0422 [ 4.0000 ]	101.1% { 95.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 583697	(6.14, N/A) (N/A, -0.05, N/A)	813.5	N/A	2.1578 [ 2.0000 ]	107.9% { 108.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 481858	(7.07, N/A) (N/A, -0.04, N/A)	625.4	N/A	2.0419 [ 2.0000 ]	102.1% { 98.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 529026	(7.89, N/A) (N/A, -0.04, N/A)	717.1	N/A	2.1141 [ 2.0000 ]	105.7% { 106.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 211031	(8.63, N/A) (N/A, -0.04, N/A)	522.0	N/A	1.0084 [ 1.0000 ]	100.8% { 96.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 264380	(9.30, N/A) (N/A, -0.04, N/A)	286.1	N/A	1.1391 [ 1.0000 ]	113.9% { 94.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 396942	(9.72, N/A) (N/A, -0.01, N/A)	636.0	N/A	1.2023 [ 1.0000 ]	120.2% { 99.7% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03941-CAL4  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21A (4)  
 Acquired: 2022/12/21 - 15:04

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 410435	(9.89, N/A) (N/A, -0.01, N/A)	625.4	N/A	1.2456 [ 1.0000 ]	124.6% { 105.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 251385	(10.12, N/A) (N/A, -0.01, N/A)	364.3	N/A	1.1487 [ 1.0000 ]	114.9% { 103.9% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1462627	(6.09, N/A) (N/A, -0.05, N/A)	798.2	N/A	2.1675 [ 2.0000 ]	108.4% { 106.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 718366	(8.01, N/A) (N/A, -0.04, N/A)	884.3	N/A	2.0008 [ 2.0000 ]	100.0% { 95.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1167403	(9.45, N/A) (N/A, -0.03, N/A)	347.8	N/A	2.1706 [ 2.0000 ]	108.5% { 98.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 241790	(5.80, N/A) (N/A, -0.05, N/A)	780.0	N/A	4.2305 [ 4.0000 ]	105.8% { 107.9% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 261330	(7.54, N/A) (N/A, -0.04, N/A)	519.2	N/A	3.7978 [ 4.0000 ]	94.9% { 95.2% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 282103	(8.96, N/A) (N/A, -0.04, N/A)	454.9	N/A	4.0954 [ 4.0000 ]	102.4% { 95.3% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1451627	(10.17, N/A) (N/A, -0.01, N/A)	856.3	N/A	2.1353 [ 2.0000 ]	106.8% { 99.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 301552	(10.60, N/A) (N/A, 0.00, N/A)	1022.7	N/A	2.0316 [ 2.0000 ]	101.6% { 91.4% }			
D5_NEtFOSA_EIS	(531.1 / 169.0) 292885	(10.69, N/A) (N/A, 0.00, N/A)	1224.3	N/A	2.1375 [ 2.0000 ]	106.9% { 102.9% }			



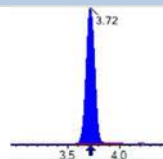
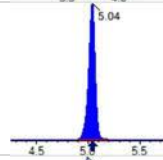
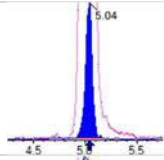
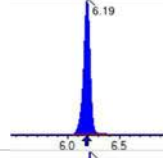
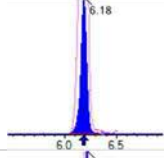
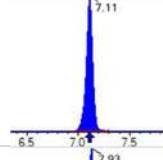
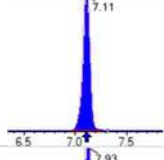
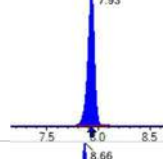
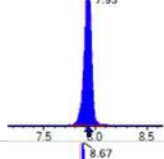
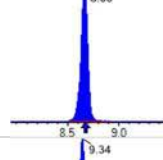
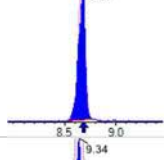
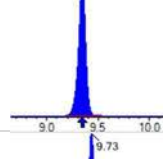
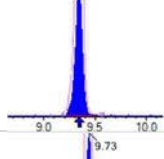
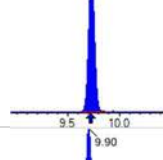
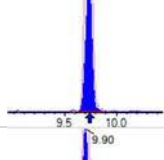
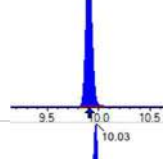
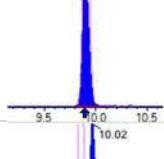
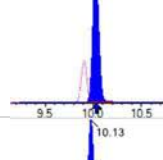
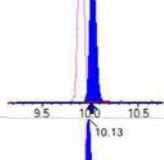
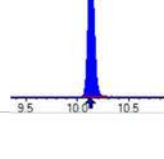
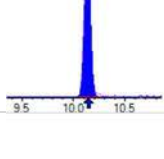
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

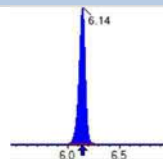
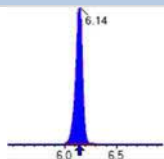
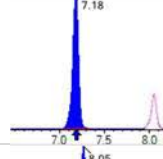
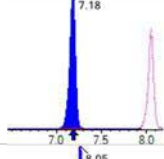
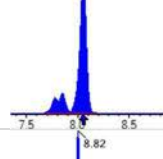
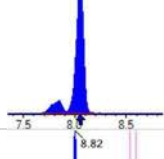
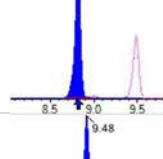
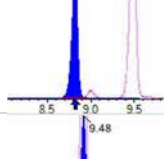
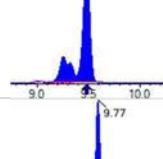
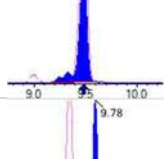
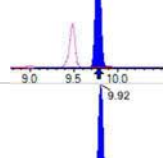
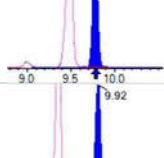
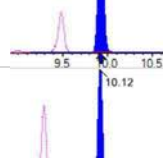
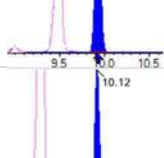
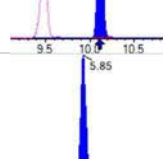
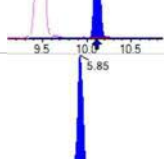
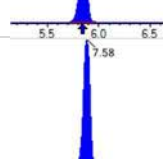
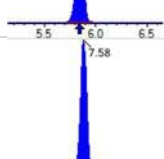
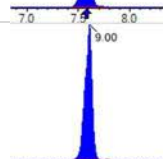
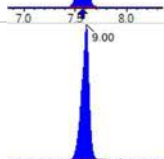
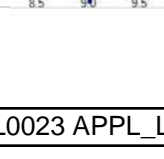
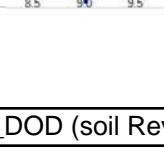
Sample I.D.: SB03941-CAL4  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21A (4)  
 Acquired: 2022/12/21 - 15:04

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 519867	(9.50, N/A) (N/A, -0.03, N/A)	351.6	N/A	4.0649 [ 4.0000 ]	101.6% { 101.8% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 523494	(9.68, N/A) (N/A, -0.01, N/A)	328.8	N/A	4.6440 [ 4.0000 ]	116.1% { 111.1% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 474063	(10.57, N/A) (N/A, 0.00, N/A)	906.7	N/A	22.7456 [ 20.0000 ]	113.7% { 109.8% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 209537	(10.67, N/A) (N/A, -0.01, N/A)	1132.4	N/A	22.0836 [ 20.0000 ]	110.4% { 114.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1127924	(6.49, N/A) (N/A, -0.04, N/A)	814.1	N/A	7.8424 [ 8.0000 ]	98.0% { 96.0% }			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 1990225	(3.72, 1.00) (0.00, N/A, 0.0)	64.8	N/A 0.0 0.0	20.4982 [ 20.0000 ]	102.5%			
PFPeA	(262.9 / 219.0) 1442100 (262.9 / 69.0) 16141	(5.04, 1.00) (0.00, N/A, 0.1)	681.9 331.7	0.0112 100.0 100.0	9.4373 [ 10.0000 ]	94.4%			
PFHxA	(313.0 / 269.0) 1106970 (313.0 / 119.0) 108235	(6.19, 1.00) (0.00, N/A, 0.1)	659.6 460.1	0.0978 100.0 100.0	4.7836 [ 5.0000 ]	95.7%			
PFHpA	(363.0 / 319.0) 1091562 (363.0 / 169.0) 339999	(7.11, 1.00) (0.00, N/A, 0.0)	794.0 590.8	0.3115 100.0 100.0	4.8774 [ 5.0000 ]	97.5%			
PFOA	(413.0 / 369.0) 1178218 (413.0 / 169.0) 385050	(7.93, 1.00) (0.00, N/A, 0.1)	590.9 623.3	0.3268 100.0 100.0	4.8153 [ 5.0000 ]	96.3%			
PFNA	(463.0 / 419.0) 1009822 (463.0 / 169.0) 194634	(8.66, 1.00) (0.00, N/A, -0.5)	531.9 118.3	0.1927 100.0 100.0	5.3804 [ 5.0000 ]	107.6%			
PFDA	(513.0 / 469.0) 1239600 (513.0 / 169.0) 118484	(9.34, 1.00) (0.00, N/A, 0.1)	438.5 380.8	0.0956 100.0 100.0	4.6297 [ 5.0000 ]	92.6%			
PFUnA	(563.0 / 519.0) 1546203 (563.0 / 169.0) 134285	(9.73, 1.00) (0.00, N/A, -0.2)	836.4 434.5	0.0868 100.0 100.0	4.9118 [ 5.0000 ]	98.2%			
PFDoA	(613.0 / 569.0) 1581806 (613.0 / 169.0) 220234	(9.90, 1.00) (0.00, N/A, 0.1)	474.2 387.0	0.1392 100.0 100.0	4.7333 [ 5.0000 ]	94.7%			
PFTrDA	(663.0 / 619.0) 1328428 (663.0 / 169.0) 271899	(10.03, 1.01) (N/A, 0.00, 0.0)	609.2 325.8	0.2047 100.0 100.0	4.5881 [ 5.0000 ]	91.8%			
PFTeDA	(713.0 / 669.0) 1063699 (713.0 / 169.0) 216340	(10.13, 1.00) (0.00, N/A, -0.2)	630.3 402.5	0.2034 100.0 100.0	4.9622 [ 5.0000 ]	99.2%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 1813615 (298.9 / 99.0) 1116198	(6.14, 1.00) (0.00, N/A, 0.0)	768.3 703.2	0.6155 100.0 100.0	4.8171 [ 4.4237 ]	108.9%			
PFPeS	(349.0 / 80.0) 3187262 (349.0 / 99.0) 1134601	(7.18, 0.89) (N/A, 0.00, 0.0)	946.8 863.6	0.3560 100.0 100.0	4.7330 [ 4.6919 ]	100.9%			
PFHxS	(399.0 / 80.0) 2633681 (399.0 / 99.0) 885281	(8.05, 1.00) (0.00, N/A, 0.1)	3311.5 3041.5	0.3361 100.0 100.0	4.4972 [ 4.5549 ]	98.7%			
PFHpS	(449.0 / 80.0) 2438304 (449.0 / 99.0) 667404	(8.82, 0.93) (N/A, 0.00, 0.1)	775.3 642.6	0.2737 100.0 100.0	4.6954 [ 4.7570 ]	98.7%			
PFOS	(499.0 / 80.0) 2788138 (499.0 / 99.0) 678060	(9.48, 1.00) (0.00, N/A, 0.1)	106.0 147.7	0.2432 100.0 100.0	4.3161 [ 4.6375 ]	93.1%			
PFNS	(549.0 / 80.0) 3204059 (549.0 / 99.0) 781912	(9.77, 1.03) (N/A, 0.00, -0.2)	897.4 623.4	0.2440 100.0 100.0	4.4712 [ 4.7994 ]	93.2%			
PFDS	(599.0 / 80.0) 3838984 (599.0 / 99.0) 864091	(9.92, 1.05) (N/A, 0.00, -0.1)	900.9 980.5	0.2251 100.0 100.0	4.8256 [ 4.8155 ]	100.2%			
PFDoS	(698.9 / 80.0) 1471553 (698.9 / 99.0) 360040	(10.12, 1.07) (N/A, 0.00, 0.1)	998.7 645.8	0.2447 100.0 100.0	4.4257 [ 4.8478 ]	91.3%			
4:2FTS	(327.0 / 307.0) 4028733 (327.0 / 81.0) 1990132	(5.85, 1.00) (0.00, N/A, -0.1)	873.0 781.7	0.4940 100.0 100.0	21.7465 [ 18.6906 ]	116.4%			
6:2FTS	(427.0 / 407.0) 1996255 (427.0 / 81.0) 1553538	(7.58, 1.00) (0.00, N/A, 0.1)	795.2 949.1	0.7782 100.0 100.0	18.9232 [ 18.9808 ]	99.7%			
8:2FTS	(527.0 / 507.0) 2012330 (527.0 / 81.0) 1139036	(9.00, 1.00) (0.00, N/A, 0.0)	497.7 645.4	0.5660 100.0 100.0	17.1622 [ 19.1658 ]	89.5%			

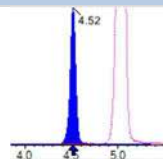
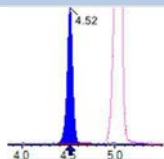
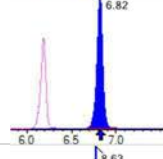
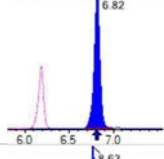
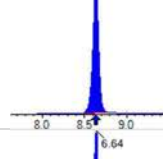
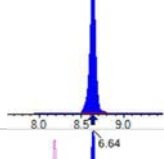
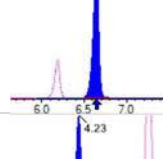
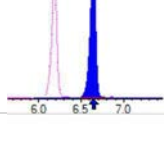
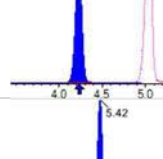
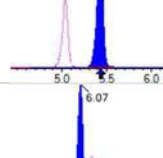
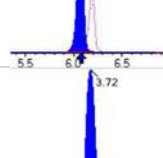
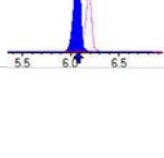
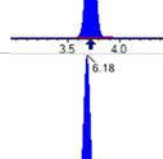
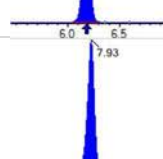
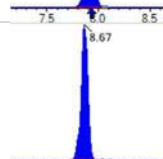
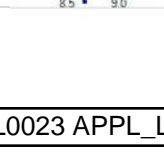


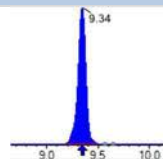
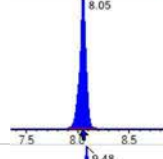
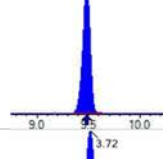
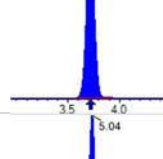
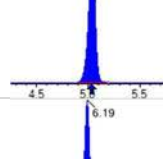
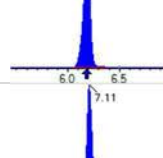
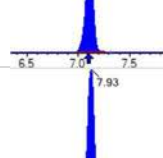
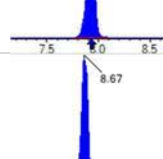
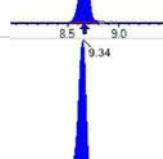
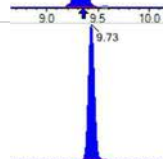
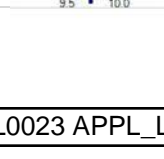
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 Instrument: Saphira  
 Type: Sciex Q3 5500

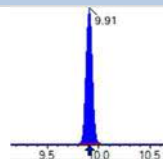
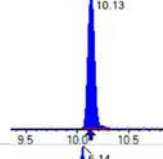
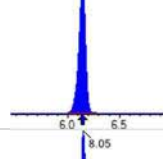
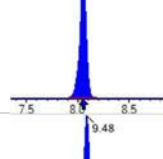
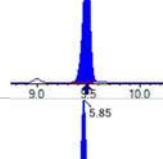
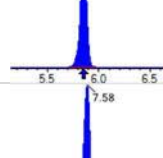
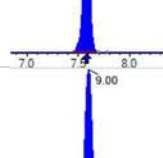
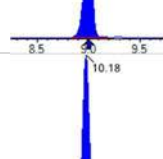
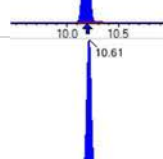
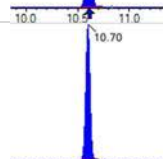
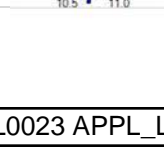
Sample I.D.: SB03941-CAL5  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21A (5)  
 Acquired: 2022/12/21 - 15:17

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 3270792 ( 498.0 / 478.0 ) 68177	( 10.18 , 1.00 ) ( 0.00 , N/A , 0.2 )	829.1 239.1	0.0208 100.0 100.0	4.7234 [ 5.0000 ]	94.5%			
NMeFOSA	( 511.9 / 219.0 ) 2491137 ( 511.9 / 169.0 ) 1794272	( 10.61 , 1.00 ) ( 0.00 , N/A , 0.0 )	1462.0 1077.7	0.7203 100.0 100.0	18.5213 [ 20.0000 ]	92.6%			
NEIFOSA	( 526.0 / 219.0 ) 2678351 ( 526.0 / 169.0 ) 2632868	( 10.70 , 1.00 ) ( 0.00 , N/A , 0.1 )	1554.8 1249.8	1.0577 100.0 100.0	20.8662 [ 20.0000 ]	104.3%			
NMeFOSAA	( 570.0 / 419.0 ) 486745 ( 570.0 / 483.0 ) 299202	( 9.53 , 1.00 ) ( 0.00 , N/A , -0.2 )	573.1 562.9	0.6147 100.0 100.0	4.8937 [ 5.0000 ]	97.9%			
NEIFOSAA	( 584.0 / 419.0 ) 490783 ( 584.0 / 526.0 ) 359842	( 9.70 , 1.00 ) ( 0.00 , N/A , -0.1 )	632.4 1809.1	0.7332 100.0 100.0	4.6394 [ 5.0000 ]	92.8%			
NMeFOSE	( 616.1 / 59.0 ) 543390	( 10.58 , 1.00 ) ( 0.01 , N/A , 0.0 )	1051.7	N/A 0.0 0.0	19.9513 [ 20.0000 ]	99.8%			
NEtFOSE	( 630.0 / 59.0 ) 87164	( 10.68 , 1.00 ) ( 0.01 , N/A , 0.0 )	921.6	N/A 0.0 0.0	18.6613 [ 20.0000 ]	93.3%			
HFPO-DA	( 285.0 / 169.0 ) 898919 ( 285.0 / 185.0 ) 2467337	( 6.53 , 1.00 ) ( 0.00 , N/A , 0.1 )	856.6 806.8	2.7448 100.0 100.0	10.0733 [ 10.0000 ]	100.7%			
ADONA	( 377.0 / 85.0 ) 3868840 ( 377.0 / 251.0 ) 481766	( 7.43 , 1.14 ) ( N/A , 0.00 , 0.0 )	954.1 756.2	0.1245 100.0 100.0	9.7608 [ 9.4270 ]	103.5%			
9CI-Pf3ONS	( 531.0 / 351.0 ) 10282118 ( 533.0 / 353.0 ) 3043082	( 9.73 , 1.49 ) ( N/A , 0.00 , 0.1 )	1040.7 769.1	0.2960 100.0 100.0	9.5629 [ 9.3325 ]	102.5%			
11CI-PF3OUDS	( 631.0 / 451.0 ) 5063261 ( 633.0 / 453.0 ) 1675005	( 10.01 , 1.53 ) ( N/A , 0.00 , 0.0 )	1182.7 681.6	0.3308 100.0 100.0	9.1397 [ 9.4321 ]	96.9%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 99522 (241.0 / 117.0) 166546	(4.52, 0.90) (N/A, 0.00, 0.0)	656.3 515.8	1.6734 100.0 100.0	18.8712 [ 20.0000 ]	94.4%			
5:3FTCA	(341.0 / 236.7) 874302 (341.0 / 217.0) 1279737	(6.82, 1.10) (N/A, 0.00, 0.1)	614.2 617.8	1.4637 100.0 100.0	21.3819 [ 20.0000 ]	106.9%			
7:3FTCA	(441.0 / 317.0) 962379 (441.0 / 337.0) 805964	(8.63, 1.40) (N/A, 0.00, 0.0)	516.9 404.8	0.8375 100.0 100.0	20.4549 [ 20.0000 ]	102.3%			
PFEESA	(315.0 / 135.0) 2085285 (315.0 / 83.0) 640190	(6.64, 1.07) (N/A, 0.00, 0.1)	832.1 689.8	0.3070 100.0 100.0	8.2307 [ 8.9246 ]	92.2%			
PFMPA	(229.0 / 85.0) 396790	(4.23, 0.84) (N/A, 0.00, 0.0)	1072.7	N/A 0.0 0.0	9.4611 [ 10.0000 ]	94.6%			
PFMBA	(279.0 / 85.0) 1416279	(5.42, 1.08) (N/A, 0.00, 0.0)	830.4	N/A 0.0 0.0	9.7700 [ 10.0000 ]	97.7%			
NFDHA	(295.0 / 201.0) 1199740 (295.0 / 85.0) 1059117	(6.07, 0.98) (N/A, 0.00, 0.0)	939.5 917.5	0.8828 100.0 100.0	10.2818 [ 10.0000 ]	102.8%			
13C3_PFBA_IIS	(216.0 / 172.0) 151758	(3.72, N/A) (N/A, 0.00, N/A)	805.9	N/A	1.0903 [ 1.0000 ]	109.0% { 100.0% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 233958	(6.18, N/A) (N/A, 0.00, N/A)	558.9	N/A	1.0132 [ 1.0000 ]	101.3% { 100.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 238020	(7.93, N/A) (N/A, 0.00, N/A)	686.2	N/A	1.0827 [ 1.0000 ]	108.3% { 100.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 202298	(8.67, N/A) (N/A, 0.00, N/A)	356.6	N/A	1.0924 [ 1.0000 ]	109.2% { 100.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 173856	(9.34, N/A) (N/A, 0.00, N/A)	302.9	N/A	0.9407 [ 1.0000 ]	94.1% { 100.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 422692	(8.05, N/A) (N/A, 0.00, N/A)	772.0	N/A	1.0470 [ 1.0000 ]	104.7% { 100.0% }			
13C4_PFOS_IIS	(502.8 / 79.9) 327849	(9.48, N/A) (N/A, 0.00, N/A)	486.2	N/A	1.0272 [ 1.0000 ]	102.7% { 100.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1190617	(3.72, N/A) (N/A, 0.00, N/A)	806.1	N/A	7.6228 [ 8.0000 ]	95.3% { 100.0% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 695964	(5.04, N/A) (N/A, 0.00, N/A)	743.0	N/A	4.2753 [ 4.0000 ]	106.9% { 100.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 538902	(6.19, N/A) (N/A, 0.00, N/A)	577.5	N/A	2.0016 [ 2.0000 ]	100.1% { 100.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 491038	(7.11, N/A) (N/A, 0.00, N/A)	663.4	N/A	2.0907 [ 2.0000 ]	104.5% { 100.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 497637	(7.93, N/A) (N/A, 0.00, N/A)	494.4	N/A	1.9065 [ 2.0000 ]	95.3% { 100.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 218730	(8.67, N/A) (N/A, 0.00, N/A)	468.8	N/A	0.9833 [ 1.0000 ]	98.3% { 100.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 281293	(9.34, N/A) (N/A, 0.00, N/A)	304.6	N/A	1.1376 [ 1.0000 ]	113.8% { 100.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 398330	(9.73, N/A) (N/A, 0.00, N/A)	590.9	N/A	1.1326 [ 1.0000 ]	113.3% { 100.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 387652	(9.91, N/A) (N/A, 0.00, N/A)	408.6	N/A	1.1043 [ 1.0000 ]	110.4% { 100.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 241867	(10.13, N/A) (N/A, 0.00, N/A)	473.7	N/A	1.0375 [ 1.0000 ]	103.7% { 100.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1373432	(6.14, N/A) (N/A, 0.00, N/A)	693.8	N/A	1.9218 [ 2.0000 ]	96.1% { 100.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 753903	(8.05, N/A) (N/A, 0.00, N/A)	856.1	N/A	1.9827 [ 2.0000 ]	99.1% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1190292	(9.48, N/A) (N/A, 0.00, N/A)	261.7	N/A	2.1154 [ 2.0000 ]	105.8% { 100.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 224114	(5.85, N/A) (N/A, 0.00, N/A)	886.7	N/A	3.7025 [ 4.0000 ]	92.6% { 100.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 274445	(7.58, N/A) (N/A, 0.00, N/A)	671.5	N/A	3.7659 [ 4.0000 ]	94.1% { 100.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 296038	(9.00, N/A) (N/A, 0.00, N/A)	428.2	N/A	4.0579 [ 4.0000 ]	101.4% { 100.0% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1465391	(10.18, N/A) (N/A, 0.00, N/A)	879.9	N/A	2.0603 [ 2.0000 ]	103.0% { 100.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 330001	(10.61, N/A) (N/A, 0.00, N/A)	806.2	N/A	2.1251 [ 2.0000 ]	106.3% { 100.0% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 284603	(10.70, N/A) (N/A, 0.00, N/A)	963.7	N/A	1.9853 [ 2.0000 ]	99.3% { 100.0% }			

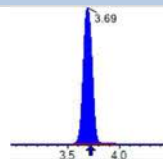
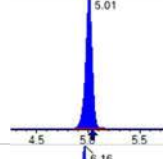
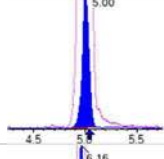
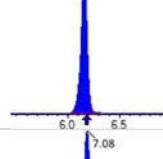
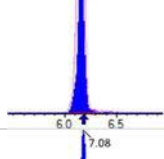
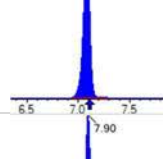
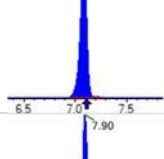
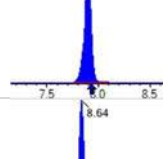
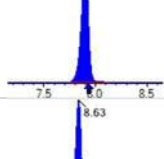
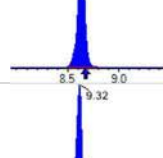
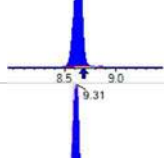
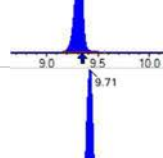
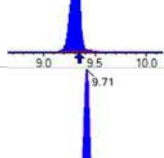
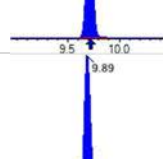
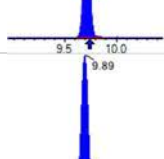
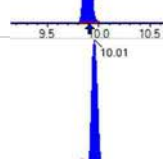
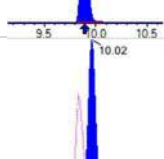
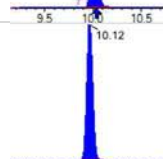
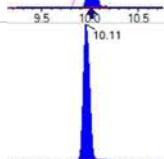
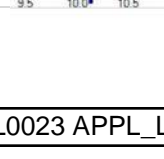
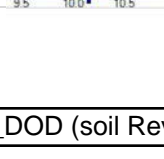


Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

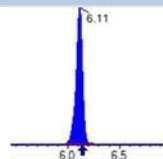
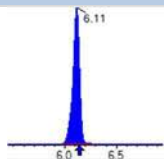
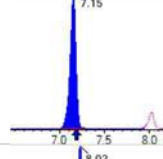
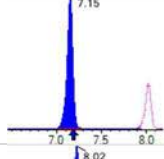
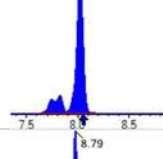
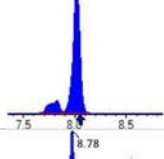
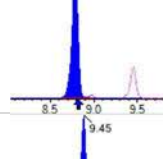
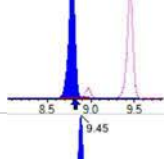
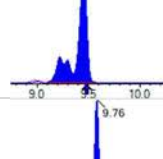
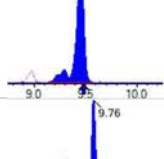
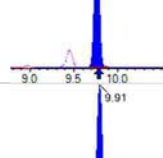
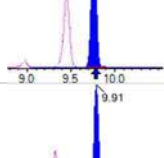
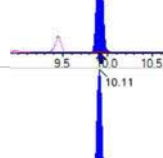
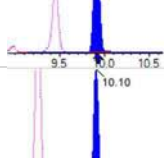
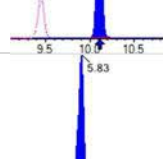
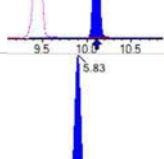
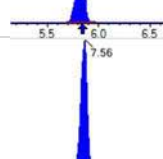
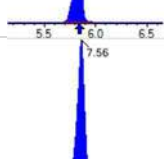
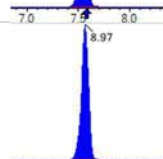
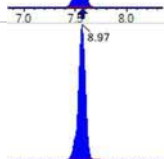
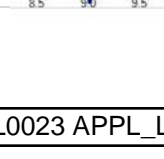
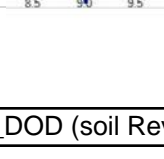
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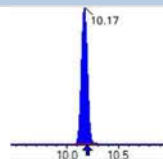
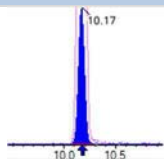
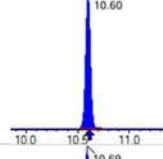
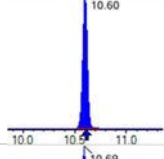
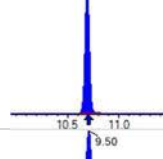
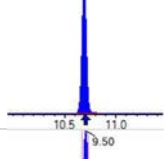
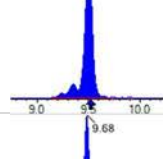
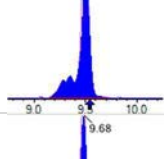
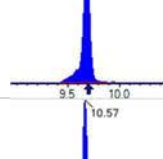
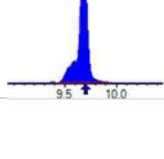
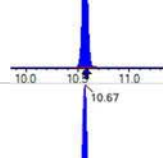
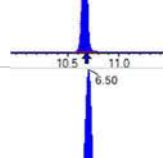
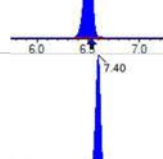
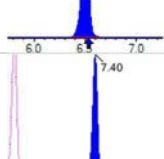
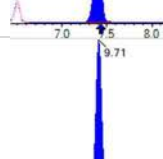
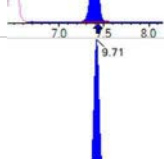
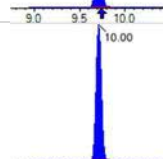
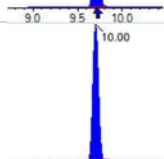
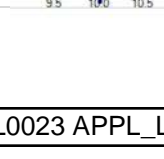
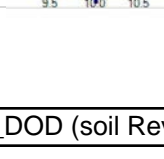
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 Path: S2022-12-21A (5)  
 Acquired: 2022/12/21 - 15:17

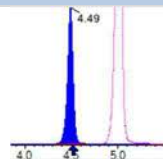
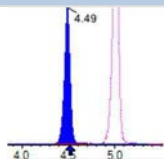
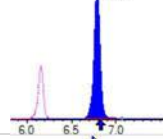
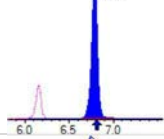
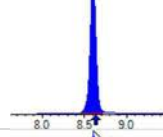
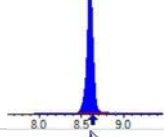
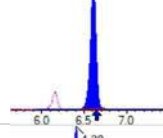
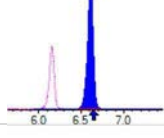
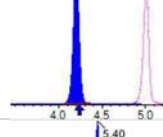
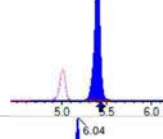
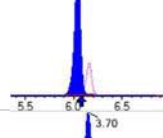
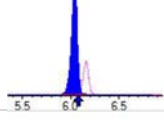
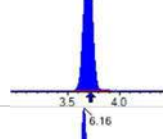
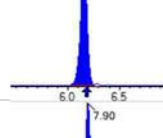
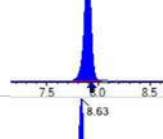
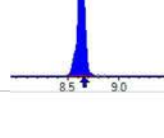
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 510539	(9.53, N/A) (N/A, 0.00, N/A)	423.7	N/A	3.8157 [ 4.0000 ]	95.4% { 100.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 471317	(9.69, N/A) (N/A, 0.00, N/A)	312.2	N/A	3.9965 [ 4.0000 ]	99.9% { 100.0% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 431560	(10.58, N/A) (N/A, 0.00, N/A)	1437.5	N/A	19.7920 [ 20.0000 ]	99.0% { 100.0% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 182445	(10.67, N/A) (N/A, 0.00, N/A)	924.0	N/A	18.3793 [ 20.0000 ]	91.9% { 100.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1174542	(6.53, N/A) (N/A, 0.00, N/A)	891.8	N/A	8.2053 [ 8.0000 ]	102.6% { 100.0% }			

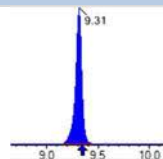
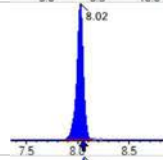
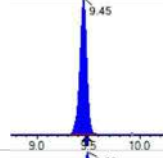
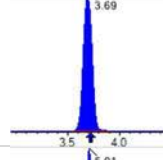
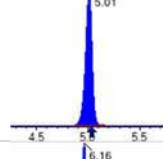
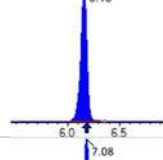
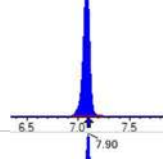
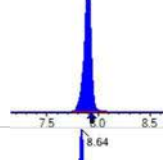
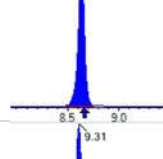
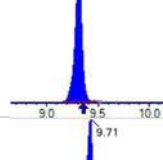
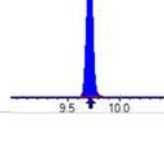
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 4050226	(3.69, 1.00) (0.00, N/A, 0.0)	65.3	N/A 0.0 0.0	42.6736 [ 40.0000 ]	106.7%			
PFPeA	(262.9 / 219.0) 2824768 (262.9 / 69.0) 30797	(5.01, 1.00) (0.00, N/A, 0.2)	725.3 354.5	0.0109 97.4 97.4	19.8721 [ 20.0000 ]	99.4%			
PFHxA	(313.0 / 269.0) 2355853 (313.0 / 119.0) 216426	(6.16, 1.00) (0.00, N/A, 0.1)	630.0 576.1	0.0919 94.0 94.0	9.7663 [ 10.0000 ]	97.7%			
PFHpA	(363.0 / 319.0) 2097907 (363.0 / 169.0) 669756	(7.08, 1.00) (0.00, N/A, 0.1)	650.6 555.8	0.3192 102.5 102.5	9.6572 [ 10.0000 ]	96.6%			
PFOA	(413.0 / 369.0) 2460865 (413.0 / 169.0) 754807	(7.90, 1.00) (0.00, N/A, 0.0)	797.2 515.8	0.3067 93.9 93.9	10.0578 [ 10.0000 ]	100.6%			
PFNA	(463.0 / 419.0) 1917681 (463.0 / 169.0) 398931	(8.64, 1.00) (0.00, N/A, 0.0)	698.0 110.9	0.2080 107.9 107.9	9.9870 [ 10.0000 ]	99.9%			
PFDA	(513.0 / 469.0) 2731475 (513.0 / 169.0) 237718	(9.32, 1.00) (0.01, N/A, 0.1)	431.9 384.2	0.0870 91.1 91.1	10.5011 [ 10.0000 ]	105.0%			
PFUnA	(563.0 / 519.0) 2762959 (563.0 / 169.0) 281752	(9.71, 1.00) (0.00, N/A, 0.0)	678.3 368.4	0.1020 117.4 117.4	10.3620 [ 10.0000 ]	103.6%			
PFDoA	(613.0 / 569.0) 3158081 (613.0 / 169.0) 408270	(9.89, 1.00) (0.00, N/A, -0.3)	740.9 505.8	0.1293 92.9 92.9	10.5649 [ 10.0000 ]	105.6%			
PFTrDA	(663.0 / 619.0) 2750923 (663.0 / 169.0) 615527	(10.01, 1.01) (N/A, -0.01, -0.3)	922.1 622.7	0.2238 109.3 109.3	10.6219 [ 10.0000 ]	106.2%			
PFTeDA	(713.0 / 669.0) 2392662 (713.0 / 169.0) 396949	(10.12, 1.00) (0.00, N/A, 0.2)	784.4 530.3	0.1659 81.6 81.6	12.1566 [ 10.0000 ]	121.6%			

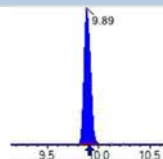
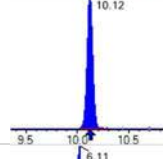
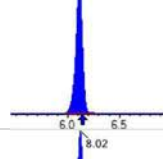
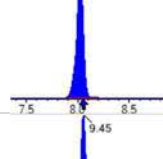
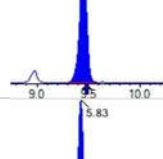
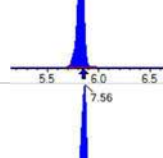
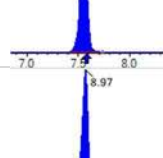
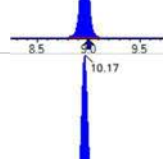
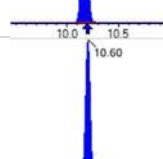
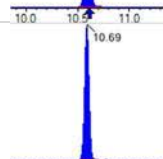
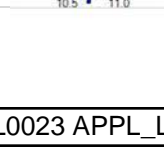


Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 3499294 (298.9 / 99.0) 2162960	(6.11, 1.00) (0.00, N/A, 0.0)	782.7 712.1	0.6181 100.4 100.4	9.3608 [ 8.8473 ]	105.8%			
PFPeS	(349.0 / 80.0) 6311120 (349.0 / 99.0) 2220135	(7.15, 0.89) (N/A, -0.03, 0.0)	774.9 858.6	0.3518 98.8 98.8	9.3269 [ 9.3838 ]	99.4%			
PFHxS	(399.0 / 80.0) 5497046 (399.0 / 99.0) 1809522	(8.02, 1.00) (0.00, N/A, 0.2)	3843.8 4067.6	0.3292 97.9 97.9	9.3415 [ 9.1098 ]	102.5%			
PFHpS	(449.0 / 80.0) 4655282 (449.0 / 99.0) 1364079	(8.79, 0.93) (N/A, -0.03, 0.1)	660.3 545.6	0.2930 107.1 107.1	10.1795 [ 9.5141 ]	107.0%			
PFOS	(499.0 / 80.0) 5408135 (499.0 / 99.0) 1245798	(9.45, 1.00) (0.00, N/A, -0.1)	107.2 128.5	0.2304 94.7 94.7	9.5064 [ 9.2749 ]	102.5%			
PFNS	(549.0 / 80.0) 6857872 (549.0 / 99.0) 1607367	(9.76, 1.03) (N/A, -0.01, 0.1)	779.5 870.0	0.2344 96.0 96.0	10.8669 [ 9.5989 ]	113.2%			
PFDS	(599.0 / 80.0) 7907397 (599.0 / 99.0) 1810025	(9.91, 1.05) (N/A, -0.01, 0.2)	1173.5 1014.3	0.2289 101.7 101.7	11.2866 [ 9.6311 ]	117.2%			
PFDoS	(698.9 / 80.0) 2945783 (698.9 / 99.0) 628808	(10.11, 1.07) (N/A, -0.01, 0.1)	1059.1 1043.2	0.2135 87.2 87.2	10.0602 [ 9.6956 ]	103.8%			
4:2FTS	(327.0 / 307.0) 7219424 (327.0 / 81.0) 3962590	(5.83, 1.00) (0.00, N/A, 0.3)	742.8 891.9	0.5489 111.1 111.1	35.0389 [ 37.3811 ]	93.7%			
6:2FTS	(427.0 / 407.0) 4387404 (427.0 / 81.0) 2952550	(7.56, 1.00) (0.00, N/A, -0.1)	852.0 1014.4	0.6730 86.5 86.5	42.2664 [ 37.9617 ]	111.3%			
8:2FTS	(527.0 / 507.0) 4299071 (527.0 / 81.0) 2483349	(8.97, 1.00) (0.00, N/A, 0.1)	581.6 491.2	0.5776 102.1 102.1	39.3656 [ 38.3315 ]	102.7%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 7323816 (498.0 / 478.0) 156082	(10.17, 1.00) (0.00, N/A, -0.1)	1220.2 517.0	0.0213 102.2 102.2	11.2339 [ 10.0000 ]	112.3%			
NMeFOSA	(511.9 / 219.0) 5018962 (511.9 / 169.0) 3409088	(10.60, 1.00) (0.00, N/A, -0.1)	1068.1 1194.8	0.6792 94.3 94.3	41.0228 [ 40.0000 ]	102.6%			
NEIFOSA	(526.0 / 219.0) 5202781 (526.0 / 169.0) 5559747	(10.69, 1.00) (0.00, N/A, 0.0)	1128.4 1454.6	1.0686 101.0 101.0	41.3031 [ 40.0000 ]	103.3%			
NMeFOSAA	(570.0 / 419.0) 1047253 (570.0 / 483.0) 528303	(9.50, 1.00) (0.01, N/A, 0.0)	505.4 486.7	0.5045 82.1 82.1	9.6770 [ 10.0000 ]	96.8%			
NEIFOSAA	(584.0 / 419.0) 1028405 (584.0 / 526.0) 603316	(9.68, 1.00) (0.01, N/A, 0.0)	933.5 1079.0	0.5867 80.0 80.0	8.7467 [ 10.0000 ]	87.5%			
NMeFOSE	(616.1 / 59.0) 1066666	(10.57, 1.00) (0.01, N/A, 0.0)	1245.3	N/A 0.0 0.0	43.1436 [ 40.0000 ]	107.9%			
NEtFOSE	(630.0 / 59.0) 190429	(10.67, 1.00) (0.01, N/A, 0.0)	952.6	N/A 0.0 0.0	39.7759 [ 40.0000 ]	99.4%			
HFPO-DA	(285.0 / 169.0) 1706844 (285.0 / 185.0) 4940740	(6.50, 1.00) (0.00, N/A, 0.0)	940.9 950.3	2.8947 105.5 105.5	19.4163 [ 20.0000 ]	97.1%			
ADONA	(377.0 / 85.0) 7625070 (377.0 / 251.0) 966765	(7.40, 1.14) (N/A, -0.03, 0.0)	848.9 734.0	0.1268 101.8 101.8	19.5285 [ 18.8540 ]	103.6%			
9CI-Pf3ONS	(531.0 / 351.0) 18752532 (533.0 / 353.0) 6070274	(9.71, 1.49) (N/A, -0.02, 0.0)	653.0 661.6	0.3237 109.4 109.4	18.3510 [ 18.6651 ]	98.3%			
11CI-PF3OUDS	(631.0 / 451.0) 10830263 (633.0 / 453.0) 3030278	(10.00, 1.54) (N/A, -0.01, 0.1)	1577.4 1022.7	0.2798 84.6 84.6	19.8453 [ 18.8642 ]	105.2%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 204327 (241.0 / 117.0) 336062	(4.49, 0.90) (N/A, -0.03, 0.1)	792.9 648.3	1.6447 98.3 98.3	41.6496 [ 40.0000 ]	104.1%			
5:3FTCA	(341.0 / 236.7) 1619148 (341.0 / 217.0) 2611063	(6.79, 1.10) (N/A, -0.03, -0.1)	703.3 612.1	1.6126 110.2 110.2	37.9872 [ 40.0000 ]	95.0%			
7:3FTCA	(441.0 / 317.0) 1906765 (441.0 / 337.0) 1608500	(8.60, 1.40) (N/A, -0.03, -0.1)	523.3 597.0	0.8436 100.7 100.7	38.8788 [ 40.0000 ]	97.2%			
PFEESA	(315.0 / 135.0) 4593030 (315.0 / 83.0) 1327802	(6.61, 1.07) (N/A, -0.03, -0.1)	844.1 795.4	0.2891 94.2 94.2	17.3915 [ 17.8492 ]	97.4%			
PFMPA	(229.0 / 85.0) 810629	(4.20, 0.84) (N/A, -0.03, 0.0)	1061.6	N/A 0.0 0.0	20.7783 [ 20.0000 ]	103.9%			
PFMBA	(279.0 / 85.0) 2665168	(5.40, 1.08) (N/A, -0.03, 0.0)	868.7	N/A 0.0 0.0	19.7641 [ 20.0000 ]	98.8%			
NFDHA	(295.0 / 201.0) 2388001 (295.0 / 85.0) 2094961	(6.04, 0.98) (N/A, -0.03, 0.0)	636.9 870.9	0.8773 99.4 99.4	19.6329 [ 20.0000 ]	98.2%			
13C3_PFBa_IIS	(216.0 / 172.0) 145548	(3.70, N/A) (N/A, -0.02, N/A)	760.7	N/A	1.0457 [ 1.0000 ]	104.6% { 95.9% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 251161	(6.16, N/A) (N/A, -0.03, N/A)	573.8	N/A	1.0877 [ 1.0000 ]	108.8% { 107.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 228422	(7.90, N/A) (N/A, -0.03, N/A)	604.8	N/A	1.0390 [ 1.0000 ]	103.9% { 96.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 199253	(8.63, N/A) (N/A, -0.03, N/A)	633.0	N/A	1.0760 [ 1.0000 ]	107.6% { 98.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 224539	(9.31, N/A) (N/A, -0.03, N/A)	595.4	N/A	1.2150 [ 1.0000 ]	121.5% { 129.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 425062	(8.02, N/A) (N/A, -0.03, N/A)	758.0	N/A	1.0529 [ 1.0000 ]	105.3% { 100.6% }			
13C4_PFOS_IIS	(502.8 / 79.9) 327789	(9.45, N/A) (N/A, -0.03, N/A)	437.5	N/A	1.0270 [ 1.0000 ]	102.7% { 100.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1163869	(3.69, N/A) (N/A, -0.02, N/A)	943.4	N/A	7.7695 [ 8.0000 ]	97.1% { 97.8% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 647411	(5.01, N/A) (N/A, -0.03, N/A)	744.3	N/A	3.7047 [ 4.0000 ]	92.6% { 93.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 561752	(6.16, N/A) (N/A, -0.03, N/A)	573.9	N/A	1.9436 [ 2.0000 ]	97.2% { 104.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 476643	(7.08, N/A) (N/A, -0.03, N/A)	661.3	N/A	1.8904 [ 2.0000 ]	94.5% { 97.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 497619	(7.90, N/A) (N/A, -0.03, N/A)	689.7	N/A	1.9865 [ 2.0000 ]	99.3% { 100.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 223778	(8.64, N/A) (N/A, -0.03, N/A)	409.0	N/A	1.0213 [ 1.0000 ]	102.1% { 102.3% }			
13C6_PFDA_EIS	(519.0 / 474.0) 273272	(9.31, N/A) (N/A, -0.03, N/A)	311.9	N/A	0.8557 [ 1.0000 ]	85.6% { 97.1% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 337405	(9.71, N/A) (N/A, -0.01, N/A)	389.2	N/A	0.7428 [ 1.0000 ]	74.3% { 84.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 346746	(9.89, N/A) (N/A, -0.02, N/A)	642.1	N/A	0.7648 [ 1.0000 ]	76.5% { 89.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 222076	(10.12, N/A) (N/A, -0.01, N/A)	456.1	N/A	0.7376 [ 1.0000 ]	73.8% { 91.8% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1363704	(6.11, N/A) (N/A, -0.03, N/A)	654.6	N/A	1.8975 [ 2.0000 ]	94.9% { 99.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 757540	(8.02, N/A) (N/A, -0.03, N/A)	799.7	N/A	1.9811 [ 2.0000 ]	99.1% { 100.5% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1048231	(9.45, N/A) (N/A, -0.03, N/A)	180.4	N/A	1.8633 [ 2.0000 ]	93.2% { 88.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 249254	(5.83, N/A) (N/A, -0.03, N/A)	640.7	N/A	4.0948 [ 4.0000 ]	102.4% { 111.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 270052	(7.56, N/A) (N/A, -0.03, N/A)	709.3	N/A	3.6849 [ 4.0000 ]	92.1% { 98.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 275725	(8.97, N/A) (N/A, -0.03, N/A)	445.9	N/A	3.7584 [ 4.0000 ]	94.0% { 93.1% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1379635	(10.17, N/A) (N/A, -0.01, N/A)	959.9	N/A	1.9401 [ 2.0000 ]	97.0% { 94.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 300177	(10.60, N/A) (N/A, -0.01, N/A)	888.1	N/A	1.9334 [ 2.0000 ]	96.7% { 91.0% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 279297	(10.69, N/A) (N/A, -0.01, N/A)	926.2	N/A	1.9487 [ 2.0000 ]	97.4% { 98.1% }			

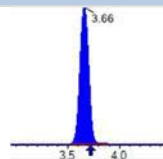
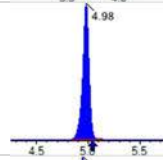
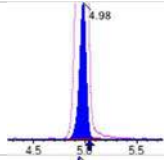
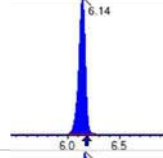
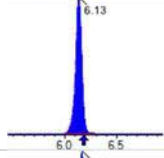
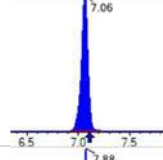
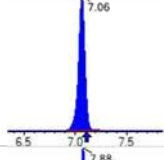
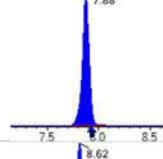
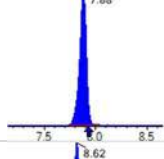
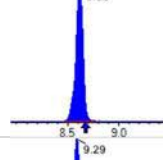
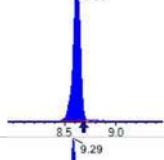
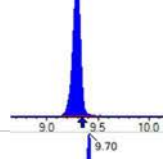
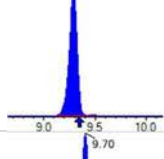
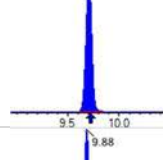
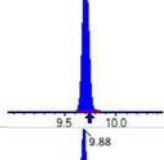
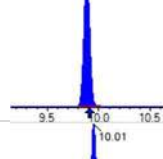
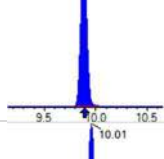
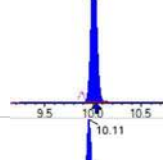
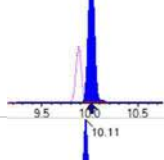
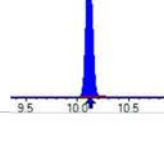
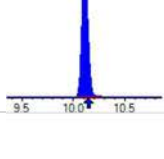


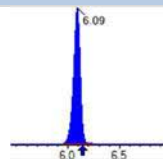
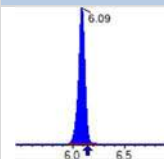
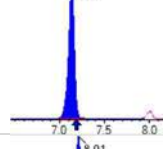
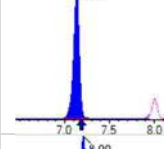
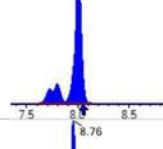
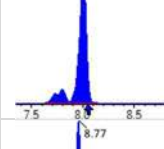
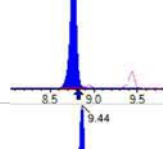
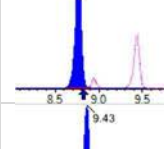
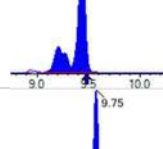
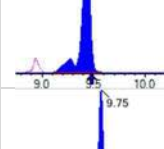
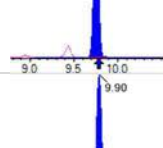
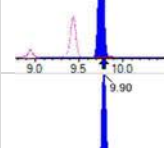
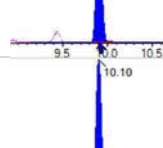
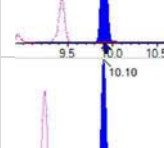
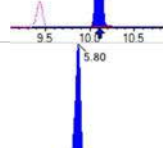
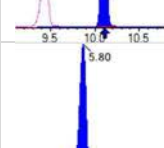
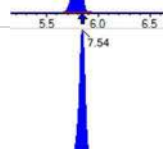
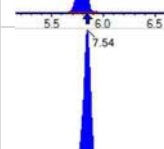
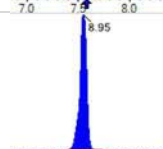
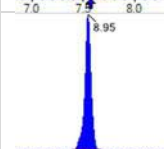

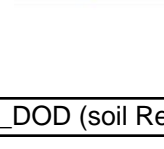
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03941-CAL6  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

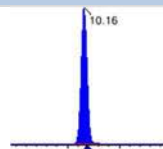
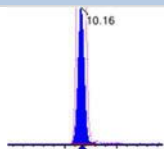
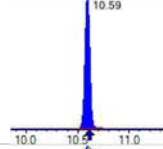
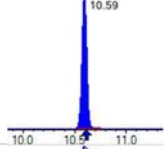
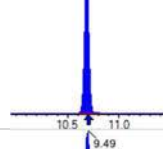
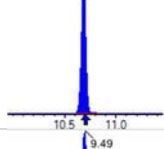
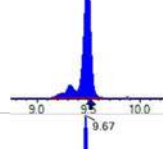
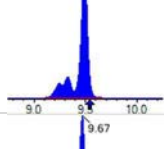
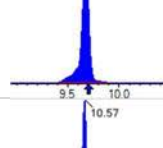
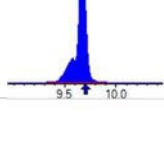
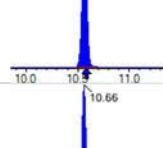
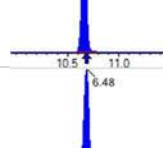
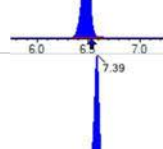
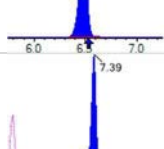
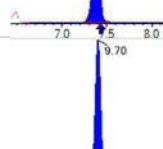
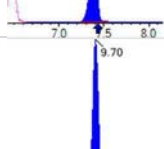
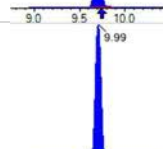
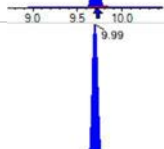
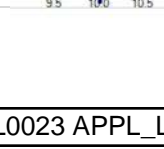
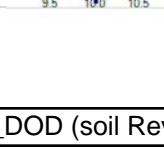
Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21A (6)  
 Acquired: 2022/12/21 - 15:30

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 555492	( 9.50 , N/A ) ( N/A , -0.03 , N/A )	414.0	N/A	4.1525 [ 4.0000 ]	103.8% { 108.8% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 523855	( 9.68 , N/A ) ( N/A , -0.02 , N/A )	484.6	N/A	4.4428 [ 4.0000 ]	111.1% { 111.1% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 391753	( 10.56 , N/A ) ( N/A , -0.01 , N/A )	1314.7	N/A	17.9697 [ 20.0000 ]	89.8% { 90.8% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 187004	( 10.66 , N/A ) ( N/A , -0.01 , N/A )	901.5	N/A	18.8420 [ 20.0000 ]	94.2% { 102.5% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 1157042	( 6.50 , N/A ) ( N/A , -0.03 , N/A )	770.4	N/A	7.5294 [ 8.0000 ]	94.1% { 98.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 7729586	(3.66, 1.00) (0.00, N/A, 0.0)	67.9	N/A 0.0 0.0	81.7379 [ 80.0000 ]	102.2%			
PFPeA	(262.9 / 219.0) 5643399 (262.9 / 69.0) 60722	(4.98, 1.00) (0.00, N/A, 0.0)	694.2 520.3	0.0108 96.1 96.1	40.6136 [ 40.0000 ]	101.5%			
PFHxA	(313.0 / 269.0) 4661260 (313.0 / 119.0) 458438	(6.14, 1.00) (0.00, N/A, 0.3)	740.9 630.9	0.0984 100.6 100.6	21.3969 [ 20.0000 ]	107.0%			
PFHpA	(363.0 / 319.0) 4440128 (363.0 / 169.0) 1284143	(7.06, 1.00) (0.00, N/A, 0.0)	668.8 659.4	0.2892 92.9 92.9	21.0935 [ 20.0000 ]	105.5%			
PFOA	(413.0 / 369.0) 4641747 (413.0 / 169.0) 1487003	(7.88, 1.00) (0.00, N/A, -0.3)	945.5 720.9	0.3204 98.0 98.0	20.0481 [ 20.0000 ]	100.2%			
PFNA	(463.0 / 419.0) 3537219 (463.0 / 169.0) 723244	(8.62, 1.00) (0.00, N/A, -0.2)	600.2 105.2	0.2045 106.1 106.1	20.0197 [ 20.0000 ]	100.1%			
PFDA	(513.0 / 469.0) 4550414 (513.0 / 169.0) 407049	(9.29, 1.00) (0.00, N/A, 0.3)	458.4 340.9	0.0895 93.6 93.6	18.7496 [ 20.0000 ]	93.7%			
PFUnA	(563.0 / 519.0) 5474685 (563.0 / 169.0) 489769	(9.70, 1.00) (0.00, N/A, 0.3)	796.9 670.2	0.0895 103.0 103.0	20.8759 [ 20.0000 ]	104.4%			
PFDoA	(613.0 / 569.0) 6253442 (613.0 / 169.0) 780811	(9.88, 1.00) (0.00, N/A, 0.0)	838.3 526.7	0.1249 89.7 89.7	19.2908 [ 20.0000 ]	96.5%			
PFTrDA	(663.0 / 619.0) 5585067 (663.0 / 169.0) 1021977	(10.01, 1.01) (N/A, -0.02, -0.4)	939.9 794.3	0.1830 89.4 89.4	19.8858 [ 20.0000 ]	99.4%			
PFTeDA	(713.0 / 669.0) 4569846 (713.0 / 169.0) 904045	(10.11, 1.00) (0.00, N/A, 0.2)	734.0 687.4	0.1978 97.3 97.3	17.5178 [ 20.0000 ]	87.6%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 6221305 (298.9 / 99.0) 4130206	(6.09, 1.00) (0.00, N/A, 0.1)	735.2 716.1	0.6639 107.9 107.9	17.4196 [ 17.6947 ]	98.4%			
PFPeS	(349.0 / 80.0) 12435170 (349.0 / 99.0) 4513587	(7.13, 0.89) (N/A, -0.05, 0.0)	731.5 788.8	0.3630 102.0 102.0	19.6427 [ 18.7676 ]	104.7%			
PFHxS	(399.0 / 80.0) 10414987 (399.0 / 99.0) 3525485	(8.01, 1.00) (0.00, N/A, 0.2)	3224.1 4892.8	0.3385 100.7 100.7	18.9174 [ 18.2197 ]	103.8%			
PFHpS	(449.0 / 80.0) 9724229 (449.0 / 99.0) 2826299	(8.76, 0.93) (N/A, -0.05, -0.1)	693.4 620.9	0.2906 106.2 106.2	19.4303 [ 19.0281 ]	102.1%			
PFOS	(499.0 / 80.0) 11033465 (499.0 / 99.0) 2411819	(9.44, 1.00) (0.00, N/A, 0.2)	102.1 160.8	0.2186 89.9 89.9	17.7225 [ 18.5499 ]	95.5%			
PFNS	(549.0 / 80.0) 12066925 (549.0 / 99.0) 3200250	(9.75, 1.03) (N/A, -0.02, 0.0)	748.7 678.2	0.2652 108.7 108.7	17.4726 [ 19.1977 ]	91.0%			
PFDS	(599.0 / 80.0) 13381834 (599.0 / 99.0) 3299330	(9.90, 1.05) (N/A, -0.02, 0.1)	1052.2 1451.8	0.2466 109.5 109.5	17.4537 [ 19.2621 ]	90.6%			
PFDoS	(698.9 / 80.0) 5470070 (698.9 / 99.0) 1315874	(10.10, 1.07) (N/A, -0.02, 0.0)	1218.8 960.3	0.2406 98.3 98.3	17.0703 [ 19.3913 ]	88.0%			
4:2FTS	(327.0 / 307.0) 13496630 (327.0 / 81.0) 7417812	(5.80, 1.00) (0.00, N/A, 0.1)	849.9 833.0	0.5496 111.3 111.3	72.4566 [ 74.7622 ]	96.9%			
6:2FTS	(427.0 / 407.0) 8307126 (427.0 / 81.0) 5171329	(7.54, 1.00) (0.00, N/A, 0.0)	820.9 695.6	0.6225 80.0 80.0	76.1349 [ 75.9234 ]	100.3%			
8:2FTS	(527.0 / 507.0) 8258969 (527.0 / 81.0) 4745404	(8.95, 1.00) (0.00, N/A, 0.3)	609.9 658.7	0.5746 101.5 101.5	75.3496 [ 76.6631 ]	98.3%			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 12934205 (498.0 / 478.0) 273418	(10.16, 1.00) (0.00, N/A, 0.0)	1019.0 675.2	0.0211 101.4 101.4	18.9126 [ 20.0000 ]	94.6%			
NMeFOSA	(511.9 / 219.0) 10047403 (511.9 / 169.0) 6239729	(10.59, 1.00) (0.00, N/A, 0.0)	963.4 963.6	0.6210 86.2 86.2	79.4328 [ 80.0000 ]	99.3%			
NEIFOSA	(526.0 / 219.0) 10330116 (526.0 / 169.0) 10487941	(10.69, 1.00) (0.00, N/A, 0.0)	1549.4 1526.7	1.0153 96.0 96.0	82.6028 [ 80.0000 ]	103.3%			
NMeFOSAA	(570.0 / 419.0) 2160138 (570.0 / 483.0) 1120189	(9.49, 1.00) (0.01, N/A, 0.0)	519.4 506.9	0.5186 84.4 84.4	21.0347 [ 20.0000 ]	105.2%			
NEIFOSAA	(584.0 / 419.0) 1755294 (584.0 / 526.0) 1179499	(9.67, 1.00) (0.01, N/A, 0.2)	1046.0 2541.1	0.6720 91.6 91.6	19.8369 [ 20.0000 ]	99.2%			
NMeFOSE	(616.1 / 59.0) 2100981	(10.57, 1.00) (0.01, N/A, 0.0)	1163.7	N/A 0.0 0.0	87.8464 [ 80.0000 ]	109.8%			
NEtFOSE	(630.0 / 59.0) 379057	(10.66, 1.00) (0.01, N/A, 0.0)	1328.5	N/A 0.0 0.0	79.1545 [ 80.0000 ]	98.9%			
HFPO-DA	(285.0 / 169.0) 3403206 (285.0 / 185.0) 9550202	(6.48, 1.00) (0.00, N/A, 0.0)	822.2 932.2	2.8062 102.2 102.2	39.8571 [ 40.0000 ]	99.6%			
ADONA	(377.0 / 85.0) 14175645 (377.0 / 251.0) 1888186	(7.39, 1.14) (N/A, -0.04, -0.1)	782.5 715.9	0.1332 107.0 107.0	37.3778 [ 37.7080 ]	99.1%			
9CI-Pf3ONS	(531.0 / 351.0) 33927453 (533.0 / 353.0) 11818760	(9.70, 1.50) (N/A, -0.03, 0.1)	767.5 701.4	0.3484 117.7 117.7	37.0127 [ 37.3302 ]	99.1%			
11CI-PF3OUDS	(631.0 / 451.0) 18459375 (633.0 / 453.0) 6096113	(9.99, 1.54) (N/A, -0.02, 0.1)	875.1 1257.4	0.3302 99.8 99.8	34.8243 [ 37.7283 ]	92.3%			

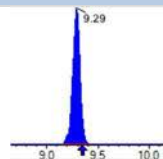
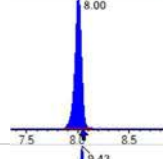
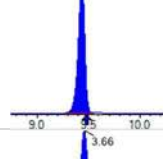
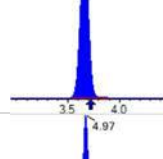
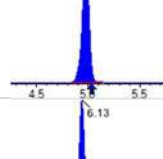
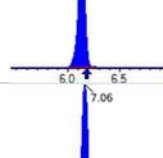
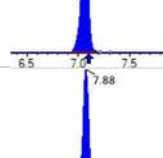
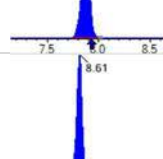
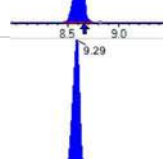
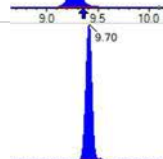
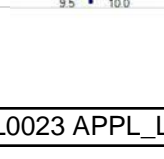


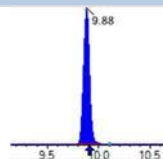
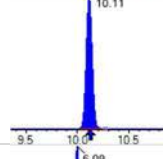
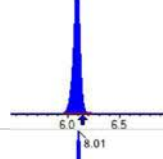
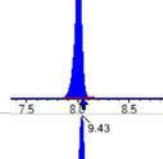
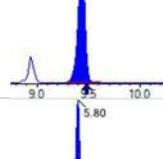
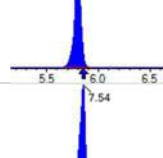
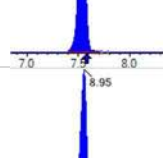
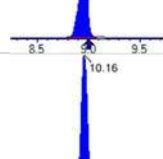
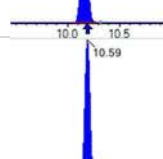
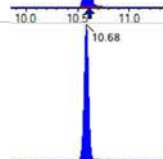
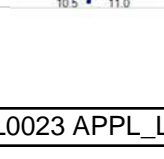
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03941-CAL7  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21A (7)  
 Acquired: 2022/12/21 - 15:42

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 413530 (241.0 / 117.0) 684831	(4.46, 0.90) (N/A, -0.06, 0.0)	763.7 842.4	1.6561 99.0 99.0	86.2307 [ 80.0000 ]	107.8%			
5:3FTCA	(341.0 / 236.7) 3356741 (341.0 / 217.0) 5218130	(6.77, 1.10) (N/A, -0.05, -0.2)	736.7 741.6	1.5545 106.2 106.2	87.2034 [ 80.0000 ]	109.0%			
7:3FTCA	(441.0 / 317.0) 3849941 (441.0 / 337.0) 3225448	(8.58, 1.40) (N/A, -0.05, 0.0)	479.5 551.2	0.8378 100.0 100.0	86.9230 [ 80.0000 ]	108.7%			
PFEESA	(315.0 / 135.0) 8973610 (315.0 / 83.0) 2426863	(6.59, 1.07) (N/A, -0.05, 0.2)	892.6 762.9	0.2704 88.1 88.1	37.6244 [ 35.6984 ]	105.4%			
PFMPA	(229.0 / 85.0) 1587857	(4.17, 0.84) (N/A, -0.06, 0.0)	1007.1	N/A 0.0 0.0	41.6361 [ 40.0000 ]	104.1%			
PFMBA	(279.0 / 85.0) 5452093	(5.37, 1.08) (N/A, -0.06, 0.0)	936.0	N/A 0.0 0.0	41.3605 [ 40.0000 ]	103.4%			
NFDHA	(295.0 / 201.0) 4564595 (295.0 / 85.0) 4173432	(6.02, 0.98) (N/A, -0.05, -0.1)	742.5 3610.4	0.9143 103.6 103.6	41.5544 [ 40.0000 ]	103.9%			
13C3_PFBA_IIS	(216.0 / 172.0) 143451	(3.66, N/A) (N/A, -0.06, N/A)	719.9	N/A	1.0306 [ 1.0000 ]	103.1% { 94.5% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 248043	(6.13, N/A) (N/A, -0.05, N/A)	661.9	N/A	1.0742 [ 1.0000 ]	107.4% { 106.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 234938	(7.88, N/A) (N/A, -0.05, N/A)	713.0	N/A	1.0686 [ 1.0000 ]	106.9% { 98.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 193387	(8.62, N/A) (N/A, -0.05, N/A)	335.2	N/A	1.0443 [ 1.0000 ]	104.4% { 95.6% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 186408	(9.29, N/A) (N/A, -0.05, N/A)	664.1	N/A	1.0087 [ 1.0000 ]	100.9% { 107.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 428893	(8.00, N/A) (N/A, -0.05, N/A)	824.8	N/A	1.0624 [ 1.0000 ]	106.2% { 101.5% }			
13C4_PFOS_IIS	(502.8 / 79.9) 333901	(9.43, N/A) (N/A, -0.05, N/A)	344.0	N/A	1.0461 [ 1.0000 ]	104.6% { 101.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1159624	(3.66, N/A) (N/A, -0.06, N/A)	908.2	N/A	7.8543 [ 8.0000 ]	98.2% { 97.4% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 632863	(4.97, N/A) (N/A, -0.06, N/A)	720.4	N/A	3.6669 [ 4.0000 ]	91.7% { 90.9% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 507317	(6.13, N/A) (N/A, -0.05, N/A)	683.8	N/A	1.7773 [ 2.0000 ]	88.9% { 94.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 461855	(7.06, N/A) (N/A, -0.04, N/A)	556.4	N/A	1.8548 [ 2.0000 ]	92.7% { 94.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 470888	(7.88, N/A) (N/A, -0.05, N/A)	672.4	N/A	1.8276 [ 2.0000 ]	91.4% { 94.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 205912	(8.61, N/A) (N/A, -0.05, N/A)	479.7	N/A	0.9683 [ 1.0000 ]	96.8% { 94.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 254972	(9.29, N/A) (N/A, -0.06, N/A)	408.6	N/A	0.9617 [ 1.0000 ]	96.2% { 90.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 331844	(9.70, N/A) (N/A, -0.02, N/A)	703.9	N/A	0.8800 [ 1.0000 ]	88.0% { 83.3% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 376028	(9.88, N/A) (N/A, -0.02, N/A)	523.5	N/A	0.9990 [ 1.0000 ]	99.9% { 97.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 294342	(10.11, N/A) (N/A, -0.02, N/A)	600.7	N/A	1.1775 [ 1.0000 ]	117.8% { 121.7% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1302850	(6.09, N/A) (N/A, -0.05, N/A)	735.8	N/A	1.7967 [ 2.0000 ]	89.8% { 94.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 708742	(8.01, N/A) (N/A, -0.05, N/A)	751.5	N/A	1.8369 [ 2.0000 ]	91.8% { 94.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1147133	(9.43, N/A) (N/A, -0.05, N/A)	153.7	N/A	2.0018 [ 2.0000 ]	100.1% { 96.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 225340	(5.80, N/A) (N/A, -0.05, N/A)	720.4	N/A	3.6689 [ 4.0000 ]	91.7% { 100.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 283858	(7.54, N/A) (N/A, -0.04, N/A)	652.9	N/A	3.8387 [ 4.0000 ]	96.0% { 103.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 276735	(8.95, N/A) (N/A, -0.05, N/A)	514.2	N/A	3.7385 [ 4.0000 ]	93.5% { 93.5% }			
13C8_PFOA_EIS	(506.0 / 78.0) 1447254	(10.16, N/A) (N/A, -0.02, N/A)	722.4	N/A	1.9979 [ 2.0000 ]	99.9% { 98.8% }			
D3_NMeFOA_EIS	(515.0 / 169.0) 310344	(10.59, N/A) (N/A, -0.01, N/A)	1001.9	N/A	1.9623 [ 2.0000 ]	98.1% { 94.0% }			
D5_NEtFOA_EIS	(531.1 / 169.0) 277284	(10.68, N/A) (N/A, -0.01, N/A)	799.4	N/A	1.8992 [ 2.0000 ]	95.0% { 97.4% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03941-CAL7  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21A (7)  
 Acquired: 2022/12/21 - 15:42

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 527124	( 9.48 , N/A ) ( N/A , -0.05 , N/A )	391.6	N/A	3.8683 [ 4.0000 ]	96.7% { 103.2% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 394245	( 9.67 , N/A ) ( N/A , -0.03 , N/A )	343.6	N/A	3.2824 [ 4.0000 ]	82.1% { 83.6% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 378964	( 10.56 , N/A ) ( N/A , -0.02 , N/A )	878.6	N/A	17.0648 [ 20.0000 ]	85.3% { 87.8% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 187054	( 10.66 , N/A ) ( N/A , -0.02 , N/A )	1005.6	N/A	18.5020 [ 20.0000 ]	92.5% { 102.5% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 1123837	( 6.48 , N/A ) ( N/A , -0.05 , N/A )	699.6	N/A	7.4053 [ 8.0000 ]	92.6% { 95.7% }			

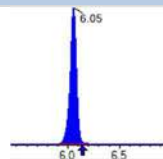
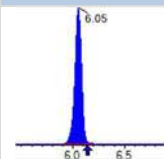
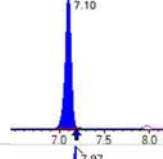
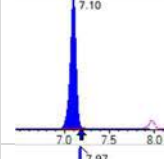
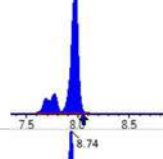
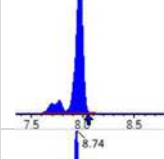
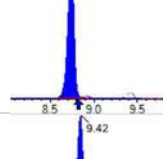
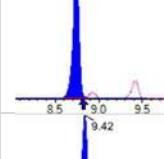
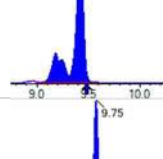
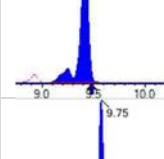
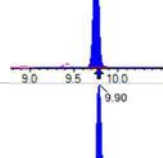
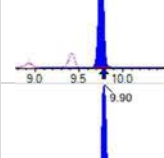
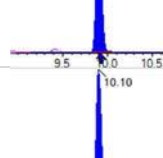
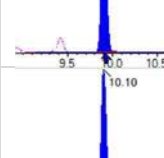
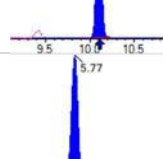
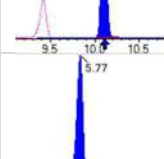
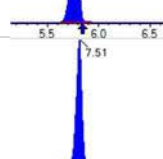
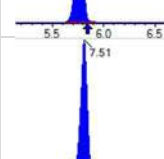
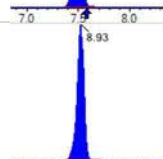
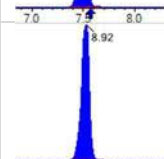
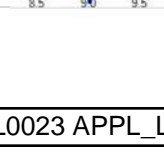
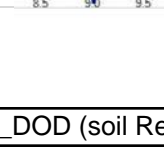


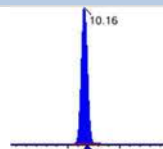
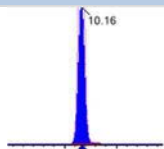
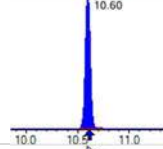
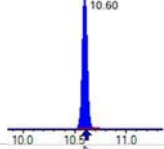
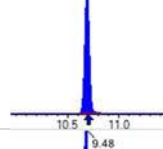
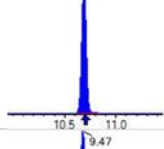
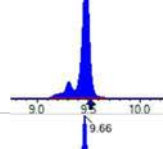
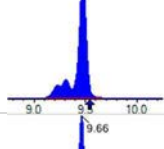
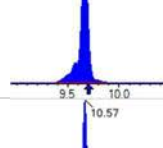
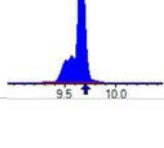
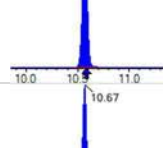
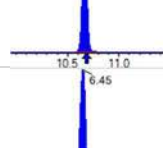
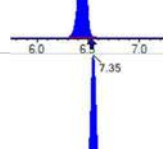
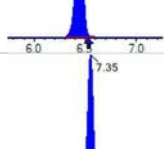
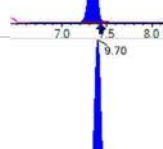
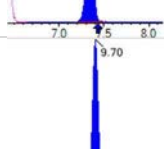
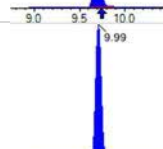
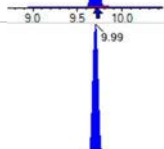
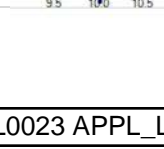
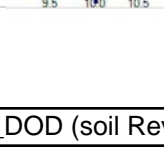
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03941-CAL8  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

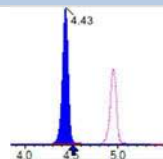
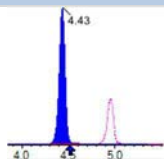
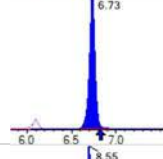
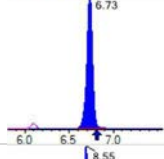
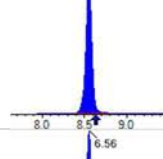
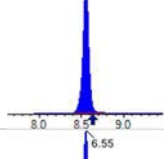
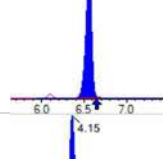
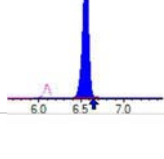
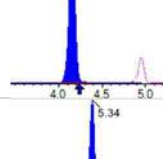
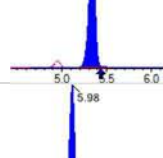
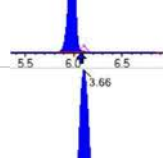
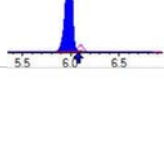
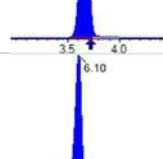
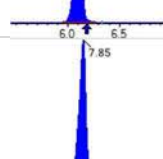
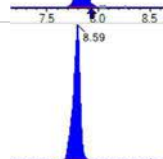
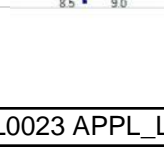
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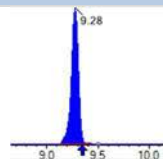
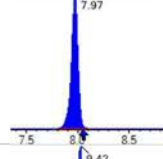
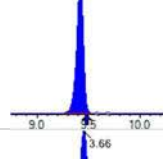
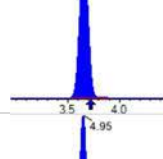
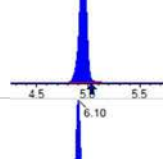
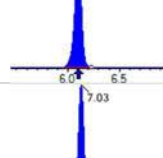
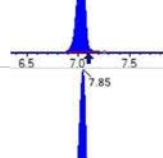
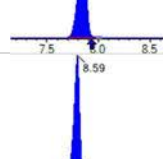
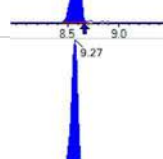
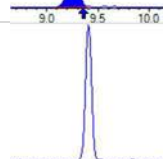
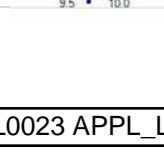
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 15778457	(3.66, 1.00) (0.00, N/A, 0.0)	61.8	N/A 0.0 0.0	201.2526 [ 200.0000 ]	100.6%			
PFPeA	(262.9 / 219.0) 12133479 (262.9 / 69.0) 132475	(4.95, 1.00) (0.00, N/A, 0.1)	828.8 567.2	0.0109 97.5 97.5	97.3969 [ 100.0000 ]	97.4%			
PFHxA	(313.0 / 269.0) 10205443 (313.0 / 119.0) 948352	(6.10, 1.00) (0.00, N/A, -0.2)	779.4 798.1	0.0929 95.0 95.0	48.9028 [ 50.0000 ]	97.8%			
PFHpA	(363.0 / 319.0) 9310576 (363.0 / 169.0) 2680356	(7.03, 1.00) (0.00, N/A, 0.2)	724.8 594.8	0.2879 92.4 92.4	47.8422 [ 50.0000 ]	95.7%			
PFOA	(413.0 / 369.0) 10880930 (413.0 / 169.0) 3245631	(7.85, 1.00) (0.00, N/A, 0.1)	767.4 928.5	0.2983 91.3 91.3	47.1047 [ 50.0000 ]	94.2%			
PFNA	(463.0 / 419.0) 7522680 (463.0 / 169.0) 1650478	(8.59, 1.00) (0.00, N/A, 0.3)	453.6 145.2	0.2194 113.8 113.8	44.6746 [ 50.0000 ]	89.3%			
PFDA	(513.0 / 469.0) 10901269 (513.0 / 169.0) 1054782	(9.27, 1.00) (0.00, N/A, 0.0)	475.9 419.2	0.0968 101.2 101.2	47.0411 [ 50.0000 ]	94.1%			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000 [ 50.0000 ]	N/A%			QC,
PFDoA	(613.0 / 569.0) 13234710 (613.0 / 169.0) 1677806	(9.88, 1.00) (0.00, N/A, 0.0)	801.8 797.3	0.1268 91.1 91.1	43.9737 [ 50.0000 ]	87.9%			
PFTrDA	(663.0 / 619.0) 10582859 (663.0 / 169.0) 2206188	(10.01, 1.01) (N/A, -0.01, 0.1)	667.9 1097.1	0.2085 101.9 101.9	40.5849 [ 50.0000 ]	81.2%			
PFTeDA	(713.0 / 669.0) 7805760 (713.0 / 169.0) 1615620	(10.12, 1.00) (0.00, N/A, 0.2)	709.6 922.1	0.2070 101.8 101.8	43.8879 [ 50.0000 ]	87.8%			

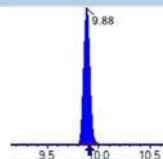
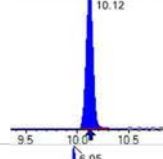
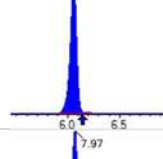
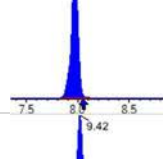
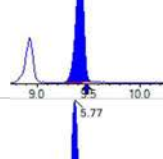
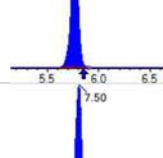
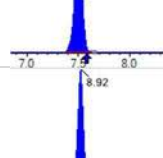
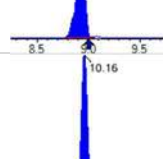
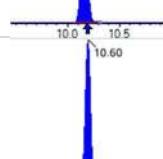
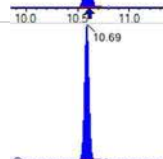
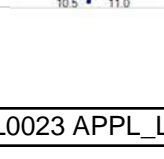
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 14320384 (298.9 / 99.0) 9157257	(6.05, 1.00) (0.00, N/A, 0.0)	609.6 755.2	0.6395 103.9 103.9	41.9991 [ 44.2367 ]	94.9%			
PFPeS	(349.0 / 80.0) 27380308 (349.0 / 99.0) 10684632	(7.10, 0.89) (N/A, -0.08, 0.0)	716.4 803.4	0.3902 109.6 109.6	43.5556 [ 46.9191 ]	92.8%			
PFHxS	(399.0 / 80.0) 23822711 (399.0 / 99.0) 8501412	(7.97, 1.00) (0.00, N/A, 0.2)	3206.8 4858.3	0.3569 106.2 106.2	43.5764 [ 45.5491 ]	95.7%			
PFHpS	(449.0 / 80.0) 21526516 (449.0 / 99.0) 6225213	(8.74, 0.93) (N/A, -0.08, -0.2)	807.9 582.9	0.2892 105.7 105.7	53.6267 [ 47.5703 ]	112.7%			
PFOS	(499.0 / 80.0) 23361916 (499.0 / 99.0) 5350161	(9.42, 1.00) (0.00, N/A, 0.2)	90.6 158.6	0.2290 94.2 94.2	46.7847 [ 46.3746 ]	100.9%			
PFNS	(549.0 / 80.0) 25746195 (549.0 / 99.0) 6429920	(9.75, 1.04) (N/A, -0.02, -0.1)	637.6 712.8	0.2497 102.3 102.3	46.4790 [ 47.9943 ]	96.8%			
PFDS	(599.0 / 80.0) 29991360 (599.0 / 99.0) 7324275	(9.90, 1.05) (N/A, -0.02, 0.0)	1114.1 872.9	0.2442 108.5 108.5	48.7700 [ 48.1553 ]	101.3%			
PFDoS	(698.9 / 80.0) 13570418 (698.9 / 99.0) 2668933	(10.10, 1.07) (N/A, -0.02, 0.0)	1153.0 1114.8	0.1967 80.4 80.4	52.7987 [ 48.4781 ]	108.9%			
4:2FTS	(327.0 / 307.0) 28030184 (327.0 / 81.0) 16838889	(5.77, 1.00) (0.00, N/A, -0.1)	791.1 776.4	0.6007 121.6 121.6	162.6637 [ 186.9055 ]	87.0%			
6:2FTS	(427.0 / 407.0) 17601598 (427.0 / 81.0) 12202144	(7.51, 1.00) (0.01, N/A, 0.1)	1049.9 926.0	0.6932 89.1 89.1	159.3520 [ 189.8085 ]	84.0%			
8:2FTS	(527.0 / 507.0) 17933024 (527.0 / 81.0) 10716573	(8.93, 1.00) (0.00, N/A, 0.1)	442.8 462.7	0.5976 105.6 105.6	159.3327 [ 191.6577 ]	83.1%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 26488352 ( 498.0 / 478.0 ) 712333	( 10.16 , 1.00 ) ( 0.00 , N/A , 0.0 )	898.9 465.3	0.0269 129.0 129.0	44.9093 [ 50.0000 ]	89.8%			
NMeFOSA	( 511.9 / 219.0 ) 20550926 ( 511.9 / 169.0 ) 14258423	( 10.60 , 1.00 ) ( 0.00 , N/A , 0.0 )	1415.7 1392.1	0.6938 96.3 96.3	154.7837 [ 200.0000 ]	77.4%			
NEIFOSA	( 526.0 / 219.0 ) 20990611 ( 526.0 / 169.0 ) 22220555	( 10.69 , 1.00 ) ( 0.00 , N/A , 0.0 )	1261.8 1236.0	1.0586 100.1 100.1	180.9576 [ 200.0000 ]	90.5%			
NMeFOSAA	( 570.0 / 419.0 ) 4624057 ( 570.0 / 483.0 ) 2546681	( 9.48 , 1.00 ) ( 0.00 , N/A , 0.1 )	612.4 699.2	0.5507 89.6 89.6	52.0507 [ 50.0000 ]	104.1%			
NEIFOSAA	( 584.0 / 419.0 ) 3449541 ( 584.0 / 526.0 ) 2257461	( 9.66 , 1.00 ) ( 0.01 , N/A , 0.1 )	2584.8 1657.6	0.6544 89.3 89.3	44.6984 [ 50.0000 ]	89.4%			
NMeFOSE	( 616.1 / 59.0 ) 4659899	( 10.57 , 1.00 ) ( 0.01 , N/A , 0.0 )	1409.7	N/A 0.0 0.0	193.2279 [ 200.0000 ]	96.6%			
NEtFOSE	( 630.0 / 59.0 ) 761135	( 10.67 , 1.00 ) ( 0.01 , N/A , 0.0 )	1449.6	N/A 0.0 0.0	176.5757 [ 200.0000 ]	88.3%			
HFPO-DA	( 285.0 / 169.0 ) 7283624 ( 285.0 / 185.0 ) 21015218	( 6.45 , 1.00 ) ( 0.00 , N/A , 0.0 )	819.6 766.3	2.8853 105.1 105.1	92.2819 [ 100.0000 ]	92.3%			
ADONA	( 377.0 / 85.0 ) 30997851 ( 377.0 / 251.0 ) 4228517	( 7.35 , 1.14 ) ( N/A , -0.08 , -0.1 )	720.3 754.4	0.1364 109.5 109.5	88.4207 [ 94.2700 ]	93.8%			
9CI-Pf3ONS	( 531.0 / 351.0 ) 59541631 ( 533.0 / 353.0 ) 22562888	( 9.70 , 1.51 ) ( N/A , -0.03 , 0.0 )	623.2 593.5	0.3789 128.0 128.0	93.8486 [ 93.3254 ]	100.6%			
11CI-PF3OUDS	( 631.0 / 451.0 ) 37565149 ( 633.0 / 453.0 ) 12408034	( 9.99 , 1.55 ) ( N/A , -0.02 , 0.0 )	851.2 754.0	0.3303 99.8 99.8	76.6659 [ 94.3208 ]	81.3%			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 940591 (241.0 / 117.0) 1590971	(4.43, 0.90) (N/A, -0.08, 0.1)	760.7 709.5	1.6915 101.1 101.1	218.7688 [200.0000]	109.4%			
5:3FTCA	(341.0 / 236.7) 7717092 (341.0 / 217.0) 13002088	(6.73, 1.10) (N/A, -0.09, 0.0)	773.6 732.5	1.6848 115.1 115.1	209.2781 [200.0000]	104.6%			
7:3FTCA	(441.0 / 317.0) 8714946 (441.0 / 337.0) 7497720	(8.55, 1.40) (N/A, -0.08, -0.1)	569.5 568.2	0.8603 102.7 102.7	205.3998 [200.0000]	102.7%			
PFEESA	(315.0 / 135.0) 18885479 (315.0 / 83.0) 5523428	(6.56, 1.07) (N/A, -0.08, 0.1)	779.0 865.9	0.2925 95.3 95.3	82.6581 [89.2459]	92.6%			
PFMPA	(229.0 / 85.0) 3283850	(4.15, 0.84) (N/A, -0.07, 0.0)	1205.9	N/A 0.0 0.0	96.0441 [100.0000]	96.0%			
PFMBA	(279.0 / 85.0) 11632442	(5.34, 1.08) (N/A, -0.09, 0.0)	841.8	N/A 0.0 0.0	98.4289 [100.0000]	98.4%			
NFDHA	(295.0 / 201.0) 10199642 (295.0 / 85.0) 9290082	(5.98, 0.98) (N/A, -0.09, 0.0)	742.8 3901.2	0.9108 103.2 103.2	96.9290 [100.0000]	96.9%			
13C3_PFBA_IIS	(216.0 / 172.0) 117318	(3.66, N/A) (N/A, -0.06, N/A)	626.3	N/A	0.8428 [1.0000]	84.3% {77.3%}			
13C2_PFHxA_IIS	(315.1 / 270.0) 217089	(6.10, N/A) (N/A, -0.08, N/A)	517.0	N/A	0.9401 [1.0000]	94.0% {92.8%}			
13C4_PFOA_IIS	(417.0 / 372.0) 213627	(7.85, N/A) (N/A, -0.08, N/A)	585.4	N/A	0.9717 [1.0000]	97.2% {89.8%}			
13C5_PFNA_IIS	(468.0 / 423.0) 176727	(8.59, N/A) (N/A, -0.07, N/A)	679.2	N/A	0.9543 [1.0000]	95.4% {87.4%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 182763	(9.28, N/A) (N/A, -0.07, N/A)	341.1	N/A	0.9889 [ 1.0000 ]	98.9% { 105.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 402575	(7.97, N/A) (N/A, -0.08, N/A)	727.1	N/A	0.9972 [ 1.0000 ]	99.7% { 95.2% }			
13C4_PFOS_IIS	(502.8 / 79.9) 278049	(9.42, N/A) (N/A, -0.06, N/A)	306.0	N/A	0.8711 [ 1.0000 ]	87.1% { 84.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 961408	(3.66, N/A) (N/A, -0.06, N/A)	859.7	N/A	7.9622 [ 8.0000 ]	99.5% { 80.7% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 567388	(4.95, N/A) (N/A, -0.09, N/A)	677.6	N/A	3.7563 [ 4.0000 ]	93.9% { 81.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 485987	(6.10, N/A) (N/A, -0.09, N/A)	662.7	N/A	1.9454 [ 2.0000 ]	97.3% { 90.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 426996	(7.03, N/A) (N/A, -0.08, N/A)	645.9	N/A	1.9593 [ 2.0000 ]	98.0% { 87.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 469799	(7.85, N/A) (N/A, -0.08, N/A)	623.6	N/A	2.0053 [ 2.0000 ]	100.3% { 94.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 196241	(8.59, N/A) (N/A, -0.08, N/A)	331.3	N/A	1.0098 [ 1.0000 ]	101.0% { 89.7% }			
13C6_PFDA_EIS	(519.0 / 474.0) 243463	(9.27, N/A) (N/A, -0.07, N/A)	373.7	N/A	0.9366 [ 1.0000 ]	93.7% { 86.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A	0.0000 [ 1.0000 ]	0.0% { 0.0% }			S1,

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 349119	(9.88, N/A) (N/A, -0.02, N/A)	640.2	N/A	0.9461 [ 1.0000 ]	94.6% { 90.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 200679	(10.12, N/A) (N/A, -0.01, N/A)	414.7	N/A	0.8188 [ 1.0000 ]	81.9% { 83.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1243843	(6.05, N/A) (N/A, -0.09, N/A)	653.6	N/A	1.8274 [ 2.0000 ]	91.4% { 90.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 703772	(7.97, N/A) (N/A, -0.08, N/A)	1021.2	N/A	1.9433 [ 2.0000 ]	97.2% { 93.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 920090	(9.42, N/A) (N/A, -0.07, N/A)	82.3	N/A	1.9281 [ 2.0000 ]	96.4% { 77.3% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 208461	(5.77, N/A) (N/A, -0.09, N/A)	614.0	N/A	3.6160 [ 4.0000 ]	90.4% { 93.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 287362	(7.50, N/A) (N/A, -0.08, N/A)	693.3	N/A	4.1402 [ 4.0000 ]	103.5% { 104.7% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 284164	(8.92, N/A) (N/A, -0.08, N/A)	462.0	N/A	4.0898 [ 4.0000 ]	102.2% { 96.0% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1248175	(10.16, N/A) (N/A, -0.02, N/A)	697.4	N/A	2.0692 [ 2.0000 ]	103.5% { 85.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 325759	(10.60, N/A) (N/A, -0.01, N/A)	1257.7	N/A	2.4735 [ 2.0000 ]	123.7% { 98.7% }			
D5_NEtFOSA_EIS	(531.1 / 169.0) 257195	(10.69, N/A) (N/A, -0.01, N/A)	672.7	N/A	2.1155 [ 2.0000 ]	105.8% { 90.4% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03941-CAL8  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21A (8)  
 Acquired: 2022/12/21 - 15:55

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 455998	(9.47, N/A) (N/A, -0.06, N/A)	320.1	N/A	4.0185 [ 4.0000 ]	100.5% { 89.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 343842	(9.66, N/A) (N/A, -0.04, N/A)	325.4	N/A	3.4378 [ 4.0000 ]	85.9% { 73.0% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 382126	(10.56, N/A) (N/A, -0.01, N/A)	1054.7	N/A	20.6637 [ 20.0000 ]	103.3% { 88.5% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 168371	(10.66, N/A) (N/A, -0.01, N/A)	1121.1	N/A	19.9994 [ 20.0000 ]	100.0% { 92.3% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1038848	(6.44, N/A) (N/A, -0.08, N/A)	965.8	N/A	7.8213 [ 8.0000 ]	97.8% { 88.4% }			

**SECOND-SOURCE CALIBRATION VERIFICATION****EPA 1633 SPLP****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling**Calibration:** 2252011**Laboratory ID:** SB03941-SCV1**Sequence:** SB03941**Standard ID:** 22L0308

<b>ANALYTE</b>	<b>EXPECTED (ng/mL)</b>	<b>FOUND (ng/mL)</b>	<b>% DRIFT</b>	<b>QC LIMIT</b>
PFBA	8.00	7.99	-0.1	30.00
PFPEA	4.00	4.05	1.3	30.00
PFHXA	2.00	2.06	2.9	30.00
PFHPA	2.00	1.83	-8.4	30.00
PFOA	2.00	1.92	-4.0	30.00
PFNA	2.00	1.98	-1.0	30.00
PFDA	2.00	1.94	-3.0	30.00
PFUnA	2.00	2.01	0.6	30.00
PFDOA	2.00	1.94	-2.8	30.00
PFTRDA	2.00	2.06	3.0	30.00
PFTEDA	2.00	2.52	25.9	30.00
PFBS	1.77	1.80	1.7	30.00
PFPEs	1.88	1.90	1.2	30.00
PFHXS	1.83	1.70	-7.0	30.00
PFHPS	1.91	1.91	-0.1	30.00
PFOS	1.86	1.92	3.4	30.00
PFNS	1.92	2.20	14.7	30.00
PFDS	1.93	2.24	16.0	30.00
PFDOS	1.94	2.09	7.7	30.00
4:2FTS	7.50	7.40	-1.3	30.00
6:2FTS	7.60	7.32	-3.6	30.00
8:2FTS	7.68	8.45	10.0	30.00
PFOSA	2.00	1.87	-6.3	30.00
NMeFOSA	8.00	7.40	-7.5	30.00
NEtFOSA	8.00	7.80	-2.5	30.00
NMeFOSAA	2.00	2.24	11.9	30.00
NEtFOSAA	2.00	1.95	-2.5	30.00

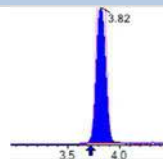
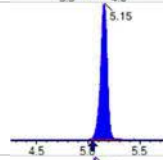
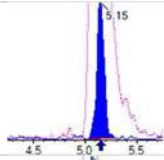
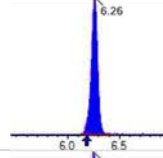
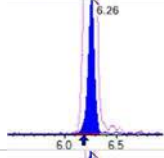
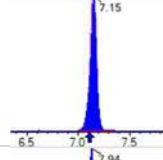
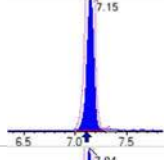
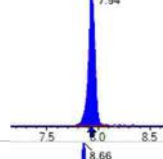
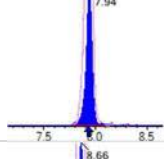
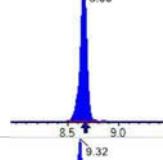
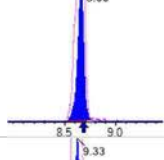
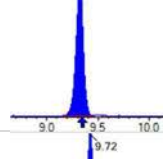
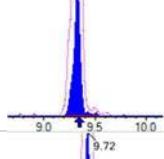
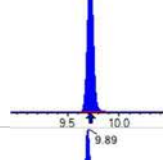
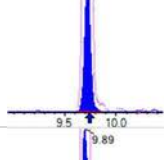
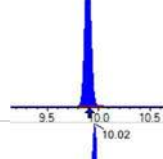
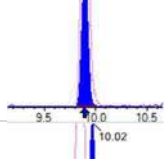
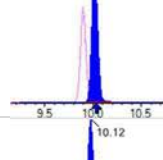
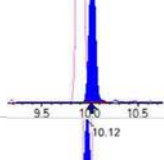
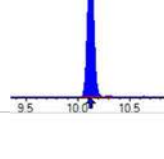
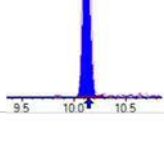
**SECOND-SOURCE CALIBRATION VERIFICATION****EPA 1633 SPLP****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling**Calibration:** 2252011**Laboratory ID:** SB03941-SCV1**Sequence:** SB03941**Standard ID:** 22L0308

NMeFOSE	8.00	7.20	-10.0	30.00
NEtFOSE	8.00	7.47	-6.6	30.00
HFPO-DA	4.00	3.77	-5.8	30.00
ADONA	3.78	3.68	-2.6	30.00
PFEESA	3.56	3.55	-0.3	30.00
PFMPA	4.00	3.70	-7.5	30.00
PFMBA	4.00	3.61	-9.8	30.00
NFDHA	4.00	3.97	-0.8	30.00
9CL-PF3ONS	3.74	3.62	-3.2	30.00
11CL-PF3OUDS	3.78	3.53	-6.6	30.00
3:3FTCA	8.00	7.48	-6.5	30.00
5:3FTCA	8.00	8.11	1.4	30.00
7:3FTCA	8.00	8.03	0.3	30.00
13C4-PFBA	8.00	8.64	8.0	30.00
13C5-PFPEA	4.00	4.71	17.7	30.00
13C5-PFHXA	2.00	2.18	8.9	30.00
13C4-PFHPA	2.00	2.44	22.0	30.00
13C8-PFOA	2.00	2.51	25.6	30.00
13C9-PFNA	1.00	1.15	15.1	30.00
13C6-PFDA	1.00	1.02	1.6	30.00
13C7-PFUnA	1.00	1.01	0.9	30.00
13C2-PFDOA	1.00	1.12	12.1	30.00
13C2-PFTEDA	1.00	0.926	-7.4	30.00
13C3-PFBS	2.00	2.14	7.0	30.00
13C3-PFHXS	2.00	2.11	5.5	30.00
13C8-PFOS	2.00	2.03	1.7	30.00
13C2-4:2FTS	4.00	4.28	7.0	30.00
13C2-6:2FTS	4.00	4.19	4.8	30.00
13C2-8:2FTS	4.00	4.81	20.3	30.00

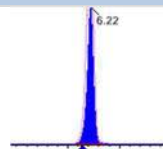
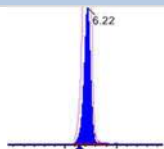
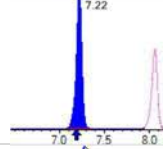
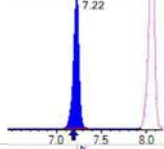
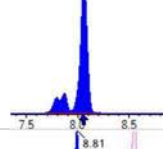
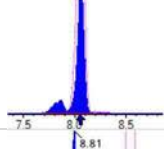
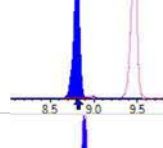
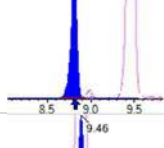
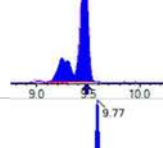
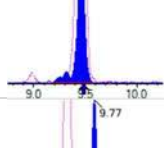
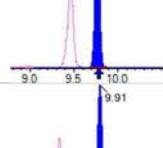
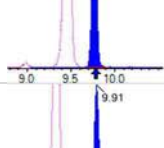
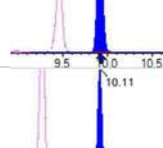
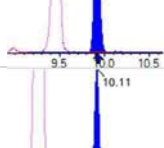
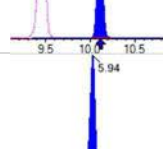
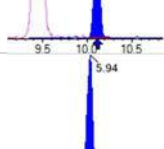
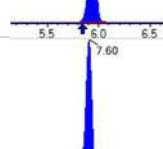
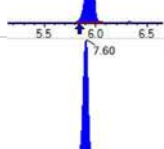
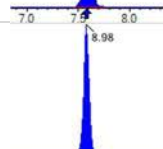
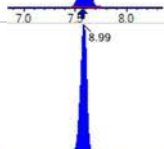
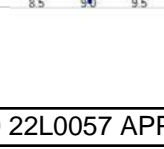
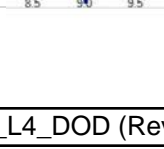
**SECOND-SOURCE CALIBRATION VERIFICATION****EPA 1633 SPLP****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling**Calibration:** 2252011**Laboratory ID:** SB03941-SCV1**Sequence:** SB03941**Standard ID:** 22L0308

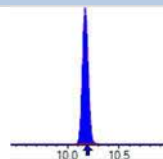
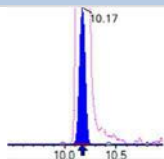
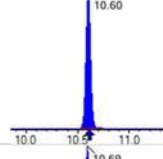
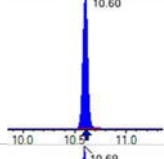
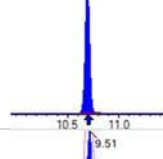
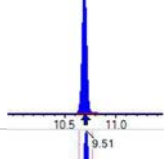
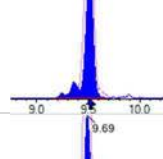
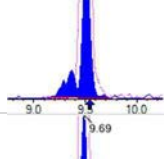
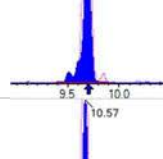
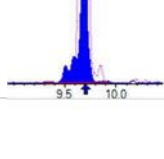
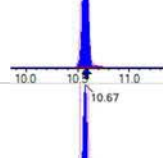
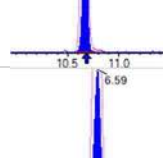
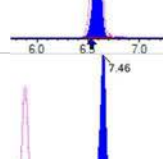
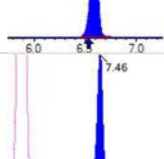
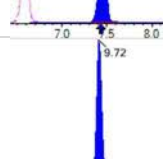
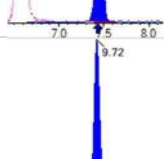
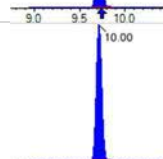
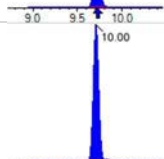
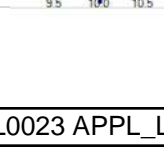
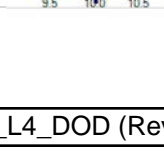
13C8-PFOSA	2.00	2.54	26.8	30.00
D5-NETFOSA	2.00	2.46	23.2	30.00
D3-NMEFOSA	2.00	2.31	15.5	30.00
D3-NMEFOSAA	4.00	3.87	-3.3	30.00
D5-NETFOSAA	4.00	4.12	3.0	30.00
D7-NMEFOSE	20.0	22.3	11.5	30.00
D9-NETFOSAE	20.0	21.7	8.5	30.00
13C3-HFPO-DA	8.00	9.26	15.7	30.00

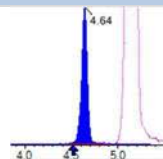
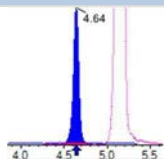
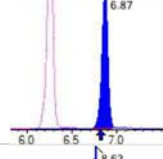
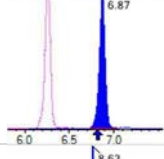
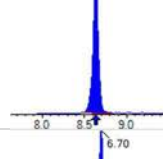
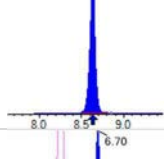
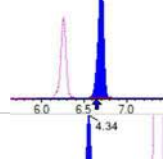
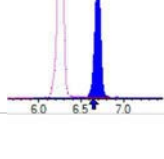
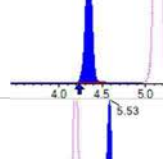
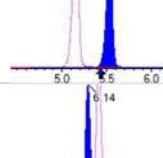
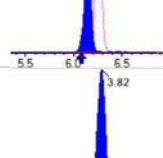
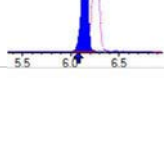
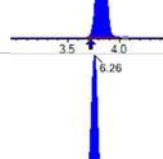
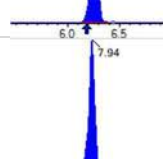
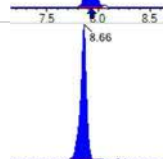
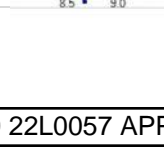
\* Values outside of QC limits

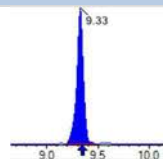
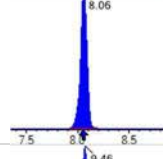
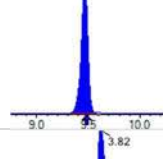
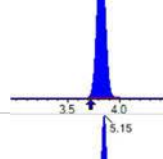
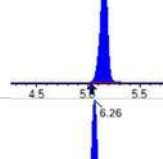
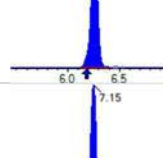
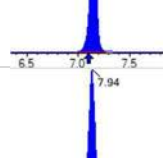
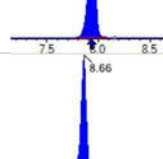
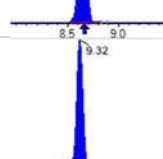
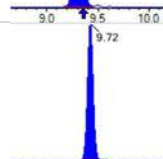
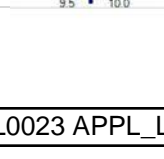
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 826160	(3.82, 1.00) (0.00, N/A, 0.0)	66.3	N/A 0.0 0.0	7.9908 [ 8.0000 ]	99.9%			
PFPeA	(262.9 / 219.0) 615408 (262.9 / 69.0) 7099	(5.15, 1.00) (0.00, N/A, 0.4)	793.3 166.5	0.0115 103.1 103.1	4.0518 [ 4.0000 ]	101.3%			
PFHxA	(313.0 / 269.0) 467843 (313.0 / 119.0) 45951	(6.26, 1.00) (0.00, N/A, 0.1)	507.4 322.7	0.0982 100.5 100.5	2.0587 [ 2.0000 ]	102.9%			
PFHpA	(363.0 / 319.0) 432075 (363.0 / 169.0) 138649	(7.15, 1.00) (0.00, N/A, 0.1)	541.7 385.0	0.3209 103.0 103.0	1.8321 [ 2.0000 ]	91.6%			
PFOA	(413.0 / 369.0) 540570 (413.0 / 169.0) 167693	(7.94, 1.00) (0.00, N/A, -0.3)	662.9 505.8	0.3102 94.9 94.9	1.9199 [ 2.0000 ]	96.0%			
PFNA	(463.0 / 419.0) 409308 (463.0 / 169.0) 78936	(8.66, 1.00) (0.00, N/A, -0.2)	495.2 94.8	0.1929 100.1 100.1	1.9793 [ 2.0000 ]	99.0%			
PFDA	(513.0 / 469.0) 482820 (513.0 / 169.0) 47535	(9.32, 1.00) (0.00, N/A, -0.3)	450.3 235.5	0.0985 103.0 103.0	1.9394 [ 2.0000 ]	97.0%			
PFUnA	(563.0 / 519.0) 587146 (563.0 / 169.0) 44298	(9.72, 1.00) (0.00, N/A, 0.0)	626.0 279.6	0.0754 86.9 86.9	2.0110 [ 2.0000 ]	100.6%			
PFDoA	(613.0 / 569.0) 686509 (613.0 / 169.0) 89917	(9.89, 1.00) (0.00, N/A, 0.0)	663.9 317.2	0.1310 94.1 94.1	1.9439 [ 2.0000 ]	97.2%			
PFTrDA	(663.0 / 619.0) 630517 (663.0 / 169.0) 105737	(10.02, 1.01) (N/A, -0.01, -0.3)	802.7 413.6	0.1677 81.9 81.9	2.0607 [ 2.0000 ]	103.0%			
PFTeDA	(713.0 / 669.0) 501366 (713.0 / 169.0) 87460	(10.12, 1.00) (0.00, N/A, 0.2)	703.1 221.5	0.1744 85.8 85.8	2.5178 [ 2.0000 ]	125.9%			

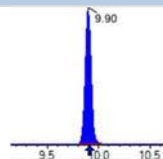
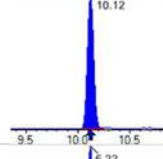
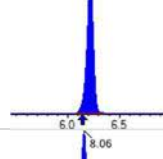
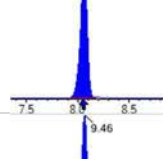
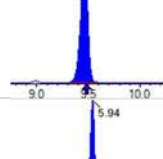
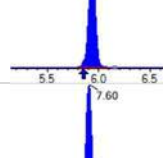
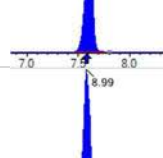
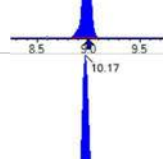
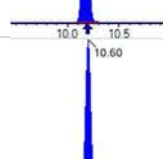
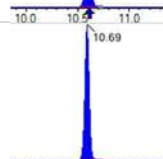
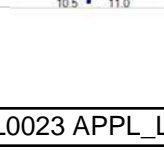


Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 721250 (298.9 / 99.0) 444102	(6.22, 1.00) (0.00, N/A, 0.0)	841.6 645.4	0.6157 100.0 100.0	1.7993 [ 1.7695 ]	101.7%			
PFPeS	(349.0 / 80.0) 1304493 (349.0 / 99.0) 488870	(7.22, 0.90) (N/A, 0.04, -0.1)	955.5 884.4	0.3748 105.3 105.3	1.9033 [ 1.8768 ]	101.4%			
PFHxS	(399.0 / 80.0) 1014894 (399.0 / 99.0) 344027	(8.06, 1.00) (0.00, N/A, 0.0)	2419.1 74677.8	0.3390 100.8 100.8	1.7027 [ 1.8220 ]	93.5%			
PFHpS	(449.0 / 80.0) 879262 (449.0 / 99.0) 257815	(8.81, 0.93) (N/A, -0.01, -0.3)	667.5 488.6	0.2932 107.1 107.1	1.9077 [ 1.9028 ]	100.3%			
PFOS	(499.0 / 80.0) 1102928 (499.0 / 99.0) 236253	(9.46, 1.00) (0.00, N/A, 0.1)	115.1 129.8	0.2142 88.1 88.1	1.9236 [ 1.8550 ]	103.7%			
PFNS	(549.0 / 80.0) 1400580 (549.0 / 99.0) 348700	(9.77, 1.03) (N/A, -0.01, 0.0)	867.1 541.9	0.2490 102.0 102.0	2.2021 [ 1.9198 ]	114.7%			
PFDS	(599.0 / 80.0) 1581305 (599.0 / 99.0) 390095	(9.91, 1.05) (N/A, -0.01, 0.2)	992.5 464.1	0.2467 109.6 109.6	2.2395 [ 1.9262 ]	116.3%			
PFDoS	(698.9 / 80.0) 616747 (698.9 / 99.0) 133778	(10.11, 1.07) (N/A, -0.01, 0.0)	738.0 572.8	0.2169 88.7 88.7	2.0898 [ 1.9391 ]	107.8%			
4:2FTS	(327.0 / 307.0) 1514379 (327.0 / 81.0) 770935	(5.94, 1.00) (0.00, N/A, -0.1)	803.6 624.3	0.5091 103.1 103.1	7.3999 [ 7.4762 ]	99.0%			
6:2FTS	(427.0 / 407.0) 821840 (427.0 / 81.0) 567834	(7.60, 1.00) (0.00, N/A, 0.1)	946.6 705.6	0.6909 88.8 88.8	7.3229 [ 7.5923 ]	96.5%			
8:2FTS	(527.0 / 507.0) 1122259 (527.0 / 81.0) 538134	(8.98, 1.00) (0.00, N/A, -0.3)	414.3 515.2	0.4795 84.7 84.7	8.4461 [ 7.6663 ]	110.2%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 1474063 (498.0 / 478.0) 37178	(10.17, 1.00) (0.00, N/A, -0.1)	843.1 534.3	0.0252 121.0 121.0	1.8741 [2.0000]	93.7%			
NMeFOSA	(511.9 / 219.0) 999598 (511.9 / 169.0) 689735	(10.60, 1.00) (0.00, N/A, 0.0)	861.8 1151.0	0.6900 95.8 95.8	7.4034 [8.0000]	92.5%			
NEIFOSA	(526.0 / 219.0) 1146883 (526.0 / 169.0) 1178077	(10.69, 1.00) (0.00, N/A, 0.0)	1268.4 1089.4	1.0272 97.1 97.1	7.8009 [8.0000]	97.5%			
NMeFOSAA	(570.0 / 419.0) 208249 (570.0 / 483.0) 104771	(9.51, 1.00) (0.00, N/A, 0.2)	375.1 198.5	0.5031 81.8 81.8	2.2376 [2.0000]	111.9%			
NEIFOSAA	(584.0 / 419.0) 196413 (584.0 / 526.0) 111297	(9.69, 1.00) (0.01, N/A, 0.2)	455.1 117896.6	0.5666 77.3 77.3	1.9508 [2.0000]	97.5%			
NMeFOSE	(616.1 / 59.0) 203936	(10.57, 1.00) (0.01, N/A, 0.0)	1358.7	N/A 0.0 0.0	7.2019 [8.0000]	90.0%			
NEtFOSE	(630.0 / 59.0) 38033	(10.67, 1.00) (0.01, N/A, 0.0)	607.4	N/A 0.0 0.0	7.4728 [8.0000]	93.4%			
HFPO-DA	(285.0 / 169.0) 342689 (285.0 / 185.0) 1020987	(6.59, 1.00) (0.00, N/A, -0.1)	626.5 698.6	2.9793 108.5 108.5	3.7699 [4.0000]	94.2%			
ADONA	(377.0 / 85.0) 1486505 (377.0 / 251.0) 199325	(7.46, 1.13) (N/A, 0.03, 0.1)	678.2 385.1	0.1341 107.7 107.7	3.6817 [3.7708]	97.6%			
9CI-Pf3ONS	(531.0 / 351.0) 4066455 (533.0 / 353.0) 1234707	(9.72, 1.47) (N/A, -0.01, 0.0)	855.0 727.0	0.3036 102.6 102.6	3.6202 [3.7330]	97.0%			
11CI-PF3OUDS	(631.0 / 451.0) 1991501 (633.0 / 453.0) 617773	(10.00, 1.52) (N/A, -0.01, 0.0)	1070.3 1217.2	0.3102 93.8 93.8	3.5291 [3.7728]	93.5%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 39196 (241.0 / 117.0) 66770	(4.64, 0.90) (N/A, 0.12, 0.0)	403.7 453.1	1.7035 101.8 101.8	7.4773 [ 8.0000 ]	93.5%			
5:3FTCA	(341.0 / 236.7) 325755 (341.0 / 217.0) 500274	(6.87, 1.10) (N/A, 0.05, 0.0)	422.5 555.2	1.5357 104.9 104.9	8.1123 [ 8.0000 ]	101.4%			
7:3FTCA	(441.0 / 317.0) 370796 (441.0 / 337.0) 321550	(8.63, 1.38) (N/A, 0.00, 0.0)	380.2 406.9	0.8672 103.5 103.5	8.0251 [ 8.0000 ]	100.3%			
PFEESA	(315.0 / 135.0) 883452 (315.0 / 83.0) 263398	(6.70, 1.07) (N/A, 0.06, 0.2)	692.7 623.8	0.2981 97.1 97.1	3.5508 [ 3.5698 ]	99.5%			
PFMPA	(229.0 / 85.0) 154156	(4.34, 0.84) (N/A, 0.12, 0.0)	850.9	N/A 0.0 0.0	3.6980 [ 4.0000 ]	92.5%			
PFMBA	(279.0 / 85.0) 519912	(5.53, 1.07) (N/A, 0.11, 0.0)	881.8	N/A 0.0 0.0	3.6083 [ 4.0000 ]	90.2%			
NFDHA	(295.0 / 201.0) 454901 (295.0 / 85.0) 446222	(6.14, 0.98) (N/A, 0.08, -0.1)	909.2 665.8	0.9809 111.1 111.1	3.9698 [ 4.0000 ]	99.2%			
13C3_PFBA_IIS	(216.0 / 172.0) 142617	(3.82, N/A) (N/A, 0.11, N/A)	772.3	N/A	1.0246 [ 1.0000 ]	102.5% { 94.0% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 211230	(6.26, N/A) (N/A, 0.07, N/A)	637.8	N/A	0.9147 [ 1.0000 ]	91.5% { 90.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 207848	(7.94, N/A) (N/A, 0.01, N/A)	791.1	N/A	0.9454 [ 1.0000 ]	94.5% { 87.3% }			
13C5_PFNA_IIS	(468.0 / 423.0) 190473	(8.66, N/A) (N/A, -0.01, N/A)	365.8	N/A	1.0286 [ 1.0000 ]	102.9% { 94.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 180965	(9.33, N/A) (N/A, -0.02, N/A)	300.8	N/A	0.9792 [ 1.0000 ]	97.9% { 104.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 404075	(8.06, N/A) (N/A, 0.01, N/A)	755.5	N/A	1.0009 [ 1.0000 ]	100.1% { 95.6% }			
13C4_PFOS_IIS	(502.8 / 79.9) 302637	(9.46, N/A) (N/A, -0.02, N/A)	490.6	N/A	0.9482 [ 1.0000 ]	94.8% { 92.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1267826	(3.82, N/A) (N/A, 0.10, N/A)	950.4	N/A	8.6374 [ 8.0000 ]	108.0% { 106.5% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 691765	(5.15, N/A) (N/A, 0.12, N/A)	655.0	N/A	4.7068 [ 4.0000 ]	117.7% { 99.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 529227	(6.26, N/A) (N/A, 0.07, N/A)	586.3	N/A	2.1772 [ 2.0000 ]	108.9% { 98.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 517454	(7.15, N/A) (N/A, 0.04, N/A)	625.4	N/A	2.4402 [ 2.0000 ]	122.0% { 105.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 572643	(7.94, N/A) (N/A, 0.01, N/A)	628.4	N/A	2.5123 [ 2.0000 ]	125.6% { 115.1% }			
13C9_PFNA_EIS	(472.0 / 427.0) 241000	(8.66, N/A) (N/A, -0.01, N/A)	482.3	N/A	1.1506 [ 1.0000 ]	115.1% { 110.2% }			
13C6_PFDA_EIS	(519.0 / 474.0) 261552	(9.32, N/A) (N/A, -0.02, N/A)	324.9	N/A	1.0162 [ 1.0000 ]	101.6% { 93.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 369444	(9.72, N/A) (N/A, -0.01, N/A)	383.8	N/A	1.0092 [ 1.0000 ]	100.9% { 92.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 409663	(9.90, N/A) (N/A, -0.01, N/A)	784.5	N/A	1.1211 [ 1.0000 ]	112.1% { 105.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 224684	(10.12, N/A) (N/A, -0.01, N/A)	303.5	N/A	0.9259 [ 1.0000 ]	92.6% { 92.9% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1462249	(6.22, N/A) (N/A, 0.08, N/A)	885.8	N/A	2.1403 [ 2.0000 ]	107.0% { 106.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 767313	(8.06, N/A) (N/A, 0.01, N/A)	732.1	N/A	2.1109 [ 2.0000 ]	105.5% { 101.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1056462	(9.46, N/A) (N/A, -0.02, N/A)	326.6	N/A	2.0340 [ 2.0000 ]	101.7% { 88.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 247570	(5.94, N/A) (N/A, 0.09, N/A)	728.4	N/A	4.2784 [ 4.0000 ]	107.0% { 110.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 291971	(7.60, N/A) (N/A, 0.02, N/A)	611.1	N/A	4.1910 [ 4.0000 ]	104.8% { 106.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 335471	(8.99, N/A) (N/A, -0.02, N/A)	757.5	N/A	4.8103 [ 4.0000 ]	120.3% { 113.3% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1664459	(10.17, N/A) (N/A, -0.01, N/A)	652.8	N/A	2.5352 [ 2.0000 ]	126.8% { 113.6% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 331270	(10.60, N/A) (N/A, -0.01, N/A)	916.6	N/A	2.3109 [ 2.0000 ]	115.5% { 100.4% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 325977	(10.69, N/A) (N/A, -0.01, N/A)	1349.4	N/A	2.4634 [ 2.0000 ]	123.2% { 114.5% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03941-SCV1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21A (10)  
 Acquired: 2022/12/21 - 16:20

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 477723	(9.51, N/A) (N/A, -0.02, N/A)	407.1	N/A	3.8679 [ 4.0000 ]	96.7% { 93.6% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 448595	(9.68, N/A) (N/A, -0.01, N/A)	368.4	N/A	4.1207 [ 4.0000 ]	103.0% { 95.2% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 448688	(10.57, N/A) (N/A, -0.01, N/A)	1653.3	N/A	22.2917 [ 20.0000 ]	111.5% { 104.0% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 198798	(10.66, N/A) (N/A, -0.01, N/A)	1695.3	N/A	21.6950 [ 20.0000 ]	108.5% { 109.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1196436	(6.59, N/A) (N/A, 0.06, N/A)	797.8	N/A	9.2576 [ 8.0000 ]	115.7% { 101.9% }			

**LOW-CONCENTRATION CALIBRATION VERIFICATION****EPA 1633 SPLP****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling**Calibration:** 2252011**Laboratory ID:** SB03942-LCV1**Sequence:** SB03942**Standard ID:** 22L0300

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
PFBA	0.400	0.380	-4.9	30.00
PFPEA	0.200	0.204	2.1	30.00
PFHXA	0.100	0.0988	-1.2	30.00
PFHPA	0.100	0.0949	-5.1	30.00
PFOA	0.100	0.113	12.6	30.00
PFNA	0.100	0.127	26.7	30.00
PFDA	0.100	0.105	4.6	30.00
PFUnA	0.100	0.0996	-0.4	30.00
PFDOA	0.100	0.100	0.3	30.00
PFTRDA	0.100	0.107	7.1	30.00
PFTEDA	0.100	0.0908	-9.2	30.00
PFBS	0.0885	0.0780	-11.8	30.00
PFPEs	0.0940	0.0901	-4.1	30.00
PFHXS	0.0915	0.0875	-4.4	30.00
PFHPS	0.0955	0.0894	-6.4	30.00
PFOS	0.0930	0.110	18.8	30.00
PFNS	0.0960	0.112	16.2	30.00
PFDS	0.0965	0.0969	0.4	30.00
PFDOS	0.0970	0.120	23.6	30.00
4:2FTS	0.375	0.370	-1.4	30.00
6:2FTS	0.380	0.398	4.7	30.00
8:2FTS	0.384	0.473	23.2	30.00
PFOSA	0.100	0.112	12.3	30.00
NMeFOSA	0.400	0.444	11.1	30.00
NEtFOSA	0.400	0.429	7.2	30.00
NMeFOSAA	0.100	0.125	25.0	30.00
NEtFOSAA	0.100	0.0714	-28.6	30.00
NMeFOSE	0.400	0.341	-14.8	30.00

**LOW-CONCENTRATION CALIBRATION VERIFICATION****EPA 1633 SPLP****Laboratory:** APPL, LLC**SDG:****Client:** AECOM**Project:** Red Hill AFFF Assessment Sampling**Calibration:** 2252011**Laboratory ID:** SB03942-LCV1**Sequence:** SB03942**Standard ID:** 22L0300

NEtFOSE	0.400	0.347	-13.3	30.00
HFPO-DA	0.200	0.227	13.3	30.00
ADONA	0.189	0.212	12.0	30.00
PFEESA	0.178	0.179	0.7	30.00
PFMPA	0.200	0.201	0.7	30.00
PFMBA	0.200	0.190	-4.9	30.00
NFDHA	0.200	0.233	16.4	30.00
9CL-PF3ONS	0.187	0.180	-3.8	30.00
11CL-PF3OUDS	0.189	0.205	8.6	30.00
3:3FTCA	0.400	0.374	-6.6	30.00
5:3FTCA	0.400	0.397	-0.7	30.00
7:3FTCA	0.400	0.360	-10.0	30.00

\* Values outside of QC limits



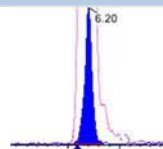
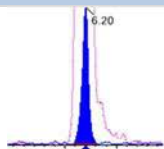
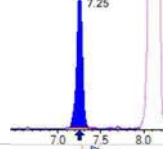
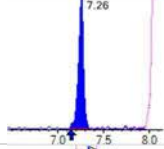
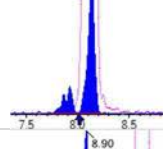
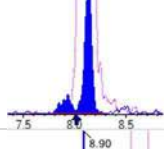
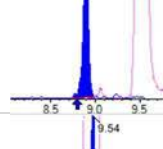
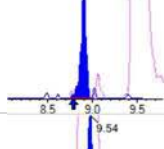
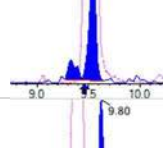
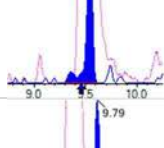
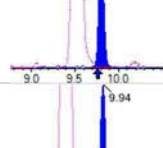
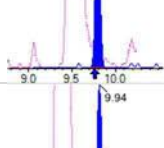
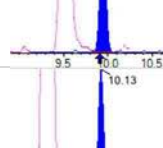
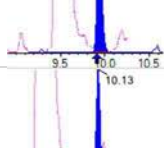
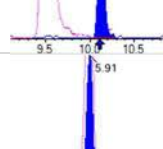
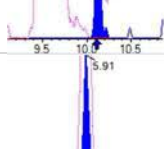
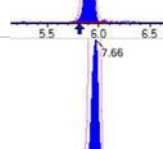
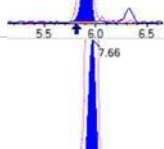
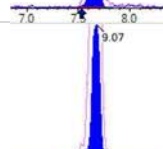
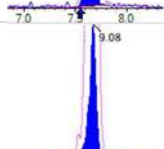
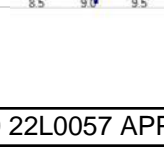
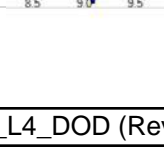


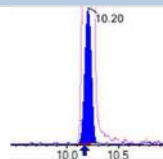
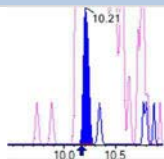
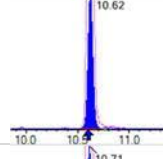
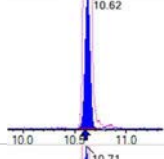
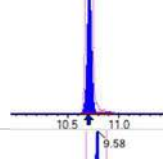
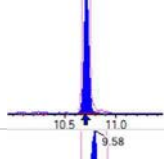
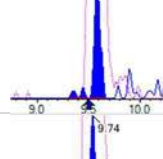
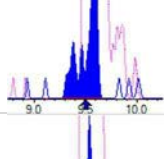
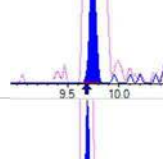
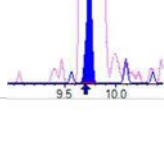
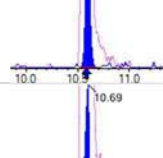
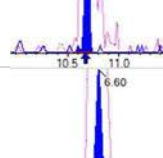
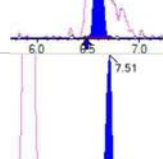
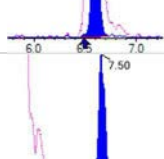
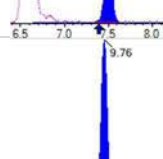
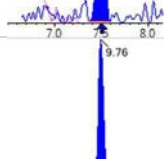
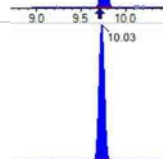
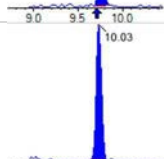
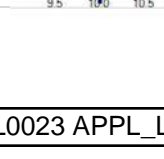
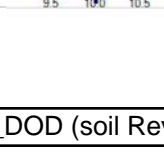
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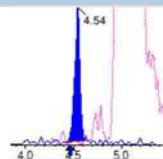
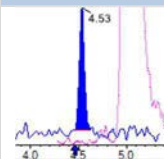
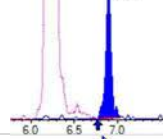
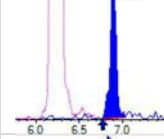
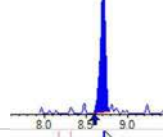
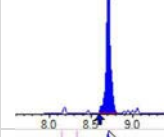
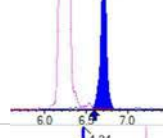
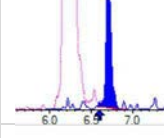
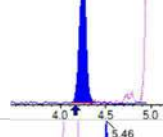
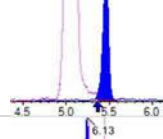
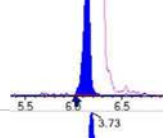
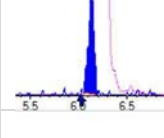
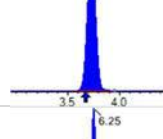
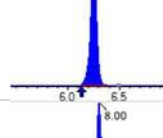
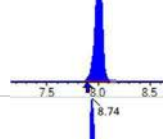
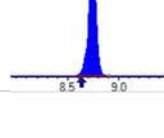
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 Acquisition Method: 1633 2022-12-21.dam

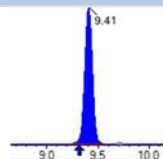
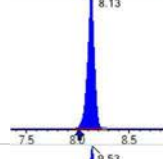
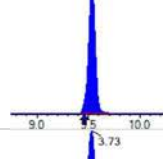
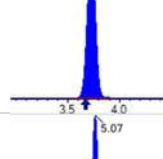
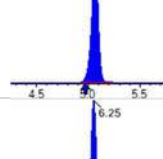
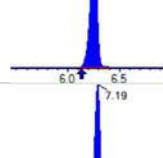
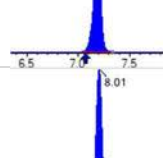
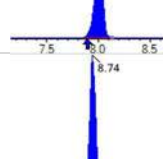
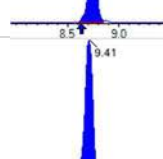
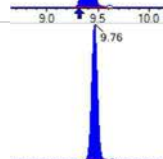
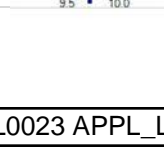
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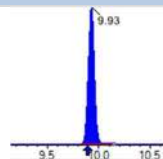
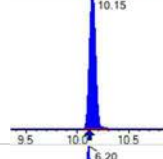
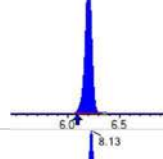
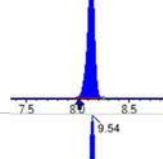
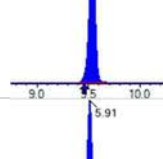
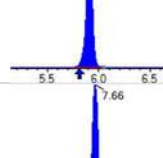
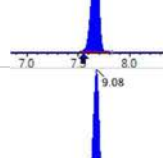
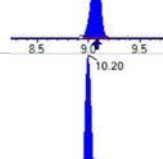
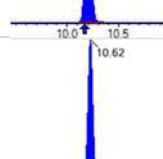
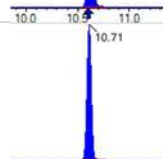
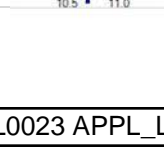
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 41141	(3.73, 1.00) (0.00, N/A, 0.0)	47.8	N/A 0.0 0.0	0.3803 [0.4000]	95.1%			
PFPeA	(262.9 / 219.0) 30554 (262.9 / 69.0) 325	(5.07, 1.00) (0.00, N/A, 2.1)	211.2 7.3	0.0106 95.0 91.7	0.2041 [0.2000]	102.1%			
PFHxA	(313.0 / 269.0) 24328 (313.0 / 119.0) 3145	(6.25, 1.00) (0.00, N/A, 0.2)	88.1 38.8	0.1293 132.2 139.4	0.0988 [0.1000]	98.8%			
PFHpA	(363.0 / 319.0) 21393 (363.0 / 169.0) 6469	(7.19, 1.00) (0.00, N/A, -0.1)	70.0 77.3	0.3024 97.1 97.0	0.0949 [0.1000]	94.9%			
PFOA	(413.0 / 369.0) 29346 (413.0 / 169.0) 7150	(8.01, 1.00) (0.01, N/A, 0.8)	66.8 96.1	0.2436 74.5 74.1	0.1126 [0.1000]	112.6%			
PFNA	(463.0 / 419.0) 24226 (463.0 / 169.0) 5709	(8.74, 1.00) (0.00, N/A, -0.1)	78.3 64.7	0.2356 122.3 102.7	0.1267 [0.1000]	126.7%			
PFDA	(513.0 / 469.0) 27534 (513.0 / 169.0) 2848	(9.41, 1.00) (0.00, N/A, 0.6)	46.1 562.6	0.1034 108.2 95.8	0.1046 [0.1000]	104.6%			
PFUnA	(563.0 / 519.0) 31130 (563.0 / 169.0) 2602	(9.76, 1.00) (0.00, N/A, 1.4)	106.3 159.9	0.0836 96.2 81.6	0.0996 [0.1000]	99.6%			
PFDaA	(613.0 / 569.0) 35466 (613.0 / 169.0) 5220	(9.93, 1.00) (0.00, N/A, -0.5)	112.8 105.5	0.1472 105.7 125.5	0.1003 [0.1000]	100.3%			
PFTrDA	(663.0 / 619.0) 32812 (663.0 / 169.0) 7308	(10.04, 1.01) (N/A, 0.02, -0.9)	177.8 52.5	0.2227 108.8 104.3	0.1071 [0.1000]	107.1%			
PFTeDA	(713.0 / 669.0) 25181 (713.0 / 169.0) 4661	(10.15, 1.00) (0.00, N/A, -0.1)	133.2 23.0	0.1851 91.0 105.2	0.0908 [0.1000]	90.8%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 30287 (298.9 / 99.0) 25468	(6.20, 1.00) (0.00, N/A, 0.0)	220.5 193.2	0.8409 136.6 134.6	0.0780 [0.0885]	88.2%			
PFPeS	(349.0 / 80.0) 63750 (349.0 / 99.0) 24470	(7.25, 0.89) (N/A, 0.12, -0.1)	300.6 207.2	0.3838 107.8 111.9	0.0901 [0.0938]	96.0%			
PFHxS	(399.0 / 80.0) 53825 (399.0 / 99.0) 19797	(8.13, 1.00) (0.00, N/A, 0.1)	1871.9 426.5	0.3678 109.4 108.3	0.0875 [0.0911]	96.0%			
PFHpS	(449.0 / 80.0) 44546 (449.0 / 99.0) 13518	(8.90, 0.93) (N/A, 0.11, -0.3)	190.4 137.1	0.3035 110.9 109.1	0.0894 [0.0951]	93.9%			
PFOS	(499.0 / 80.0) 68479 (499.0 / 99.0) 15540	(9.54, 1.00) (0.01, N/A, 0.0)	69.2 62.3	0.2269 93.3 105.7	0.1105 [0.0927]	119.1%			
PFNS	(549.0 / 80.0) 76706 (549.0 / 99.0) 15698	(9.80, 1.03) (N/A, 0.03, 0.4)	274.7 136.4	0.2047 83.9 82.0	0.1115 [0.0960]	116.2%			
PFDS	(599.0 / 80.0) 73955 (599.0 / 99.0) 18474	(9.94, 1.04) (N/A, 0.03, 0.4)	264.5 367.6	0.2498 111.0 120.4	0.0969 [0.0963]	100.6%			
PFDoS	(698.9 / 80.0) 38269 (698.9 / 99.0) 6612	(10.13, 1.06) (N/A, 0.01, -0.1)	242.4 521.6	0.1728 70.6 69.8	0.1199 [0.0970]	123.7%			
4:2FTS	(327.0 / 307.0) 75753 (327.0 / 81.0) 38274	(5.91, 1.00) (0.00, N/A, 0.4)	381.0 164.8	0.5052 102.3 97.9	0.3697 [0.3738]	98.9%			
6:2FTS	(427.0 / 407.0) 43176 (427.0 / 81.0) 32621	(7.66, 1.00) (0.00, N/A, 0.0)	217.3 151.6	0.7555 97.1 116.7	0.3978 [0.3796]	104.8%			
8:2FTS	(527.0 / 507.0) 47587 (527.0 / 81.0) 25167	(9.07, 1.00) (0.00, N/A, -0.1)	1490.9 106.9	0.5289 93.4 65.8	0.4729 [0.3833]	123.4%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 80611 (498.0 / 478.0) 1500	(10.20, 1.00) (0.00, N/A, -0.5)	247.9 35.5	0.0186 89.3 79.4	0.1123 [0.1000]	112.3%			
NMeFOSA	(511.9 / 219.0) 59421 (511.9 / 169.0) 35780	(10.62, 1.00) (0.00, N/A, -0.1)	465.5 523.4	0.6021 83.6 93.3	0.4444 [0.4000]	111.1%			
NEIFOSA	(526.0 / 219.0) 61287 (526.0 / 169.0) 68369	(10.71, 1.00) (0.00, N/A, 0.0)	501.1 494.4	1.1156 105.5 109.6	0.4290 [0.4000]	107.2%			
NMeFOSAA	(570.0 / 419.0) 12306 (570.0 / 483.0) 7076	(9.58, 1.00) (0.01, N/A, 0.0)	368.8 69.6	0.5750 93.5 119.2	0.1250 [0.1000]	125.0%			
NEIFOSAA	(584.0 / 419.0) 8076 (584.0 / 526.0) 4721	(9.74, 1.00) (0.01, N/A, 0.2)	355.9 1475.7	0.5846 79.7 93.7	0.0714 [0.1000]	71.4%			
NMeFOSE	(616.1 / 59.0) 10963	(10.59, 1.00) (0.00, N/A, 0.0)	146.1	N/A 0.0 0.0	0.3407 [0.4000]	85.2%			
NEtFOSE	(630.0 / 59.0) 1997	(10.69, 1.00) (0.01, N/A, 0.0)	179.0	N/A 0.0 0.0	0.3470 [0.4000]	86.7%			
HFPO-DA	(285.0 / 169.0) 20222 (285.0 / 185.0) 49730	(6.60, 1.00) (0.00, N/A, 0.0)	267.0 240.0	2.4592 89.6 85.8	0.2266 [0.2000]	113.3%			
ADONA	(377.0 / 85.0) 83921 (377.0 / 251.0) 10260	(7.51, 1.14) (N/A, 0.12, 0.4)	313.2 33.1	0.1223 98.2 88.3	0.2117 [0.1885]	112.3%			
9CI-Pf3ONS	(531.0 / 351.0) 214078 (533.0 / 353.0) 63026	(9.76, 1.48) (N/A, 0.04, 0.2)	432.7 156.3	0.2944 99.5 94.4	0.1799 [0.1867]	96.4%			
11CI-PF3OUDS	(631.0 / 451.0) 113702 (633.0 / 453.0) 33919	(10.03, 1.52) (N/A, 0.02, -0.1)	1815.6 193.5	0.2983 90.2 106.0	0.2052 [0.1886]	108.8%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 1930 (241.0 / 117.0) 3721	(4.54, 0.90) (N/A, 0.09, 0.5)	89.5 54.6	1.9279 115.2 112.0	0.3736 [0.4000]	93.4%			
5:3FTCA	(341.0 / 236.7) 17273 (341.0 / 217.0) 25568	(6.90, 1.10) (N/A, 0.13, 0.1)	160.2 86.0	1.4802 101.1 95.6	0.3972 [0.4000]	99.3%			
7:3FTCA	(441.0 / 317.0) 18017 (441.0 / 337.0) 16081	(8.71, 1.39) (N/A, 0.11, 0.0)	89.1 136.9	0.8925 106.6 110.2	0.3601 [0.4000]	90.0%			
PFEESA	(315.0 / 135.0) 48322 (315.0 / 83.0) 13710	(6.71, 1.07) (N/A, 0.12, 0.3)	335.2 78.3	0.2837 92.4 95.3	0.1793 [0.1785]	100.5%			
PFMPA	(229.0 / 85.0) 8272	(4.24, 0.84) (N/A, 0.07, 0.0)	230.1	N/A 0.0 0.0	0.2014 [0.2000]	100.7%			
PFMBA	(279.0 / 85.0) 27001	(5.46, 1.08) (N/A, 0.10, 0.0)	305.6	N/A 0.0 0.0	0.1902 [0.2000]	95.1%			
NFDHA	(295.0 / 201.0) 28882 (295.0 / 85.0) 22243	(6.13, 0.98) (N/A, 0.12, 0.3)	266.3 73.4	0.7701 87.2 82.7	0.2327 [0.2000]	116.4%			
13C3_PFBa_IIS	(216.0 / 172.0) 157154	(3.73, N/A) (N/A, 0.06, N/A)	815.8	N/A	1.1290 [1.0000]	112.9% {96.4%}			
13C2_PFHxA_IIS	(315.1 / 270.0) 234843	(6.25, N/A) (N/A, 0.11, N/A)	769.3	N/A	1.0170 [1.0000]	101.7% {105.1%}			
13C4_PFOA_IIS	(417.0 / 372.0) 229877	(8.00, N/A) (N/A, 0.12, N/A)	722.5	N/A	1.0456 [1.0000]	104.6% {94.3%}			
13C5_PFNAl_IIS	(468.0 / 423.0) 195190	(8.74, N/A) (N/A, 0.11, N/A)	470.1	N/A	1.0540 [1.0000]	105.4% {108.3%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 207631	(9.41, N/A) (N/A, 0.10, N/A)	424.3	N/A	1.1235 [ 1.0000 ]	112.3% { 103.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 408283	(8.13, N/A) (N/A, 0.12, N/A)	765.0	N/A	1.0113 [ 1.0000 ]	101.1% { 98.7% }			
13C4_PFOS_IIS	(502.8 / 79.9) 298315	(9.53, N/A) (N/A, 0.08, N/A)	545.7	N/A	0.9346 [ 1.0000 ]	93.5% { 88.4% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1326737	(3.73, N/A) (N/A, 0.06, N/A)	902.1	N/A	8.2026 [ 8.0000 ]	102.5% { 106.0% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 681681	(5.07, N/A) (N/A, 0.09, N/A)	719.6	N/A	4.1718 [ 4.0000 ]	104.3% { 102.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 573169	(6.25, N/A) (N/A, 0.12, N/A)	669.8	N/A	2.1209 [ 2.0000 ]	106.0% { 108.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 494854	(7.19, N/A) (N/A, 0.12, N/A)	684.7	N/A	2.0990 [ 2.0000 ]	104.9% { 106.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 529997	(8.01, N/A) (N/A, 0.12, N/A)	899.8	N/A	2.1024 [ 2.0000 ]	105.1% { 103.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 222867	(8.74, N/A) (N/A, 0.11, N/A)	308.1	N/A	1.0383 [ 1.0000 ]	103.8% { 121.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 276540	(9.41, N/A) (N/A, 0.10, N/A)	273.5	N/A	0.9365 [ 1.0000 ]	93.6% { 110.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 395399	(9.76, N/A) (N/A, 0.04, N/A)	569.5	N/A	0.9413 [ 1.0000 ]	94.1% { 122.9% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 410361	(9.93, N/A) (N/A, 0.03, N/A)	304.9	N/A	0.9788 [ 1.0000 ]	97.9% { 111.2% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 312962	(10.15, N/A) (N/A, 0.03, N/A)	459.9	N/A	1.1240 [ 1.0000 ]	112.4% { 113.2% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1415655	(6.20, N/A) (N/A, 0.11, N/A)	648.7	N/A	2.0508 [ 2.0000 ]	102.5% { 100.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 792061	(8.13, N/A) (N/A, 0.12, N/A)	965.5	N/A	2.1565 [ 2.0000 ]	107.8% { 114.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1142315	(9.54, N/A) (N/A, 0.08, N/A)	557.9	N/A	2.2311 [ 2.0000 ]	111.6% { 107.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 247848	(5.91, N/A) (N/A, 0.11, N/A)	722.0	N/A	4.2391 [ 4.0000 ]	106.0% { 110.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 282391	(7.66, N/A) (N/A, 0.12, N/A)	608.0	N/A	4.0117 [ 4.0000 ]	100.3% { 98.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 254040	(9.08, N/A) (N/A, 0.11, N/A)	494.1	N/A	3.6051 [ 4.0000 ]	90.1% { 112.8% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1518867	(10.20, N/A) (N/A, 0.03, N/A)	833.6	N/A	2.3469 [ 2.0000 ]	117.3% { 107.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 328052	(10.62, N/A) (N/A, 0.02, N/A)	724.7	N/A	2.3216 [ 2.0000 ]	116.1% { 96.8% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 316775	(10.71, N/A) (N/A, 0.02, N/A)	1067.4	N/A	2.4285 [ 2.0000 ]	121.4% { 105.0% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-LCV1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (2)  
 Acquired: 2022/12/21 - 16:58

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 505276	( 9.58 , N/A ) ( N/A , 0.07 , N/A )	474.8	N/A	4.1503 [ 4.0000 ]	103.8% { 87.0% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 504083	( 9.73 , N/A ) ( N/A , 0.05 , N/A )	624.1	N/A	4.6975 [ 4.0000 ]	117.4% { 111.6% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 509850	( 10.59 , N/A ) ( N/A , 0.02 , N/A )	886.1	N/A	25.6974 [ 20.0000 ]	128.5% { 108.7% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 224772	( 10.68 , N/A ) ( N/A , 0.02 , N/A )	1294.7	N/A	24.8849 [ 20.0000 ]	124.4% { 102.7% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 1174695	( 6.60 , N/A ) ( N/A , 0.12 , N/A )	735.5	N/A	8.1755 [ 8.0000 ]	102.2% { 96.7% }			

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA 1633 SPLP

Laboratory: APPL, LLC  
 Client: AECOM  
 Instrument ID: Saphira  
 Standard ID: 22L0304

Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling  
 Calibration: 2252011  
 Sequence: SB03942

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SB03942-CCV1	PFBA	20.0	21.3	106	ng/mL	+/- 30.00%
	PFPEA	10.0	9.76	97.6	ng/mL	+/- 30.00%
	PFHXA	5.00	5.10	102	ng/mL	+/- 30.00%
	PFHPA	5.00	5.07	101	ng/mL	+/- 30.00%
	PFOA	5.00	4.50	90.0	ng/mL	+/- 30.00%
	PFNA	5.00	5.23	105	ng/mL	+/- 30.00%
	PFDA	5.00	4.94	98.7	ng/mL	+/- 30.00%
	PFUnA	5.00	5.37	107	ng/mL	+/- 30.00%
	PFDOA	5.00	5.16	103	ng/mL	+/- 30.00%
	PFTRDA	5.00	5.01	100	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.83	96.5	ng/mL	+/- 30.00%
	PFBS	4.42	4.73	107	ng/mL	+/- 30.00%
	PFPEs	4.70	5.08	108	ng/mL	+/- 30.00%
	PFHXS	4.58	4.78	104	ng/mL	+/- 30.00%
	PFHPS	4.78	5.06	106	ng/mL	+/- 30.00%
	PFOS	4.65	4.75	102	ng/mL	+/- 30.00%
	PFNS	4.80	5.09	106	ng/mL	+/- 30.00%
	PFDS	4.82	5.54	115	ng/mL	+/- 30.00%
	PFDOS	4.85	4.62	95.3	ng/mL	+/- 30.00%
	4:2FTS	18.8	17.7	94.1	ng/mL	+/- 30.00%
	6:2FTS	19.0	19.9	105	ng/mL	+/- 30.00%
	8:2FTS	19.2	18.6	96.9	ng/mL	+/- 30.00%
	PFOSA	5.00	5.61	112	ng/mL	+/- 30.00%
	NMeFOSA	20.0	19.7	98.4	ng/mL	+/- 30.00%
	NEtFOSA	20.0	23.4	117	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	5.01	100	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	4.63	92.7	ng/mL	+/- 30.00%
	NMeFOSE	20.0	19.7	98.7	ng/mL	+/- 30.00%
	NEtFOSE	20.0	17.1	85.4	ng/mL	+/- 30.00%
	HFPO-DA	10.0	9.65	96.5	ng/mL	+/- 30.00%



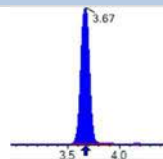
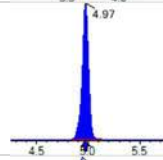
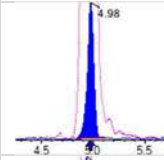
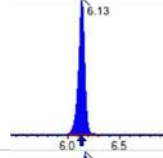
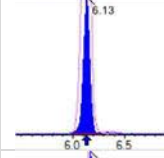
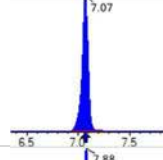
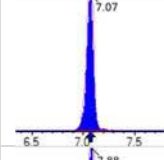
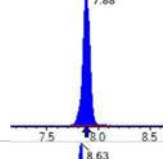
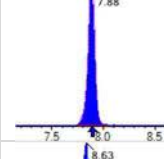
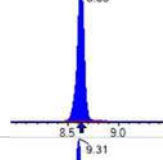
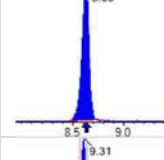
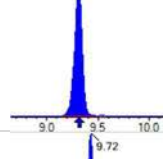
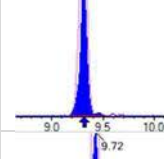
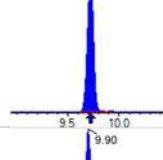
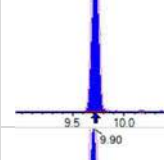
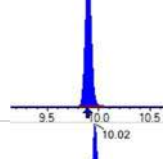
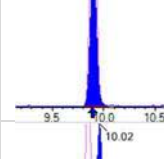
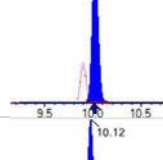
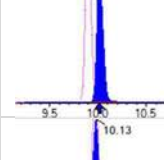
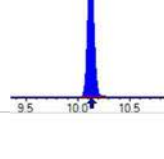
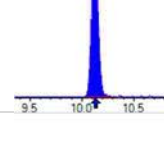
# INITIAL AND CONTINUING CALIBRATION CHECK

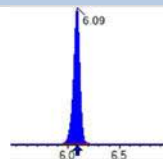
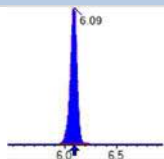
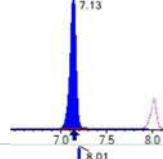
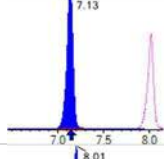
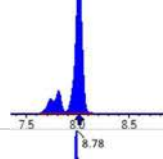
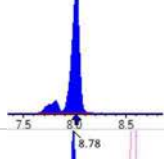
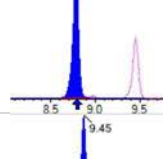
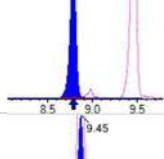
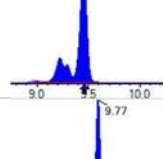
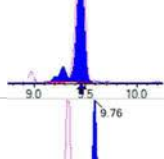
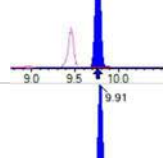
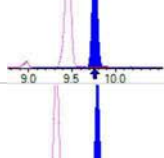
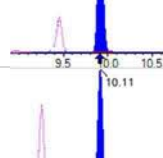
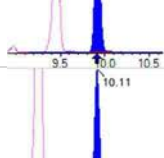
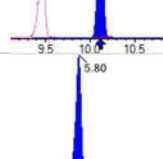
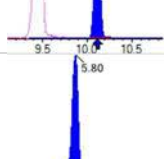
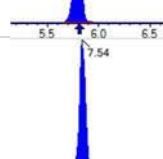
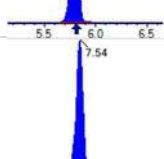
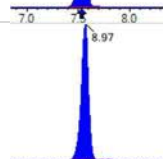
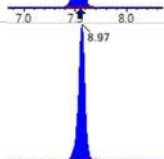
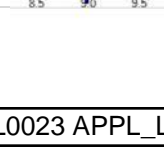
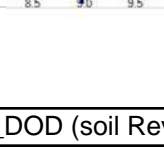
## EPA 1633 SPLP

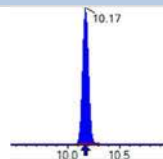
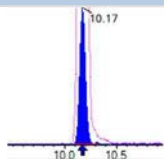
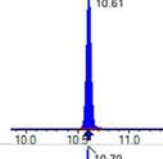
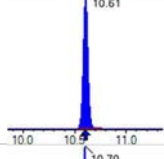
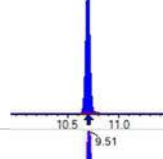
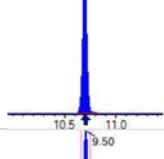
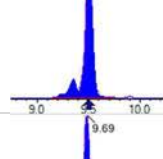
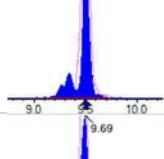
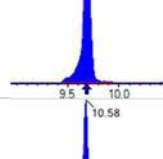
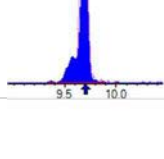
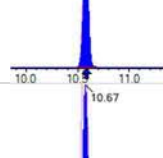
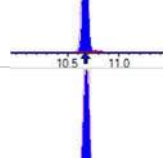
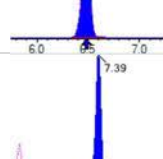
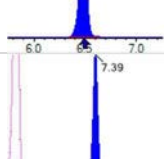
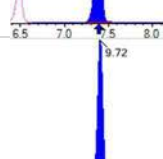
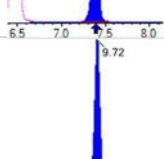
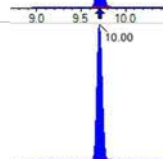
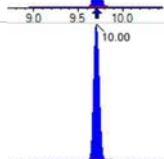
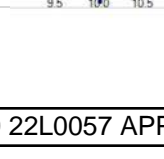
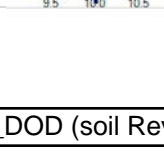
Laboratory: APPL, LLC  
 Client: AECOM  
 Instrument ID: Saphira  
 Standard ID: 22L0304

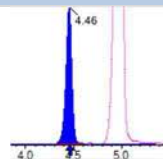
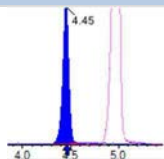
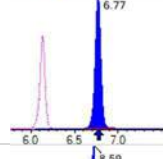
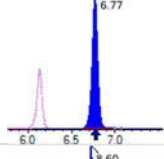
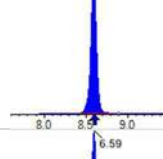
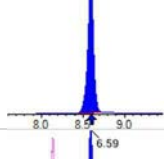
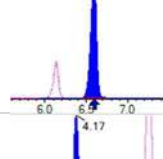
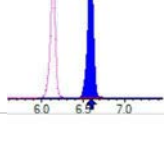
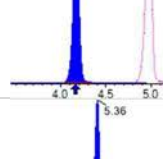
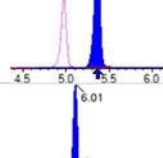
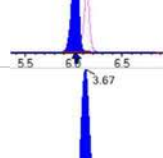
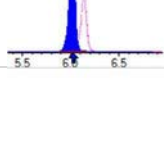
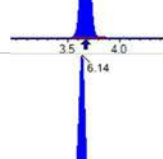
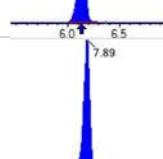
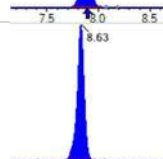

Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling  
 Calibration: 2252011  
 Sequence: SB03942

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SB03942-CCV1	ADONA	9.45	8.72	92.3	ng/mL	+/- 30.00%
	PFEESA	8.90	8.69	97.6	ng/mL	+/- 30.00%
	PFMPA	10.0	10.4	104	ng/mL	+/- 30.00%
	PFMBA	10.0	9.66	96.6	ng/mL	+/- 30.00%
	NFDHA	10.0	10.5	105	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	8.93	95.5	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	9.94	105	ng/mL	+/- 30.00%
	3:3FTCA	20.0	20.0	100	ng/mL	+/- 30.00%
	5:3FTCA	20.0	21.0	105	ng/mL	+/- 30.00%
	7:3FTCA	20.0	20.9	105	ng/mL	+/- 30.00%

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 2174476	(3.67, 1.00) (0.00, N/A, 0.0)	66.4	N/A 0.0 0.0	21.2960 [ 20.0000 ]	106.5%			
PFPeA	(262.9 / 219.0) 1421038 (262.9 / 69.0) 16479	(4.97, 1.00) (0.00, N/A, -0.2)	769.7 307.4	0.0116 103.6 100.0	9.7578 [ 10.0000 ]	97.6%			
PFHxA	(313.0 / 269.0) 1155377 (313.0 / 119.0) 107117	(6.13, 1.00) (0.00, N/A, 0.1)	732.4 463.6	0.0927 94.8 100.0	5.0999 [ 5.0000 ]	102.0%			
PFHpA	(363.0 / 319.0) 1075352 (363.0 / 169.0) 335324	(7.07, 1.00) (0.00, N/A, 0.2)	619.6 576.6	0.3118 100.1 100.0	5.0724 [ 5.0000 ]	101.4%			
PFOA	(413.0 / 369.0) 1131251 (413.0 / 169.0) 372156	(7.88, 1.00) (0.00, N/A, -0.1)	619.2 786.0	0.3290 100.7 100.0	4.5014 [ 5.0000 ]	90.0%			
PFNA	(463.0 / 419.0) 822179 (463.0 / 169.0) 188690	(8.63, 1.00) (0.00, N/A, 0.1)	484.5 83.3	0.2295 119.1 100.0	5.2258 [ 5.0000 ]	104.5%			
PFDA	(513.0 / 469.0) 1177171 (513.0 / 169.0) 127064	(9.31, 1.00) (0.00, N/A, -0.1)	406.9 196.9	0.1079 112.9 100.0	4.9374 [ 5.0000 ]	98.7%			
PFUnA	(563.0 / 519.0) 1365730 (563.0 / 169.0) 139955	(9.72, 1.00) (0.00, N/A, 0.1)	556.0 499.7	0.1025 118.0 100.0	5.3704 [ 5.0000 ]	107.4%			
PFDoA	(613.0 / 569.0) 1642828 (613.0 / 169.0) 192706	(9.90, 1.00) (0.00, N/A, -0.1)	939.2 381.1	0.1173 84.3 100.0	5.1630 [ 5.0000 ]	103.3%			
PFTrDA	(663.0 / 619.0) 1381698 (663.0 / 169.0) 294912	(10.02, 1.01) (N/A, 0.00, 0.2)	921.5 438.8	0.2134 104.3 100.0	5.0120 [ 5.0000 ]	100.2%			
PFTeDA	(713.0 / 669.0) 1182445 (713.0 / 169.0) 207970	(10.12, 1.00) (0.00, N/A, -0.2)	920.8 324.1	0.1759 86.5 100.0	4.8261 [ 5.0000 ]	96.5%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 1824397 (298.9 / 99.0) 1139616	(6.09, 1.00) (0.00, N/A, 0.0)	893.9 772.5	0.6247 101.5 100.0	4.7334 [ 4.4237 ]	107.0%			
PFPeS	(349.0 / 80.0) 3142368 (349.0 / 99.0) 1077724	(7.13, 0.89) (N/A, 0.00, 0.1)	637.6 758.7	0.3430 96.3 100.0	5.0812 [ 4.6919 ]	108.3%			
PFHxS	(399.0 / 80.0) 2572646 (399.0 / 99.0) 873924	(8.01, 1.00) (0.00, N/A, 0.0)	3488.4 15248.1	0.3397 101.1 100.0	4.7835 [ 4.5549 ]	105.0%			
PFHpS	(449.0 / 80.0) 2348191 (449.0 / 99.0) 652896	(8.78, 0.93) (N/A, 0.00, 0.1)	673.6 485.2	0.2780 101.6 100.0	5.0617 [ 4.7570 ]	106.4%			
PFOS	(499.0 / 80.0) 2739054 (499.0 / 99.0) 588080	(9.45, 1.00) (0.00, N/A, 0.0)	1078.5 128.0	0.2147 88.3 100.0	4.7463 [ 4.6375 ]	102.3%			
PFNS	(549.0 / 80.0) 3257558 (549.0 / 99.0) 813252	(9.77, 1.03) (N/A, 0.00, 0.3)	640.2 641.1	0.2497 102.3 100.0	5.0885 [ 4.7994 ]	106.0%			
PFDS	(599.0 / 80.0) 3939581 (599.0 / 99.0) 817304	(9.91, 1.05) (N/A, 0.00, 0.0)	1071.8 715.2	0.2075 92.2 100.0	5.5432 [ 4.8155 ]	115.1%			
PFDoS	(698.9 / 80.0) 1373285 (698.9 / 99.0) 340150	(10.11, 1.07) (N/A, 0.00, 0.2)	916.3 724.3	0.2477 101.2 100.0	4.6232 [ 4.8478 ]	95.4%			
4:2FTS	(327.0 / 307.0) 3294092 (327.0 / 81.0) 1699485	(5.80, 1.00) (0.00, N/A, 0.3)	772.7 625.3	0.5159 104.4 100.0	17.6821 [ 18.6906 ]	94.6%			
6:2FTS	(427.0 / 407.0) 2198841 (427.0 / 81.0) 1423593	(7.54, 1.00) (0.00, N/A, -0.2)	790.2 844.0	0.6474 83.2 100.0	19.8599 [ 18.9808 ]	104.6%			
8:2FTS	(527.0 / 507.0) 1659747 (527.0 / 81.0) 1333035	(8.97, 1.00) (0.00, N/A, 0.0)	433.2 579.9	0.8032 141.9 100.0	18.6047 [ 19.1658 ]	97.1%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 3757008 (498.0 / 478.0) 88096	(10.17, 1.00) (0.00, N/A, 0.0)	966.7 391.4	0.0234 112.5 100.0	5.6144 [ 5.0000 ]	112.3%			
NMeFOSA	(511.9 / 219.0) 2718517 (511.9 / 169.0) 1754469	(10.61, 1.00) (0.00, N/A, 0.1)	927.3 879.5	0.6454 89.6 100.0	19.6775 [ 20.0000 ]	98.4%			
NEIFOSA	(526.0 / 219.0) 3181045 (526.0 / 169.0) 3237653	(10.70, 1.00) (0.00, N/A, 0.0)	1649.6 1083.0	1.0178 96.2 100.0	23.3868 [ 20.0000 ]	116.9%			
NMeFOSAA	(570.0 / 419.0) 566827 (570.0 / 483.0) 273365	(9.51, 1.00) (0.00, N/A, 0.2)	401.3 402.1	0.4823 78.5 100.0	5.0086 [ 5.0000 ]	100.2%			
NEIFOSAA	(584.0 / 419.0) 469839 (584.0 / 526.0) 293059	(9.69, 1.00) (0.00, N/A, -0.2)	753.8 4474894.1	0.6237 85.1 100.0	4.6338 [ 5.0000 ]	92.7%			
NMeFOSE	(616.1 / 59.0) 584251	(10.58, 1.00) (0.01, N/A, 0.0)	1087.4	N/A 0.0 0.0	19.7387 [ 20.0000 ]	98.7%			
NEtFOSE	(630.0 / 59.0) 95675	(10.67, 1.00) (0.01, N/A, 0.0)	1067.8	N/A 0.0 0.0	17.0764 [ 20.0000 ]	85.4%			
HFPO-DA	(285.0 / 169.0) 891449 (285.0 / 185.0) 2553589	(6.48, 1.00) (0.00, N/A, 0.0)	931.6 831.9	2.8645 104.4 100.0	9.6538 [ 10.0000 ]	96.5%			
ADONA	(377.0 / 85.0) 3576160 (377.0 / 251.0) 495225	(7.39, 1.14) (N/A, 0.00, 0.0)	786.9 709.3	0.1385 111.2 100.0	8.7192 [ 9.4270 ]	92.5%			
9CI-Pf3ONS	(531.0 / 351.0) 9962731 (533.0 / 353.0) 3107279	(9.72, 1.50) (N/A, 0.00, 0.0)	754.9 645.0	0.3119 105.4 100.0	8.9314 [ 9.3325 ]	95.7%			
11CI-PF3OUDS	(631.0 / 451.0) 5699783 (633.0 / 453.0) 1604004	(10.00, 1.54) (N/A, 0.00, 0.0)	956.5 941.5	0.2814 85.1 100.0	9.9428 [ 9.4321 ]	105.4%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 100595 (241.0 / 117.0) 173210	(4.46, 0.90) (N/A, 0.00, 0.1)	815.2 529.5	1.7219 102.9 100.0	20.0147 [ 20.0000 ]	100.1%			
5:3FTCA	(341.0 / 236.7) 841775 (341.0 / 217.0) 1303653	(6.77, 1.10) (N/A, 0.00, 0.1)	549.8 534.2	1.5487 105.8 100.0	21.0284 [ 20.0000 ]	105.1%			
7:3FTCA	(441.0 / 317.0) 962716 (441.0 / 337.0) 780016	(8.59, 1.40) (N/A, 0.00, -0.1)	525.4 478.6	0.8102 96.7 100.0	20.9013 [ 20.0000 ]	104.5%			
PFEESA	(315.0 / 135.0) 2154534 (315.0 / 83.0) 641642	(6.59, 1.07) (N/A, 0.00, 0.2)	688.1 821.7	0.2978 97.0 100.0	8.6866 [ 8.9246 ]	97.3%			
PFMPA	(229.0 / 85.0) 414964	(4.17, 0.84) (N/A, 0.00, 0.0)	960.5	N/A 0.0 0.0	10.3821 [ 10.0000 ]	103.8%			
PFMBA	(279.0 / 85.0) 1334725	(5.36, 1.08) (N/A, 0.00, 0.0)	849.7	N/A 0.0 0.0	9.6612 [ 10.0000 ]	96.6%			
NFDHA	(295.0 / 201.0) 1199591 (295.0 / 85.0) 1116467	(6.01, 0.98) (N/A, 0.00, -0.1)	719.2 1027.9	0.9307 105.4 100.0	10.5013 [ 10.0000 ]	105.0%			
13C3_PFBA_IIS	(216.0 / 172.0) 163023	(3.67, N/A) (N/A, 0.00, N/A)	831.5	N/A	1.1712 [ 1.0000 ]	117.1% { 100.0% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 223496	(6.14, N/A) (N/A, 0.00, N/A)	655.8	N/A	0.9679 [ 1.0000 ]	96.8% { 100.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 243666	(7.89, N/A) (N/A, 0.00, N/A)	562.9	N/A	1.1083 [ 1.0000 ]	110.8% { 100.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 180309	(8.63, N/A) (N/A, 0.00, N/A)	459.4	N/A	0.9737 [ 1.0000 ]	97.4% { 100.0% }			

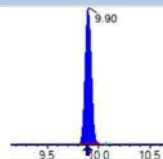
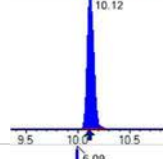
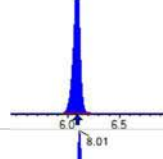
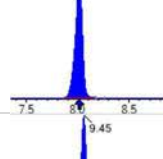
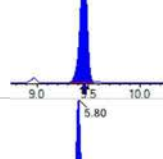
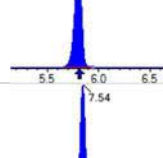
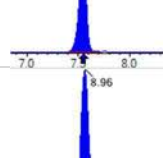
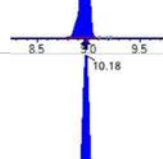
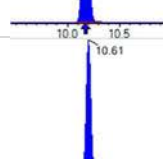
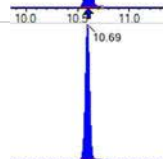
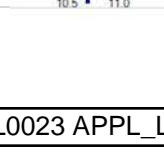


Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCV1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (3)  
 Acquired: 2022/12/21 - 17:11

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 199943	(9.31, N/A) (N/A, 0.00, N/A)	441.0	N/A	1.0819 [ 1.0000 ]	108.2% { 100.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 413657	(8.01, N/A) (N/A, 0.00, N/A)	842.9	N/A	1.0246 [ 1.0000 ]	102.5% { 100.0% }			
13C4_PFOS_IIS	(502.8 / 79.9) 337597	(9.45, N/A) (N/A, 0.00, N/A)	493.3	N/A	1.0577 [ 1.0000 ]	105.8% { 100.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1252106	(3.67, N/A) (N/A, 0.00, N/A)	952.6	N/A	7.4625 [ 8.0000 ]	93.3% { 100.0% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 663275	(4.97, N/A) (N/A, 0.00, N/A)	844.7	N/A	4.2653 [ 4.0000 ]	106.6% { 100.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 527577	(6.13, N/A) (N/A, 0.00, N/A)	712.5	N/A	2.0513 [ 2.0000 ]	102.6% { 100.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 465157	(7.07, N/A) (N/A, 0.00, N/A)	508.0	N/A	2.0732 [ 2.0000 ]	103.7% { 100.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 511118	(7.89, N/A) (N/A, 0.00, N/A)	831.0	N/A	1.9127 [ 2.0000 ]	95.6% { 100.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 183353	(8.63, N/A) (N/A, 0.00, N/A)	403.2	N/A	0.9248 [ 1.0000 ]	92.5% { 100.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 250483	(9.31, N/A) (N/A, 0.00, N/A)	434.8	N/A	0.8808 [ 1.0000 ]	88.1% { 100.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 321796	(9.72, N/A) (N/A, 0.00, N/A)	405.6	N/A	0.7956 [ 1.0000 ]	79.6% { 100.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 369097	(9.90, N/A) (N/A, 0.00, N/A)	437.6	N/A	0.9142 [ 1.0000 ]	91.4% { 100.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 276447	(10.12, N/A) (N/A, 0.00, N/A)	597.1	N/A	1.0311 [ 1.0000 ]	103.1% { 100.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1406036	(6.09, N/A) (N/A, 0.00, N/A)	764.6	N/A	2.0104 [ 2.0000 ]	100.5% { 100.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 692357	(8.01, N/A) (N/A, 0.00, N/A)	740.3	N/A	1.8606 [ 2.0000 ]	93.0% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1063346	(9.45, N/A) (N/A, 0.00, N/A)	269.2	N/A	1.8352 [ 2.0000 ]	91.8% { 100.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 225369	(5.80, N/A) (N/A, 0.00, N/A)	577.6	N/A	3.8045 [ 4.0000 ]	95.1% { 100.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 288039	(7.54, N/A) (N/A, 0.00, N/A)	698.3	N/A	4.0387 [ 4.0000 ]	101.0% { 100.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 225236	(8.96, N/A) (N/A, 0.00, N/A)	409.3	N/A	3.1548 [ 4.0000 ]	78.9% { 100.0% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1416106	(10.18, N/A) (N/A, 0.00, N/A)	844.7	N/A	1.9335 [ 2.0000 ]	96.7% { 100.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 338962	(10.61, N/A) (N/A, 0.00, N/A)	786.7	N/A	2.1197 [ 2.0000 ]	106.0% { 100.0% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 301588	(10.69, N/A) (N/A, 0.00, N/A)	831.9	N/A	2.0430 [ 2.0000 ]	102.2% { 100.0% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCV1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (3)  
 Acquired: 2022/12/21 - 17:11

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 580901	(9.50, N/A) (N/A, 0.00, N/A)	387.0	N/A	4.2162 [ 4.0000 ]	105.4% { 100.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 451752	(9.68, N/A) (N/A, 0.00, N/A)	396.3	N/A	3.7200 [ 4.0000 ]	93.0% { 100.0% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 469009	(10.57, N/A) (N/A, 0.00, N/A)	970.8	N/A	20.8883 [ 20.0000 ]	104.4% { 100.0% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 218847	(10.67, N/A) (N/A, 0.00, N/A)	1095.4	N/A	21.4097 [ 20.0000 ]	107.0% { 100.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1215395	(6.48, N/A) (N/A, 0.00, N/A)	894.4	N/A	8.8882 [ 8.0000 ]	111.1% { 100.0% }			



# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA 1633 SPLP

Laboratory: APPL, LLC  
 Client: AECOM  
 Instrument ID: Saphira  
 Standard ID: 22L0304

Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling  
 Calibration: 2252011  
 Sequence: SB03942

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SB03942-CCV2	PFBA	20.0	20.0	100	ng/mL	+/- 30.00%
	PFPEA	10.0	9.74	97.4	ng/mL	+/- 30.00%
	PFHXA	5.00	5.63	113	ng/mL	+/- 30.00%
	PFHPA	5.00	5.47	109	ng/mL	+/- 30.00%
	PFOA	5.00	4.56	91.2	ng/mL	+/- 30.00%
	PFNA	5.00	5.24	105	ng/mL	+/- 30.00%
	PFDA	5.00	4.81	96.1	ng/mL	+/- 30.00%
	PFUnA	5.00	5.43	109	ng/mL	+/- 30.00%
	PFDOA	5.00	4.52	90.4	ng/mL	+/- 30.00%
	PFTRDA	5.00	5.45	109	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.76	95.3	ng/mL	+/- 30.00%
	PFBS	4.42	4.43	100	ng/mL	+/- 30.00%
	PFPEs	4.70	4.68	99.6	ng/mL	+/- 30.00%
	PFHXS	4.58	4.33	94.6	ng/mL	+/- 30.00%
	PFHPS	4.78	4.89	102	ng/mL	+/- 30.00%
	PFOS	4.65	4.65	100	ng/mL	+/- 30.00%
	PFNS	4.80	4.74	98.7	ng/mL	+/- 30.00%
	PFDS	4.82	5.20	108	ng/mL	+/- 30.00%
	PFDOS	4.85	5.33	110	ng/mL	+/- 30.00%
	4:2FTS	18.8	16.8	89.5	ng/mL	+/- 30.00%
	6:2FTS	19.0	14.0	73.9	ng/mL	+/- 30.00%
	8:2FTS	19.2	16.7	86.7	ng/mL	+/- 30.00%
	PFOSA	5.00	4.62	92.4	ng/mL	+/- 30.00%
	NMeFOSA	20.0	21.3	107	ng/mL	+/- 30.00%
	NEtFOSA	20.0	21.3	107	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	5.20	104	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	5.18	104	ng/mL	+/- 30.00%
	NMeFOSE	20.0	19.8	99.0	ng/mL	+/- 30.00%
	NEtFOSE	20.0	16.6	83.1	ng/mL	+/- 30.00%
	HFPO-DA	10.0	10.1	101	ng/mL	+/- 30.00%

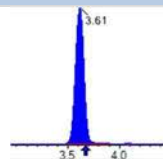
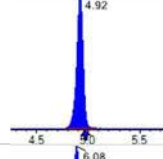
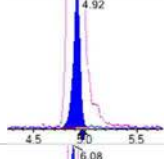
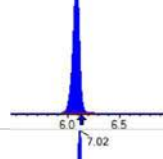
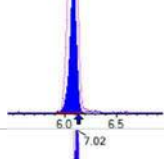
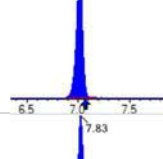
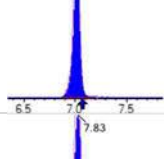
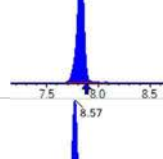
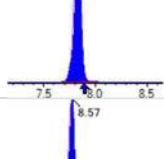
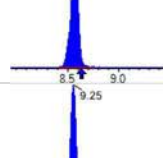
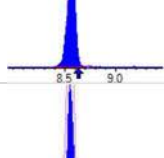
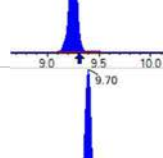
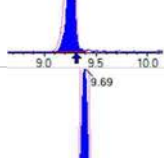
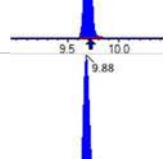
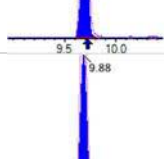
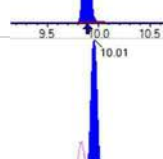
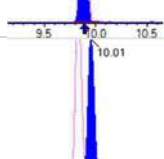
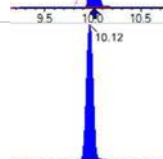
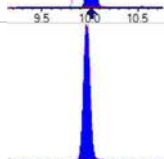
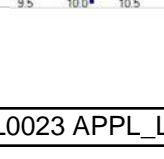
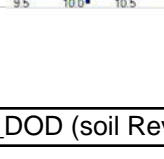
# INITIAL AND CONTINUING CALIBRATION CHECK

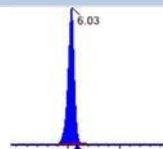
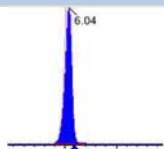
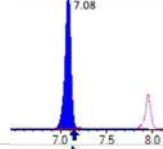
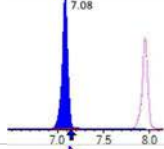
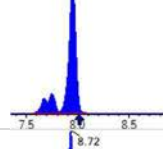
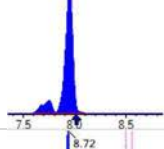
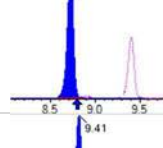
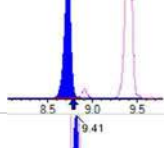
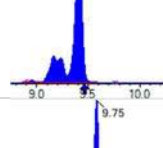
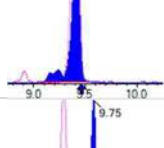
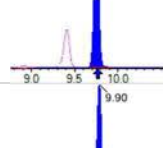
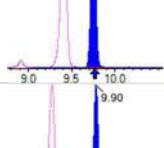
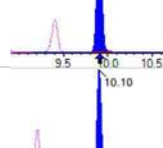
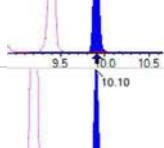
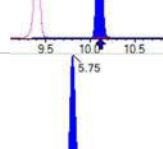
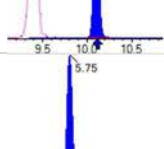
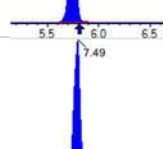
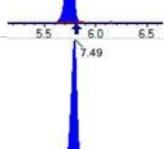
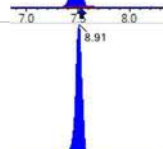
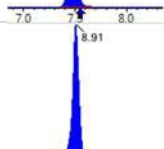

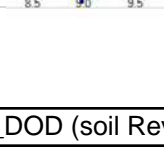
## EPA 1633 SPLP

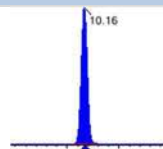
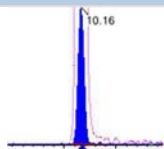
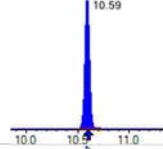
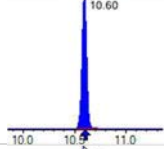
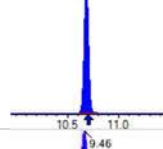
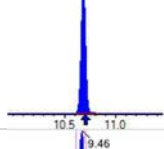
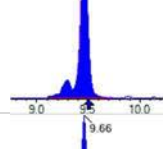
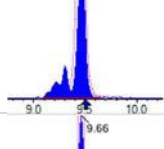
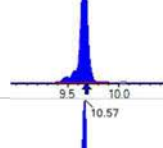
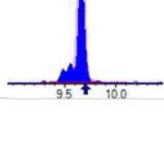
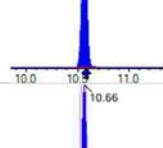
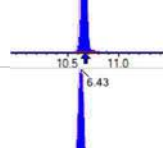
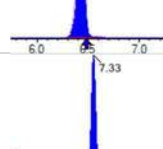
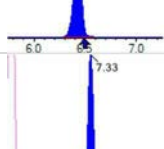
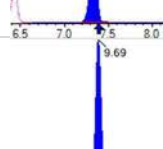
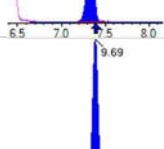
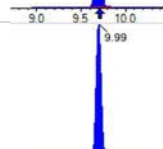
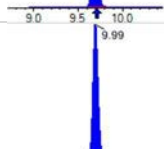
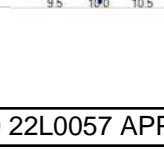
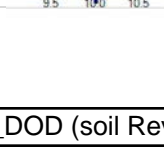
Laboratory: APPL, LLC  
 Client: AECOM  
 Instrument ID: Saphira  
 Standard ID: 22L0304

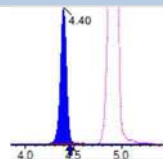
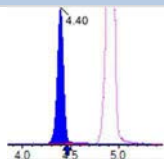
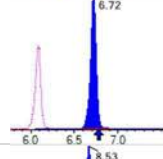
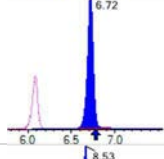
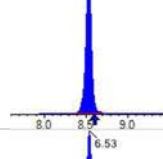
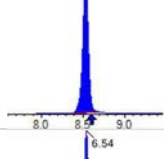
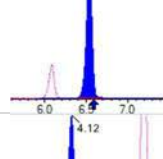
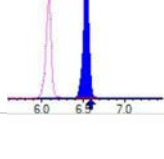
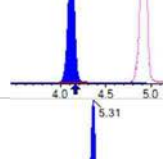
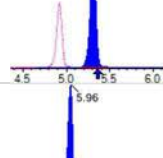
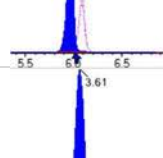
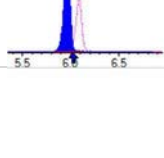
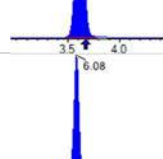
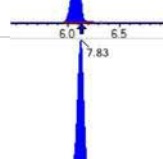
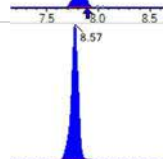

Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling  
 Calibration: 2252011  
 Sequence: SB03942

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SB03942-CCV2	ADONA	9.45	10.0	106	ng/mL	+/- 30.00%
	PFEESA	8.90	9.25	104	ng/mL	+/- 30.00%
	PFMPA	10.0	10.1	101	ng/mL	+/- 30.00%
	PFMBA	10.0	9.55	95.5	ng/mL	+/- 30.00%
	NFDHA	10.0	11.5	115	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	8.72	93.2	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	9.92	105	ng/mL	+/- 30.00%
	3:3FTCA	20.0	20.2	101	ng/mL	+/- 30.00%
	5:3FTCA	20.0	22.2	111	ng/mL	+/- 30.00%
	7:3FTCA	20.0	22.4	112	ng/mL	+/- 30.00%

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 2017426	(3.61, 1.00) (0.00, N/A, 0.0)	69.3	N/A 0.0 0.0	20.0459 [ 20.0000 ]	100.2%			
PFPeA	(262.9 / 219.0) 1426081 (262.9 / 69.0) 16916	(4.92, 1.00) (0.00, N/A, 0.0)	722.8 232.9	0.0119 106.0 102.3	9.7400 [ 10.0000 ]	97.4%			
PFHxA	(313.0 / 269.0) 1144606 (313.0 / 119.0) 114469	(6.08, 1.00) (0.00, N/A, 0.1)	466.0 402.5	0.1000 102.3 107.9	5.6298 [ 5.0000 ]	112.6%			
PFHpA	(363.0 / 319.0) 1120334 (363.0 / 169.0) 331709	(7.02, 1.00) (0.00, N/A, -0.1)	606.5 634.3	0.2961 95.1 95.0	5.4687 [ 5.0000 ]	109.4%			
PFOA	(413.0 / 369.0) 1093832 (413.0 / 169.0) 349631	(7.83, 1.00) (0.00, N/A, -0.1)	637.8 677.2	0.3196 97.8 97.2	4.5607 [ 5.0000 ]	91.2%			
PFNA	(463.0 / 419.0) 846774 (463.0 / 169.0) 172322	(8.57, 1.00) (0.00, N/A, -0.1)	546.4 107.7	0.2035 105.6 88.7	5.2440 [ 5.0000 ]	104.9%			
PFDA	(513.0 / 469.0) 1220682 (513.0 / 169.0) 112804	(9.25, 1.00) (0.00, N/A, 0.0)	457.4 287.0	0.0924 96.7 85.6	4.8057 [ 5.0000 ]	96.1%			
PFUnA	(563.0 / 519.0) 1470388 (563.0 / 169.0) 125268	(9.70, 1.00) (0.00, N/A, 0.3)	676.8 322.1	0.0852 98.1 83.1	5.4346 [ 5.0000 ]	108.7%			
PFDoA	(613.0 / 569.0) 1446202 (613.0 / 169.0) 223485	(9.88, 1.00) (0.00, N/A, -0.2)	812.5 546.7	0.1545 111.0 131.7	4.5204 [ 5.0000 ]	90.4%			
PFTrDA	(663.0 / 619.0) 1509502 (663.0 / 169.0) 294380	(10.01, 1.01) (N/A, -0.01, -0.1)	1057.7 533.9	0.1950 95.3 91.4	5.4458 [ 5.0000 ]	108.9%			
PFTeDA	(713.0 / 669.0) 1060074 (713.0 / 169.0) 224910	(10.12, 1.00) (0.00, N/A, 0.0)	666.3 519.4	0.2122 104.3 120.6	4.7629 [ 5.0000 ]	95.3%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 1711618 (298.9 / 99.0) 1049906	(6.03, 1.00) (0.00, N/A, -0.2)	743.7 554.1	0.6134 99.7 98.2	4.4310 [ 4.4237 ]	100.2%			
PFPeS	(349.0 / 80.0) 3145322 (349.0 / 99.0) 1105369	(7.08, 0.89) (N/A, -0.05, 0.0)	742.7 647.2	0.3514 98.7 102.5	4.6811 [ 4.6919 ]	99.8%			
PFHxS	(399.0 / 80.0) 2532441 (399.0 / 99.0) 868340	(7.95, 1.00) (0.00, N/A, 0.1)	2159.7 4129.2	0.3429 102.0 100.9	4.3338 [ 4.5549 ]	95.1%			
PFHpS	(449.0 / 80.0) 2308503 (449.0 / 99.0) 644897	(8.72, 0.93) (N/A, -0.06, 0.0)	726.5 606.0	0.2794 102.1 100.5	4.8906 [ 4.7570 ]	102.8%			
PFOS	(499.0 / 80.0) 2731592 (499.0 / 99.0) 597975	(9.41, 1.00) (0.00, N/A, -0.1)	562.3 106.4	0.2189 90.0 102.0	4.6519 [ 4.6375 ]	100.3%			
PFNS	(549.0 / 80.0) 3086171 (549.0 / 99.0) 772017	(9.75, 1.04) (N/A, -0.02, -0.1)	913.7 671.6	0.2502 102.5 100.2	4.7379 [ 4.7994 ]	98.7%			
PFDS	(599.0 / 80.0) 3761826 (599.0 / 99.0) 858464	(9.90, 1.05) (N/A, -0.01, 0.1)	674.6 875.7	0.2282 101.4 110.0	5.2021 [ 4.8155 ]	108.0%			
PFDoS	(698.9 / 80.0) 1611184 (698.9 / 99.0) 345131	(10.10, 1.07) (N/A, -0.01, 0.0)	909.4 914.1	0.2142 87.6 86.5	5.3308 [ 4.8478 ]	110.0%			
4:2FTS	(327.0 / 307.0) 3253889 (327.0 / 81.0) 2008258	(5.75, 1.00) (0.00, N/A, 0.0)	763.6 819.0	0.6172 124.9 119.6	16.8323 [ 18.6906 ]	90.1%			
6:2FTS	(427.0 / 407.0) 1738654 (427.0 / 81.0) 1399319	(7.49, 1.00) (0.00, N/A, 0.0)	737.3 736.5	0.8048 103.4 124.3	14.0459 [ 18.9808 ]	74.0%			
8:2FTS	(527.0 / 507.0) 1800269 (527.0 / 81.0) 1147665	(8.91, 1.00) (-0.01, N/A, 0.0)	472.9 635.4	0.6375 112.6 79.4	16.6517 [ 19.1658 ]	86.9%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 3295389 (498.0 / 478.0) 77127	(10.16, 1.00) (0.00, N/A, 0.1)	847.4 453.1	0.0234 112.3 99.8	4.6202 [ 5.0000 ]	92.4%			
NMeFOSA	(511.9 / 219.0) 2816208 (511.9 / 169.0) 1862577	(10.59, 1.00) (0.00, N/A, -0.1)	1064.3 1170.9	0.6614 91.8 102.5	21.3302 [ 20.0000 ]	106.7%			
NEIFOSA	(526.0 / 219.0) 2932044 (526.0 / 169.0) 2972822	(10.68, 1.00) (0.00, N/A, 0.0)	1105.0 1160.1	1.0139 95.9 99.6	21.3340 [ 20.0000 ]	106.7%			
NMeFOSAA	(570.0 / 419.0) 518953 (570.0 / 483.0) 243963	(9.46, 1.00) (0.00, N/A, -0.1)	373.5 313.1	0.4701 76.5 97.5	5.1966 [ 5.0000 ]	103.9%			
NEIFOSAA	(584.0 / 419.0) 487971 (584.0 / 526.0) 310756	(9.66, 1.00) (0.00, N/A, -0.1)	642.0 1559.6	0.6368 86.9 102.1	5.1844 [ 5.0000 ]	103.7%			
NMeFOSE	(616.1 / 59.0) 606096	(10.57, 1.00) (0.01, N/A, 0.0)	1258.4	N/A 0.0 0.0	19.7982 [ 20.0000 ]	99.0%			
NEtFOSE	(630.0 / 59.0) 85912	(10.66, 1.00) (0.01, N/A, 0.0)	791.9	N/A 0.0 0.0	16.6257 [ 20.0000 ]	83.1%			
HFPO-DA	(285.0 / 169.0) 878148 (285.0 / 185.0) 2511539	(6.43, 1.00) (0.00, N/A, 0.1)	722.2 853.5	2.8600 104.2 99.8	10.0580 [ 10.0000 ]	100.6%			
ADONA	(377.0 / 85.0) 3884854 (377.0 / 251.0) 470526	(7.33, 1.14) (N/A, -0.06, -0.1)	897.1 707.4	0.1211 97.3 87.5	10.0178 [ 9.4270 ]	106.3%			
9CI-Pf3ONS	(531.0 / 351.0) 9200810 (533.0 / 353.0) 2912345	(9.69, 1.51) (N/A, -0.02, 0.1)	703.1 936.1	0.3165 107.0 101.5	8.7162 [ 9.3325 ]	93.4%			
11CI-PF3OUDS	(631.0 / 451.0) 5378921 (633.0 / 453.0) 1576898	(9.99, 1.55) (N/A, -0.01, 0.1)	890.4 823.4	0.2932 88.6 104.2	9.9240 [ 9.4321 ]	105.2%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 102261 (241.0 / 117.0) 164901	(4.40, 0.89) (N/A, -0.06, 0.0)	578.4 533.9	1.6125 96.4 93.7	20.2372 [ 20.0000 ]	101.2%			
5:3FTCA	(341.0 / 236.7) 798790 (341.0 / 217.0) 1279814	(6.72, 1.10) (N/A, -0.05, 0.0)	627.3 605.9	1.6022 109.5 103.5	22.2351 [ 20.0000 ]	111.2%			
7:3FTCA	(441.0 / 317.0) 926553 (441.0 / 337.0) 773270	(8.53, 1.40) (N/A, -0.06, 0.0)	453.9 413.2	0.8346 99.7 103.0	22.4152 [ 20.0000 ]	112.1%			
PFEESA	(315.0 / 135.0) 2058385 (315.0 / 83.0) 633661	(6.53, 1.07) (N/A, -0.06, -0.1)	776.5 809.8	0.3078 100.3 103.4	9.2474 [ 8.9246 ]	103.6%			
PFMPA	(229.0 / 85.0) 405513	(4.12, 0.84) (N/A, -0.05, 0.0)	896.8	N/A 0.0 0.0	10.0913 [ 10.0000 ]	100.9%			
PFMBA	(279.0 / 85.0) 1326009	(5.31, 1.08) (N/A, -0.05, 0.0)	796.8	N/A 0.0 0.0	9.5467 [ 10.0000 ]	95.5%			
NFDHA	(295.0 / 201.0) 1174312 (295.0 / 85.0) 1042492	(5.96, 0.98) (N/A, -0.05, 0.1)	552.9 1001.0	0.8877 100.6 95.4	11.4548 [ 10.0000 ]	114.5%			
13C3_PFBA_IIS	(216.0 / 172.0) 150873	(3.61, N/A) (N/A, -0.05, N/A)	628.6	N/A	1.0839 [ 1.0000 ]	108.4% { 92.5% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 233705	(6.08, N/A) (N/A, -0.05, N/A)	523.5	N/A	1.0121 [ 1.0000 ]	101.2% { 104.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 232379	(7.83, N/A) (N/A, -0.06, N/A)	800.8	N/A	1.0570 [ 1.0000 ]	105.7% { 95.4% }			
13C5_PFNA_IIS	(468.0 / 423.0) 171234	(8.57, N/A) (N/A, -0.06, N/A)	445.8	N/A	0.9247 [ 1.0000 ]	92.5% { 95.0% }			

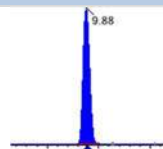
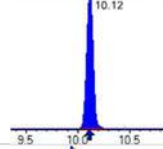
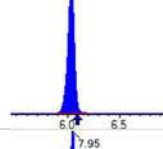
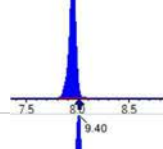
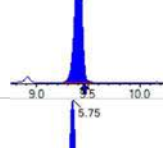
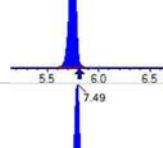
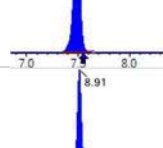
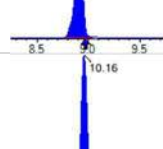
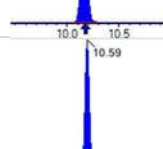
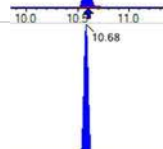
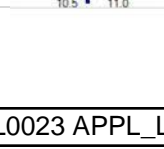


Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

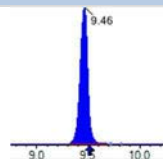
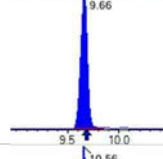
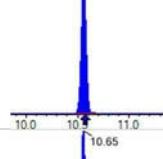
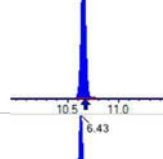
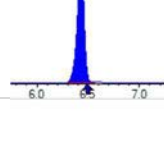
Sample I.D.: SB03942-CCV2  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (5)  
 Acquired: 2022/12/21 - 19:31

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 202021	(9.26, N/A) (N/A, -0.05, N/A)	339.3	N/A	1.0931 [ 1.0000 ]	109.3% { 101.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 444007	(7.95, N/A) (N/A, -0.06, N/A)	738.8	N/A	1.0998 [ 1.0000 ]	110.0% { 107.3% }			
13C4_PFOS_IIS	(502.8 / 79.9) 325821	(9.40, N/A) (N/A, -0.05, N/A)	513.5	N/A	1.0208 [ 1.0000 ]	102.1% { 96.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1234118	(3.61, N/A) (N/A, -0.05, N/A)	711.2	N/A	7.9476 [ 8.0000 ]	99.3% { 98.6% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 666844	(4.92, N/A) (N/A, -0.05, N/A)	766.0	N/A	4.1009 [ 4.0000 ]	102.5% { 100.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 473465	(6.08, N/A) (N/A, -0.05, N/A)	579.4	N/A	1.7605 [ 2.0000 ]	88.0% { 89.7% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 449491	(7.01, N/A) (N/A, -0.06, N/A)	473.8	N/A	1.9159 [ 2.0000 ]	95.8% { 96.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 487784	(7.83, N/A) (N/A, -0.06, N/A)	814.9	N/A	1.9141 [ 2.0000 ]	95.7% { 95.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 188185	(8.57, N/A) (N/A, -0.06, N/A)	326.4	N/A	0.9994 [ 1.0000 ]	99.9% { 102.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 266855	(9.25, N/A) (N/A, -0.06, N/A)	423.5	N/A	0.9288 [ 1.0000 ]	92.9% { 106.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 342361	(9.69, N/A) (N/A, -0.02, N/A)	727.9	N/A	0.8377 [ 1.0000 ]	83.8% { 106.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 371113	(9.88, N/A) (N/A, -0.02, N/A)	430.0	N/A	0.9098 [ 1.0000 ]	91.0% { 100.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 251129	(10.12, N/A) (N/A, 0.00, N/A)	544.0	N/A	0.9270 [ 1.0000 ]	92.7% { 90.8% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1409135	(6.03, N/A) (N/A, -0.05, N/A)	624.5	N/A	1.8771 [ 2.0000 ]	93.9% { 100.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 752242	(7.95, N/A) (N/A, -0.06, N/A)	938.0	N/A	1.8833 [ 2.0000 ]	94.2% { 108.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1081958	(9.40, N/A) (N/A, -0.05, N/A)	287.3	N/A	1.9349 [ 2.0000 ]	96.7% { 101.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 233857	(5.75, N/A) (N/A, -0.06, N/A)	790.2	N/A	3.6780 [ 4.0000 ]	91.9% { 103.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 322032	(7.49, N/A) (N/A, -0.05, N/A)	767.2	N/A	4.2067 [ 4.0000 ]	105.2% { 111.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 272960	(8.91, N/A) (N/A, -0.05, N/A)	368.3	N/A	3.5620 [ 4.0000 ]	89.0% { 121.2% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1509387	(10.16, N/A) (N/A, -0.02, N/A)	697.1	N/A	2.1354 [ 2.0000 ]	106.8% { 106.6% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 323936	(10.59, N/A) (N/A, -0.01, N/A)	952.0	N/A	2.0990 [ 2.0000 ]	104.9% { 95.6% }			
D5_NEtFOSA_EIS	(531.1 / 169.0) 304728	(10.68, N/A) (N/A, -0.01, N/A)	1027.3	N/A	2.1389 [ 2.0000 ]	106.9% { 101.0% }			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 512601	(9.46, N/A) (N/A, -0.04, N/A)	418.5	N/A	3.8550 [ 4.0000 ]	96.4% { 88.2% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 419361	(9.66, N/A) (N/A, -0.02, N/A)	391.0	N/A	3.5781 [ 4.0000 ]	89.5% { 92.8% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 485083	(10.56, N/A) (N/A, -0.01, N/A)	1206.1	N/A	22.3851 [ 20.0000 ]	111.9% { 103.4% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 201843	(10.65, N/A) (N/A, -0.01, N/A)	1636.9	N/A	20.4599 [ 20.0000 ]	102.3% { 92.2% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1149151	(6.43, N/A) (N/A, -0.05, N/A)	556.2	N/A	8.0366 [ 8.0000 ]	100.5% { 94.5% }			

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA 1633 SPLP

Laboratory: APPL, LLC  
 Client: AECOM  
 Instrument ID: Saphira  
 Standard ID: 22L0304

Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling  
 Calibration: 2252011  
 Sequence: SB03942

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SB03942-CCV3	PFBA	20.0	20.9	104	ng/mL	+/- 30.00%
	PFPEA	10.0	9.59	95.9	ng/mL	+/- 30.00%
	PFHXA	5.00	5.05	101	ng/mL	+/- 30.00%
	PFHPA	5.00	5.17	103	ng/mL	+/- 30.00%
	PFOA	5.00	4.69	93.8	ng/mL	+/- 30.00%
	PFNA	5.00	5.23	105	ng/mL	+/- 30.00%
	PFDA	5.00	4.94	98.8	ng/mL	+/- 30.00%
	PFUnA	5.00	5.17	103	ng/mL	+/- 30.00%
	PFDOA	5.00	5.12	102	ng/mL	+/- 30.00%
	PFTRDA	5.00	6.00	120	ng/mL	+/- 30.00%
	PFTEDA	5.00	5.07	101	ng/mL	+/- 30.00%
	PFBS	4.42	4.62	104	ng/mL	+/- 30.00%
	PFPEs	4.70	4.99	106	ng/mL	+/- 30.00%
	PFHXS	4.58	4.60	101	ng/mL	+/- 30.00%
	PFHPS	4.78	4.60	96.3	ng/mL	+/- 30.00%
	PFOS	4.65	4.63	99.5	ng/mL	+/- 30.00%
	PFNS	4.80	4.52	94.1	ng/mL	+/- 30.00%
	PFDS	4.82	4.76	98.8	ng/mL	+/- 30.00%
	PFDOS	4.85	4.69	96.7	ng/mL	+/- 30.00%
	4:2FTS	18.8	18.2	96.8	ng/mL	+/- 30.00%
	6:2FTS	19.0	20.3	107	ng/mL	+/- 30.00%
	8:2FTS	19.2	19.6	102	ng/mL	+/- 30.00%
	PFOSA	5.00	4.72	94.5	ng/mL	+/- 30.00%
	NMeFOSA	20.0	20.9	104	ng/mL	+/- 30.00%
	NEtFOSA	20.0	21.4	107	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	5.11	102	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	4.34	86.7	ng/mL	+/- 30.00%
	NMeFOSE	20.0	21.8	109	ng/mL	+/- 30.00%
	NEtFOSE	20.0	18.9	94.7	ng/mL	+/- 30.00%
	HFPO-DA	10.0	9.57	95.7	ng/mL	+/- 30.00%

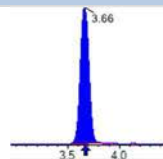
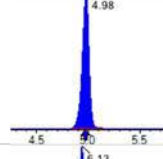
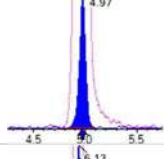
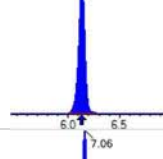
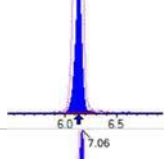
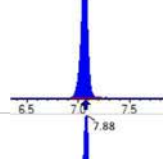
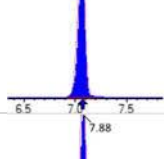
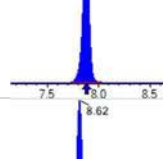
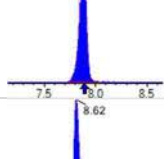
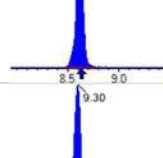
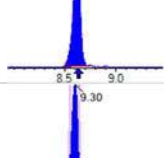
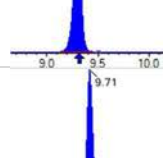
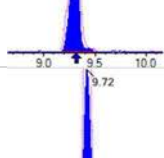
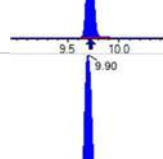
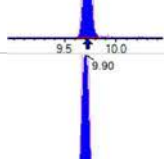
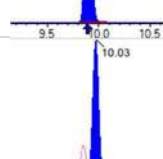
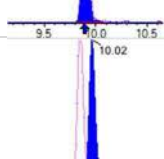
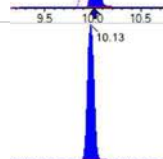
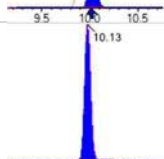
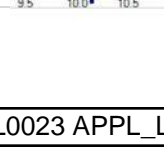
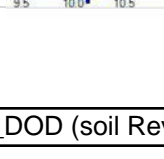
# INITIAL AND CONTINUING CALIBRATION CHECK

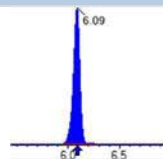
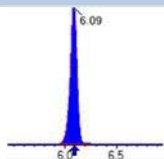
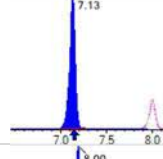
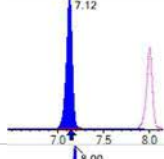
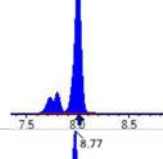
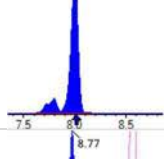
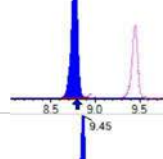
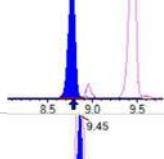
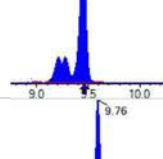
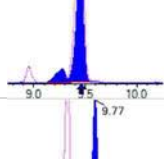
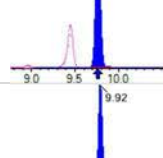
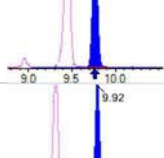
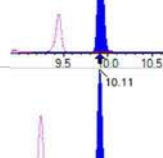
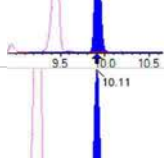
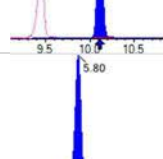
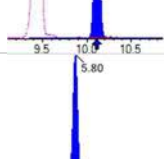
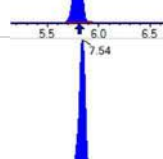
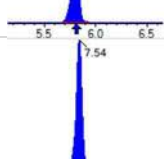
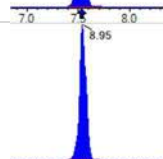
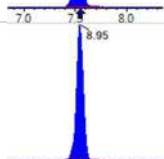
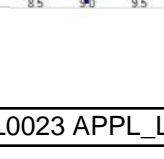
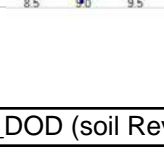
## EPA 1633 SPLP

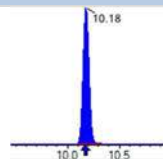
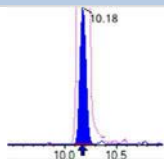
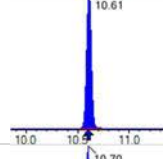
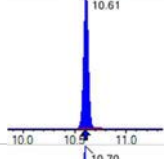
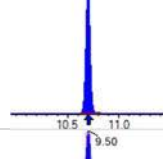
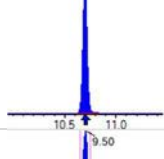
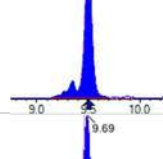
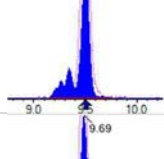
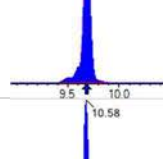
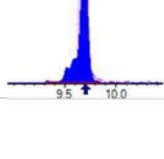
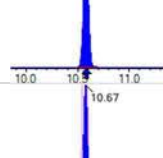
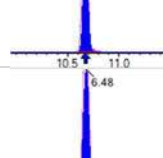
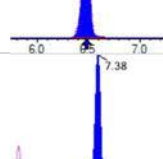
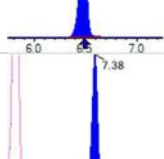
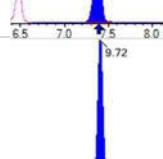
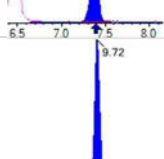
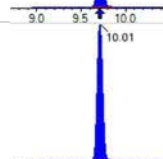
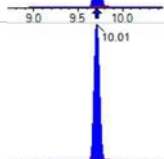
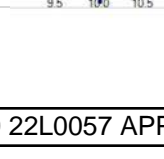
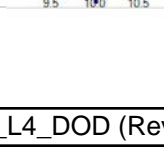
Laboratory: APPL, LLC  
 Client: AECOM  
 Instrument ID: Saphira  
 Standard ID: 22L0304

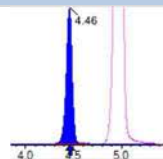
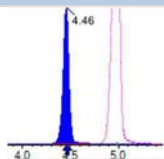
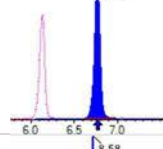
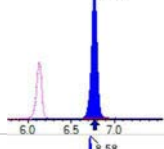
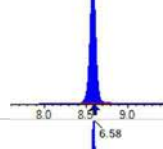
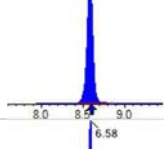
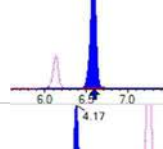
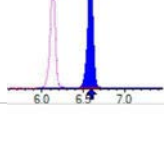
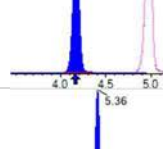
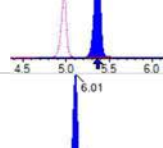
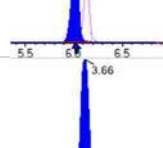
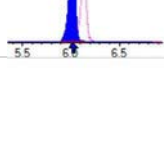
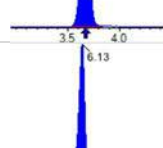
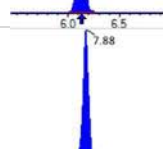
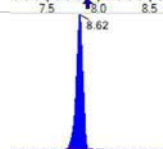

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 Project: Red Hill AFFF Assessment Sampling  
 Calibration: 2252011  
 Sequence: SB03942

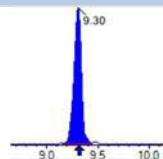
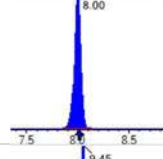
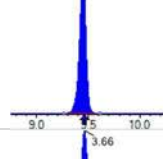
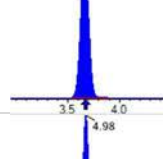
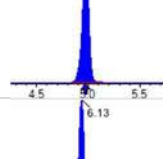
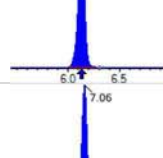
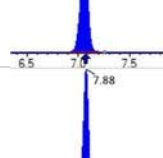
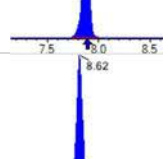
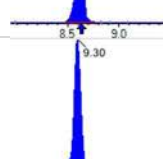
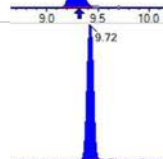
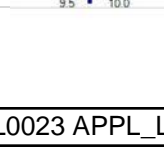
Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SB03942-CCV3	ADONA	9.45	9.33	98.7	ng/mL	+/- 30.00%
	PFEESA	8.90	8.89	99.9	ng/mL	+/- 30.00%
	PFMPA	10.0	10.1	101	ng/mL	+/- 30.00%
	PFMBA	10.0	10.1	101	ng/mL	+/- 30.00%
	NFDHA	10.0	10.2	102	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	8.80	94.1	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	9.93	105	ng/mL	+/- 30.00%
	3:3FTCA	20.0	20.6	103	ng/mL	+/- 30.00%
	5:3FTCA	20.0	19.0	95.0	ng/mL	+/- 30.00%
	7:3FTCA	20.0	19.2	96.2	ng/mL	+/- 30.00%

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 2024371	(3.66, 1.00) (0.00, N/A, 0.0)	69.0	N/A 0.0 0.0	20.8697 [ 20.0000 ]	104.3%			
PFPeA	(262.9 / 219.0) 1408714 (262.9 / 69.0) 16873	(4.98, 1.00) (0.00, N/A, 0.1)	664.6 351.2	0.0120 107.0 103.3	9.5910 [ 10.0000 ]	95.9%			
PFHxA	(313.0 / 269.0) 1187923 (313.0 / 119.0) 112819	(6.13, 1.00) (0.00, N/A, 0.1)	745.3 407.4	0.0950 97.1 102.4	5.0528 [ 5.0000 ]	101.1%			
PFHpA	(363.0 / 319.0) 1078927 (363.0 / 169.0) 303317	(7.06, 1.00) (0.00, N/A, -0.1)	500.9 704.0	0.2811 90.3 90.2	5.1659 [ 5.0000 ]	103.3%			
PFOA	(413.0 / 369.0) 1216771 (413.0 / 169.0) 380964	(7.88, 1.00) (0.00, N/A, -0.1)	724.5 745.4	0.3131 95.8 95.2	4.6880 [ 5.0000 ]	93.8%			
PFNA	(463.0 / 419.0) 897043 (463.0 / 169.0) 178918	(8.62, 1.00) (0.00, N/A, 0.0)	573.7 105.8	0.1995 103.5 86.9	5.2298 [ 5.0000 ]	104.6%			
PFDA	(513.0 / 469.0) 1154457 (513.0 / 169.0) 106550	(9.30, 1.00) (0.00, N/A, -0.1)	449.3 296.8	0.0923 96.6 85.5	4.9417 [ 5.0000 ]	98.8%			
PFUnA	(563.0 / 519.0) 1367164 (563.0 / 169.0) 137059	(9.71, 1.00) (0.00, N/A, -0.2)	685.2 385.3	0.1003 115.4 97.8	5.1726 [ 5.0000 ]	103.5%			
PFDoA	(613.0 / 569.0) 1602794 (613.0 / 169.0) 220504	(9.90, 1.00) (0.00, N/A, -0.2)	556.5 362.4	0.1376 98.8 117.3	5.1225 [ 5.0000 ]	102.5%			
PFTrDA	(663.0 / 619.0) 1625924 (663.0 / 169.0) 336854	(10.03, 1.01) (N/A, 0.01, 0.4)	860.6 619.0	0.2072 101.2 97.1	5.9977 [ 5.0000 ]	120.0%			
PFTeDA	(713.0 / 669.0) 1163954 (713.0 / 169.0) 215666	(10.13, 1.00) (0.00, N/A, 0.2)	855.5 470.4	0.1853 91.1 105.3	5.0748 [ 5.0000 ]	101.5%			

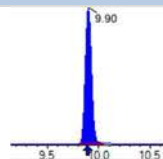
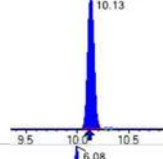
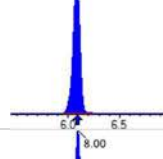
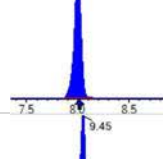
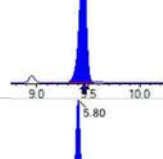
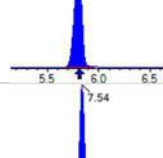
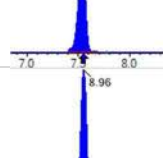
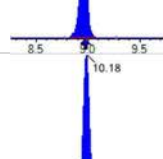
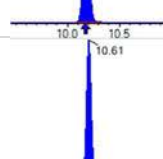
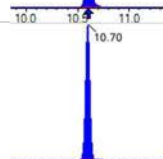
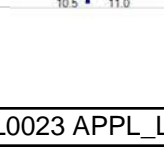
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 1723252 (298.9 / 99.0) 1138756	(6.09, 1.00) (0.00, N/A, 0.0)	522.0 605.4	0.6608 107.4 105.8	4.6174 [ 4.4237 ]	104.4%			
PFPeS	(349.0 / 80.0) 3144976 (349.0 / 99.0) 1156696	(7.13, 0.89) (N/A, -0.01, 0.1)	768.0 829.7	0.3678 103.3 107.2	4.9937 [ 4.6919 ]	106.4%			
PFHxS	(399.0 / 80.0) 2521385 (399.0 / 99.0) 834423	(8.00, 1.00) (0.00, N/A, 0.2)	3080.8 5757.6	0.3309 98.5 97.4	4.6036 [ 4.5549 ]	101.1%			
PFHpS	(449.0 / 80.0) 2289006 (449.0 / 99.0) 609963	(8.77, 0.93) (N/A, -0.02, 0.1)	541.0 507.1	0.2665 97.4 95.8	4.6040 [ 4.7570 ]	96.8%			
PFOS	(499.0 / 80.0) 2862914 (499.0 / 99.0) 580951	(9.45, 1.00) (0.00, N/A, 0.0)	919.8 143.7	0.2029 83.4 94.5	4.6290 [ 4.6375 ]	99.8%			
PFNS	(549.0 / 80.0) 3099939 (549.0 / 99.0) 788682	(9.76, 1.03) (N/A, 0.00, -0.1)	1043.7 633.7	0.2544 104.3 101.9	4.5184 [ 4.7994 ]	94.1%			
PFDS	(599.0 / 80.0) 3626423 (599.0 / 99.0) 902954	(9.92, 1.05) (N/A, 0.00, 0.0)	482.0 932.7	0.2490 110.6 120.0	4.7612 [ 4.8155 ]	98.9%			
PFDoS	(698.9 / 80.0) 1492426 (698.9 / 99.0) 332787	(10.11, 1.07) (N/A, 0.00, -0.1)	819.2 647.3	0.2230 91.1 90.0	4.6882 [ 4.8478 ]	96.7%			
4:2FTS	(327.0 / 307.0) 3413470 (327.0 / 81.0) 2140473	(5.80, 1.00) (0.00, N/A, -0.1)	849.6 1001.4	0.6271 126.9 121.5	18.2013 [ 18.6906 ]	97.4%			
6:2FTS	(427.0 / 407.0) 1953704 (427.0 / 81.0) 1369895	(7.54, 1.00) (0.00, N/A, 0.1)	642.7 666.3	0.7012 90.1 108.3	20.3340 [ 18.9808 ]	107.1%			
8:2FTS	(527.0 / 507.0) 1907864 (527.0 / 81.0) 1192967	(8.95, 1.00) (-0.01, N/A, -0.1)	540.3 687.8	0.6253 110.5 77.9	19.6307 [ 19.1658 ]	102.4%			

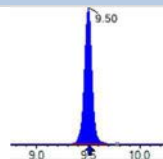
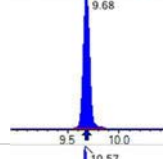
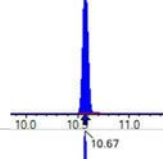
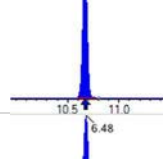
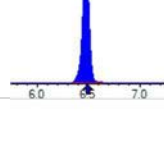
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 3321950 (498.0 / 478.0) 65847	(10.18, 1.00) (0.00, N/A, 0.0)	993.0 317.1	0.0198 95.1 84.5	4.7231 [ 5.0000 ]	94.5%			
NMeFOSA	(511.9 / 219.0) 2689187 (511.9 / 169.0) 1827560	(10.61, 1.00) (0.00, N/A, -0.1)	768.2 747.4	0.6796 94.4 105.3	20.8590 [ 20.0000 ]	104.3%			
NEIFOSA	(526.0 / 219.0) 3132422 (526.0 / 169.0) 3211344	(10.70, 1.00) (0.00, N/A, 0.0)	1469.4 1335.0	1.0252 96.9 100.7	21.3715 [ 20.0000 ]	106.9%			
NMeFOSAA	(570.0 / 419.0) 518787 (570.0 / 483.0) 249491	(9.50, 1.00) (0.00, N/A, 0.0)	325.1 318.0	0.4809 78.2 99.7	5.1129 [ 5.0000 ]	102.3%			
NEIFOSAA	(584.0 / 419.0) 494635 (584.0 / 526.0) 285740	(9.69, 1.00) (0.01, N/A, 0.0)	1064.9 1109.4	0.5777 78.8 92.6	4.3372 [ 5.0000 ]	86.7%			
NMeFOSE	(616.1 / 59.0) 664365	(10.58, 1.00) (0.01, N/A, 0.0)	967.1	N/A 0.0 0.0	21.8478 [ 20.0000 ]	109.2%			
NEtFOSE	(630.0 / 59.0) 117244	(10.67, 1.00) (0.00, N/A, 0.0)	1278.0	N/A 0.0 0.0	18.9325 [ 20.0000 ]	94.7%			
HFPO-DA	(285.0 / 169.0) 882586 (285.0 / 185.0) 2449499	(6.48, 1.00) (0.00, N/A, 0.1)	635.1 1011.7	2.7754 101.1 96.9	9.5697 [ 10.0000 ]	95.7%			
ADONA	(377.0 / 85.0) 3820199 (377.0 / 251.0) 454642	(7.38, 1.14) (N/A, -0.01, 0.0)	809.7 594.3	0.1190 95.6 85.9	9.3257 [ 9.4270 ]	98.9%			
9CI-Pf3ONS	(531.0 / 351.0) 9805062 (533.0 / 353.0) 3278869	(9.72, 1.50) (N/A, 0.00, 0.1)	869.1 1165.8	0.3344 113.0 107.2	8.7961 [ 9.3325 ]	94.3%			
11CI-PF3OUDS	(631.0 / 451.0) 5685188 (633.0 / 453.0) 1703843	(10.01, 1.55) (N/A, 0.00, 0.1)	1001.6 996.6	0.2997 90.6 106.5	9.9297 [ 9.4321 ]	105.3%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 104259 (241.0 / 117.0) 174388	(4.46, 0.90) (N/A, 0.00, 0.1)	668.4 551.6	1.6726 100.0 97.1	20.5674 [ 20.0000 ]	102.8%			
5:3FTCA	(341.0 / 236.7) 788942 (341.0 / 217.0) 1318809	(6.77, 1.10) (N/A, 0.00, -0.1)	487.0 724.6	1.6716 114.2 107.9	18.9913 [ 20.0000 ]	95.0%			
7:3FTCA	(441.0 / 317.0) 919770 (441.0 / 337.0) 748947	(8.58, 1.40) (N/A, -0.01, -0.1)	510.5 506.4	0.8143 97.2 100.5	19.2421 [ 20.0000 ]	96.2%			
PFEESA	(315.0 / 135.0) 2288494 (315.0 / 83.0) 685799	(6.58, 1.07) (N/A, -0.01, -0.1)	812.5 917.0	0.2997 97.6 100.6	8.8909 [ 8.9246 ]	99.6%			
PFMPA	(229.0 / 85.0) 405609	(4.17, 0.84) (N/A, 0.00, 0.0)	889.6	N/A 0.0 0.0	10.0618 [ 10.0000 ]	100.6%			
PFMBA	(279.0 / 85.0) 1402899	(5.36, 1.08) (N/A, 0.00, 0.0)	908.6	N/A 0.0 0.0	10.0684 [ 10.0000 ]	100.7%			
NFDHA	(295.0 / 201.0) 1209280 (295.0 / 85.0) 1064405	(6.01, 0.98) (N/A, 0.00, 0.0)	585.4 1017.5	0.8802 99.7 94.6	10.2008 [ 10.0000 ]	102.0%			
13C3_PFBA_IIS	(216.0 / 172.0) 153011	(3.66, N/A) (N/A, 0.00, N/A)	655.4	N/A	1.0993 [ 1.0000 ]	109.9% { 93.9% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 236169	(6.13, N/A) (N/A, 0.00, N/A)	716.6	N/A	1.0227 [ 1.0000 ]	102.3% { 105.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 226242	(7.88, N/A) (N/A, -0.01, N/A)	921.7	N/A	1.0291 [ 1.0000 ]	102.9% { 92.8% }			
13C5_PFNA_IIS	(468.0 / 423.0) 189838	(8.62, N/A) (N/A, -0.01, N/A)	333.2	N/A	1.0251 [ 1.0000 ]	102.5% { 105.3% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 191280	(9.30, N/A) (N/A, -0.01, N/A)	225.9	N/A	1.0350 [ 1.0000 ]	103.5% { 95.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 443899	(8.00, N/A) (N/A, -0.01, N/A)	793.0	N/A	1.0995 [ 1.0000 ]	110.0% { 107.3% }			
13C4_PFOS_IIS	(502.8 / 79.9) 316540	(9.45, N/A) (N/A, -0.01, N/A)	445.3	N/A	0.9917 [ 1.0000 ]	99.2% { 93.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1189485	(3.66, N/A) (N/A, 0.00, N/A)	804.1	N/A	7.5532 [ 8.0000 ]	94.4% { 95.0% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 668957	(4.98, N/A) (N/A, 0.00, N/A)	691.6	N/A	4.0710 [ 4.0000 ]	101.8% { 100.9% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 547502	(6.13, N/A) (N/A, 0.00, N/A)	538.5	N/A	2.0145 [ 2.0000 ]	100.7% { 103.8% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 458249	(7.06, N/A) (N/A, -0.01, N/A)	546.7	N/A	1.9328 [ 2.0000 ]	96.6% { 98.5% }			
13C8_PFOA_EIS	(421.0 / 376.0) 527878	(7.88, N/A) (N/A, -0.01, N/A)	784.2	N/A	2.1276 [ 2.0000 ]	106.4% { 103.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 199895	(8.62, N/A) (N/A, -0.02, N/A)	584.6	N/A	0.9576 [ 1.0000 ]	95.8% { 109.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 245433	(9.30, N/A) (N/A, -0.01, N/A)	332.6	N/A	0.9022 [ 1.0000 ]	90.2% { 98.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 334447	(9.72, N/A) (N/A, 0.00, N/A)	335.9	N/A	0.8643 [ 1.0000 ]	86.4% { 103.9% }			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 362950	(9.90, N/A) (N/A, 0.00, N/A)	618.7	N/A	0.9397 [ 1.0000 ]	94.0% { 98.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 258790	(10.13, N/A) (N/A, 0.01, N/A)	415.1	N/A	1.0089 [ 1.0000 ]	100.9% { 93.6% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1361464	(6.08, N/A) (N/A, 0.00, N/A)	761.7	N/A	1.8140 [ 2.0000 ]	90.7% { 96.8% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 705070	(8.00, N/A) (N/A, -0.01, N/A)	903.4	N/A	1.7657 [ 2.0000 ]	88.3% { 101.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1139581	(9.45, N/A) (N/A, -0.01, N/A)	260.2	N/A	2.0977 [ 2.0000 ]	104.9% { 107.2% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 226874	(5.80, N/A) (N/A, 0.00, N/A)	566.6	N/A	3.5690 [ 4.0000 ]	89.2% { 100.7% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 249960	(7.54, N/A) (N/A, -0.01, N/A)	664.2	N/A	3.2661 [ 4.0000 ]	81.7% { 86.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 245375	(8.96, N/A) (N/A, 0.00, N/A)	512.5	N/A	3.2028 [ 4.0000 ]	80.1% { 108.9% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1488424	(10.18, N/A) (N/A, 0.00, N/A)	783.7	N/A	2.1675 [ 2.0000 ]	108.4% { 105.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 316314	(10.61, N/A) (N/A, 0.00, N/A)	919.5	N/A	2.1097 [ 2.0000 ]	105.5% { 93.3% }			
D5_NEtFOSA_EIS	(531.1 / 169.0) 324982	(10.70, N/A) (N/A, 0.00, N/A)	592.9	N/A	2.3480 [ 2.0000 ]	117.4% { 107.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 520823	(9.50, N/A) (N/A, -0.01, N/A)	373.5	N/A	4.0316 [ 4.0000 ]	100.8% { 89.7% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 508120	(9.68, N/A) (N/A, 0.00, N/A)	287.2	N/A	4.4625 [ 4.0000 ]	111.6% { 112.5% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 481835	(10.57, N/A) (N/A, 0.00, N/A)	1331.1	N/A	22.8871 [ 20.0000 ]	114.4% { 102.7% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 241891	(10.67, N/A) (N/A, 0.00, N/A)	1648.9	N/A	25.2384 [ 20.0000 ]	126.2% { 110.5% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1213887	(6.48, N/A) (N/A, -0.01, N/A)	890.9	N/A	8.4008 [ 8.0000 ]	105.0% { 99.9% }			

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA 1633 SPLP

Laboratory: APPL, LLC  
 Client: AECOM  
 Instrument ID: Saphira  
 Standard ID: 22L0304

Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling  
 Calibration: 2252011  
 Sequence: SB03942

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SB03942-CCV4	PFBA	20.0	20.5	103	ng/mL	+/- 30.00%
	PFPEA	10.0	9.89	98.9	ng/mL	+/- 30.00%
	PFHXA	5.00	5.00	100	ng/mL	+/- 30.00%
	PFHPA	5.00	5.95	119	ng/mL	+/- 30.00%
	PFOA	5.00	4.87	97.4	ng/mL	+/- 30.00%
	PFNA	5.00	4.90	98.0	ng/mL	+/- 30.00%
	PFDA	5.00	4.61	92.2	ng/mL	+/- 30.00%
	PFUnA	5.00	5.25	105	ng/mL	+/- 30.00%
	PFDOA	5.00	4.57	91.4	ng/mL	+/- 30.00%
	PFTRDA	5.00	4.92	98.4	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.79	95.7	ng/mL	+/- 30.00%
	PFBS	4.42	4.35	98.5	ng/mL	+/- 30.00%
	PFPEs	4.70	4.88	104	ng/mL	+/- 30.00%
	PFHXS	4.58	4.45	97.1	ng/mL	+/- 30.00%
	PFHPS	4.78	4.77	99.9	ng/mL	+/- 30.00%
	PFOS	4.65	4.18	89.9	ng/mL	+/- 30.00%
	PFNS	4.80	4.35	90.7	ng/mL	+/- 30.00%
	PFDS	4.82	4.26	88.4	ng/mL	+/- 30.00%
	PFDOS	4.85	4.24	87.5	ng/mL	+/- 30.00%
	4:2FTS	18.8	18.0	96.0	ng/mL	+/- 30.00%
	6:2FTS	19.0	19.5	103	ng/mL	+/- 30.00%
	8:2FTS	19.2	21.0	109	ng/mL	+/- 30.00%
	PFOSA	5.00	5.35	107	ng/mL	+/- 30.00%
	NMeFOSA	20.0	21.6	108	ng/mL	+/- 30.00%
	NEtFOSA	20.0	21.6	108	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	5.41	108	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	4.70	94.1	ng/mL	+/- 30.00%
	NMeFOSE	20.0	21.9	110	ng/mL	+/- 30.00%
	NEtFOSE	20.0	20.2	101	ng/mL	+/- 30.00%
	HFPO-DA	10.0	9.92	99.2	ng/mL	+/- 30.00%

# INITIAL AND CONTINUING CALIBRATION CHECK

## EPA 1633 SPLP

Laboratory: APPL, LLC  
 Client: AECOM  
 Instrument ID: Saphira  
 Standard ID: 22L0304

Work Order: 22L0023  
 Project: Red Hill AFFF Assessment Sampling  
 Calibration: 2252011  
 Sequence: SB03942

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SB03942-CCV4	ADONA	9.45	9.41	99.5	ng/mL	+/- 30.00%
	PFEESA	8.90	8.51	95.6	ng/mL	+/- 30.00%
	PFMPA	10.0	10.0	100	ng/mL	+/- 30.00%
	PFMBA	10.0	9.77	97.7	ng/mL	+/- 30.00%
	NFDHA	10.0	9.60	96.0	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	9.41	101	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	9.84	104	ng/mL	+/- 30.00%
	3:3FTCA	20.0	20.8	104	ng/mL	+/- 30.00%
	5:3FTCA	20.0	19.1	95.5	ng/mL	+/- 30.00%
	7:3FTCA	20.0	19.8	99.0	ng/mL	+/- 30.00%

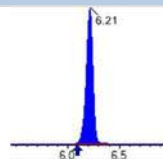
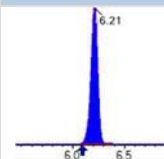
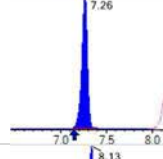
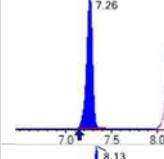
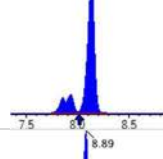
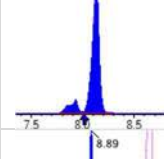
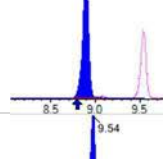
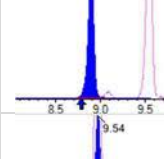
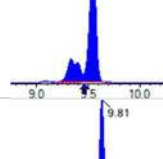
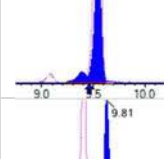
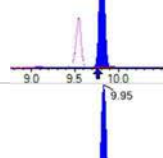
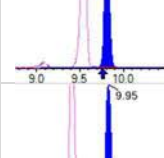
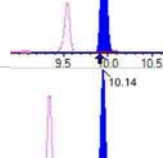
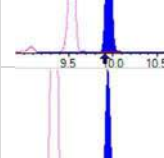
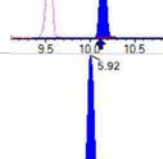
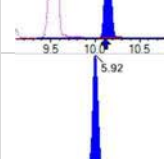
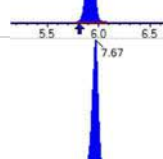
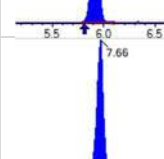
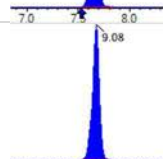
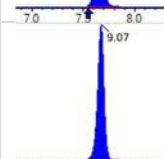
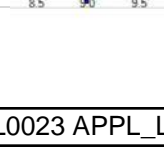
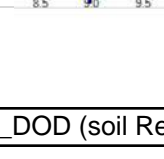


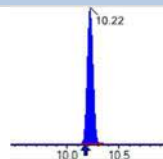
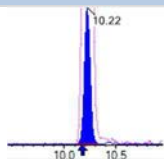
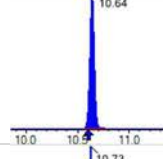
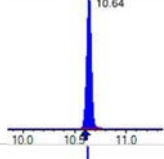
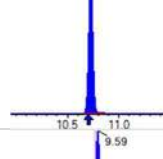
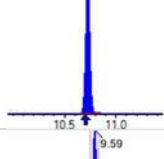
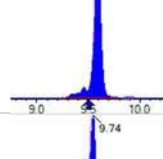
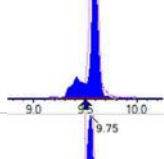
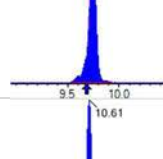
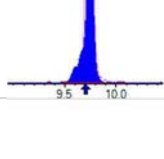
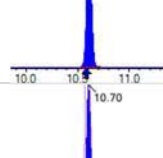
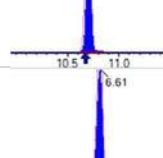
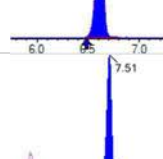
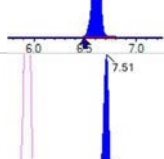
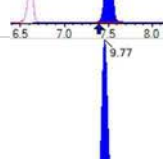
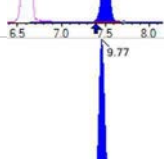
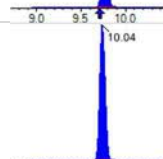
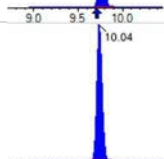
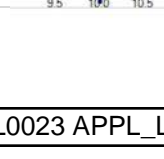
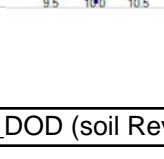
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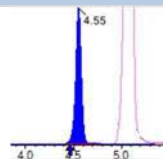
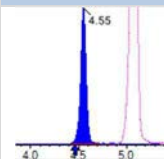
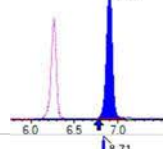
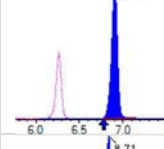
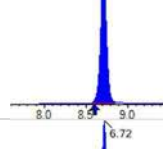
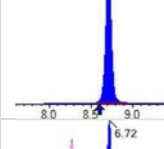
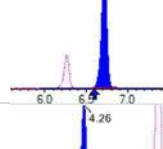
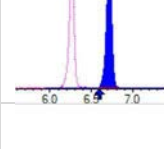
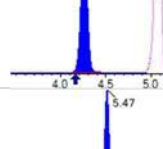
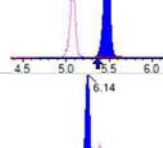
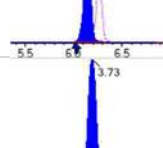
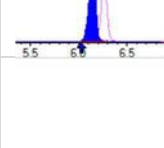
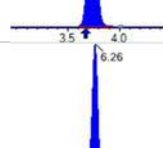
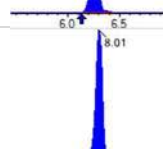
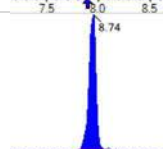

Sample I.D.: SB03942-CCV4  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (40)  
 Acquired: 2022/12/22 - 03:21

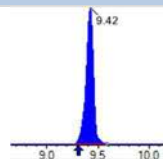
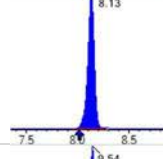
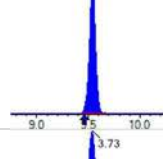
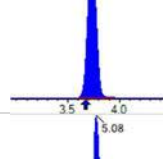
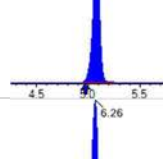
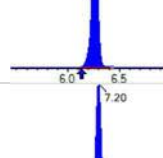
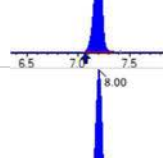
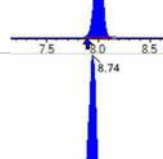
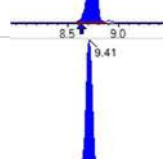
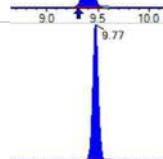
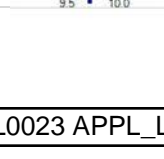
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 2046471	(3.73, 1.00) (0.00, N/A, 0.0)	76.6	N/A 0.0 0.0	20.5114 [ 20.0000 ]	102.6%			
PFPeA	(262.9 / 219.0) 1379976 (262.9 / 69.0) 15523	(5.08, 1.00) (0.00, N/A, 0.0)	847.7 278.3	0.0112 100.5 97.0	9.8896 [ 10.0000 ]	98.9%			
PFHxA	(313.0 / 269.0) 1147750 (313.0 / 119.0) 97584	(6.26, 1.00) (0.00, N/A, 0.1)	569.7 565.1	0.0850 87.0 91.7	5.0043 [ 5.0000 ]	100.1%			
PFHpA	(363.0 / 319.0) 1163134 (363.0 / 169.0) 313887	(7.20, 1.00) (0.00, N/A, 0.3)	596.5 513.2	0.2699 86.6 86.5	5.9482 [ 5.0000 ]	119.0%			
PFOA	(413.0 / 369.0) 1145932 (413.0 / 169.0) 388825	(8.01, 1.00) (0.00, N/A, 0.0)	622.0 715.9	0.3393 103.8 103.1	4.8722 [ 5.0000 ]	97.4%			
PFNA	(463.0 / 419.0) 865815 (463.0 / 169.0) 196083	(8.74, 1.00) (0.00, N/A, -0.1)	469.2 133.1	0.2265 117.5 98.7	4.8975 [ 5.0000 ]	98.0%			
PFDA	(513.0 / 469.0) 1316618 (513.0 / 169.0) 128093	(9.42, 1.00) (0.00, N/A, -0.1)	471.7 286.4	0.0973 101.8 90.1	4.6100 [ 5.0000 ]	92.2%			
PFUnA	(563.0 / 519.0) 1540520 (563.0 / 169.0) 150400	(9.77, 1.00) (0.00, N/A, 0.2)	1015.4 372.9	0.0976 112.4 95.3	5.2463 [ 5.0000 ]	104.9%			
PFDoA	(613.0 / 569.0) 1678553 (613.0 / 169.0) 218191	(9.94, 1.00) (0.00, N/A, 0.1)	875.4 412.0	0.1300 93.4 110.8	4.5695 [ 5.0000 ]	91.4%			
PFTrDA	(663.0 / 619.0) 1565486 (663.0 / 169.0) 321054	(10.05, 1.01) (N/A, 0.03, -0.3)	1117.1 552.0	0.2051 100.2 96.1	4.9188 [ 5.0000 ]	98.4%			
PFTeDA	(713.0 / 669.0) 1214126 (713.0 / 169.0) 255040	(10.16, 1.00) (0.00, N/A, 0.1)	757.6 542.2	0.2101 103.3 119.4	4.7864 [ 5.0000 ]	95.7%			

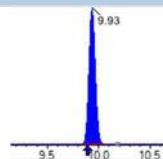
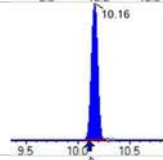
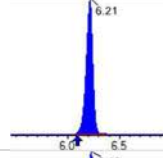
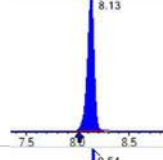
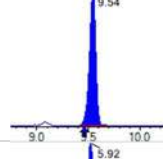
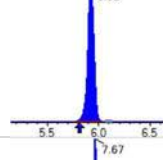
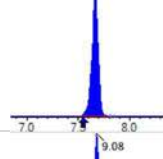
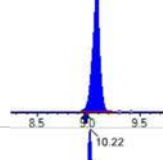
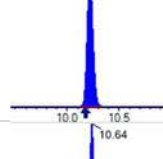
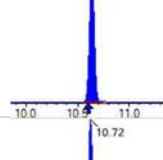
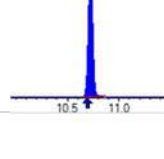
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 1547492 (298.9 / 99.0) 1058828	(6.21, 1.00) (0.00, N/A, 0.2)	669.6 639.0	0.6842 111.2 109.5	4.3521 [ 4.4237 ]	98.4%			
PFPeS	(349.0 / 80.0) 3195936 (349.0 / 99.0) 1134180	(7.26, 0.89) (N/A, 0.13, 0.0)	800.1 665.4	0.3549 99.7 103.5	4.8821 [ 4.6919 ]	104.1%			
PFHxS	(399.0 / 80.0) 2532187 (399.0 / 99.0) 845792	(8.13, 1.00) (0.00, N/A, 0.1)	3147.7 4006.0	0.3340 99.4 98.3	4.4479 [ 4.5549 ]	97.7%			
PFHpS	(449.0 / 80.0) 2530088 (449.0 / 99.0) 728672	(8.89, 0.93) (N/A, 0.11, 0.1)	516.0 717.9	0.2880 105.2 103.6	4.7741 [ 4.7570 ]	100.4%			
PFOS	(499.0 / 80.0) 2756429 (499.0 / 99.0) 577357	(9.54, 1.00) (0.00, N/A, 0.0)	114.8 173.8	0.2095 86.1 97.6	4.1811 [ 4.6375 ]	90.2%			
PFNS	(549.0 / 80.0) 3182142 (549.0 / 99.0) 810054	(9.81, 1.03) (N/A, 0.04, 0.1)	973.9 823.0	0.2546 104.3 102.0	4.3512 [ 4.7994 ]	90.7%			
PFDS	(599.0 / 80.0) 3457888 (599.0 / 99.0) 921307	(9.95, 1.04) (N/A, 0.04, 0.2)	1074.1 675.4	0.2664 118.4 128.4	4.2591 [ 4.8155 ]	88.4%			
PFDoS	(698.9 / 80.0) 1439570 (698.9 / 99.0) 339123	(10.14, 1.06) (N/A, 0.03, 0.2)	807.1 691.8	0.2356 96.3 95.1	4.2424 [ 4.8478 ]	87.5%			
4:2FTS	(327.0 / 307.0) 3237949 (327.0 / 81.0) 1674182	(5.92, 1.00) (0.00, N/A, 0.3)	771.7 747.7	0.5171 104.7 100.2	18.0421 [ 18.6906 ]	96.5%			
6:2FTS	(427.0 / 407.0) 2040306 (427.0 / 81.0) 1361394	(7.67, 1.00) (0.00, N/A, 0.1)	764.8 654.3	0.6672 85.7 103.1	19.5159 [ 18.9808 ]	102.8%			
8:2FTS	(527.0 / 507.0) 1973810 (527.0 / 81.0) 1385177	(9.08, 1.00) (0.00, N/A, 0.1)	628.6 661.9	0.7018 124.0 87.4	20.9711 [ 19.1658 ]	109.4%			

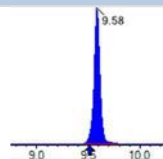
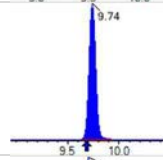
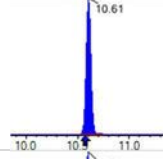
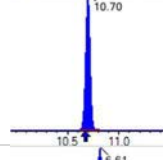
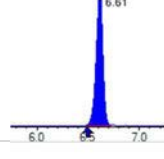
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 3682976 (498.0 / 478.0) 79385	(10.22, 1.00) (0.00, N/A, -0.1)	789.2 403.9	0.0216 103.4 91.9	5.3489 [ 5.0000 ]	107.0%			
NMeFOSA	(511.9 / 219.0) 2862053 (511.9 / 169.0) 1823062	(10.64, 1.00) (0.00, N/A, 0.0)	970.9 997.9	0.6370 88.4 98.7	21.5937 [ 20.0000 ]	108.0%			
NEIFOSA	(526.0 / 219.0) 3153429 (526.0 / 169.0) 3218471	(10.73, 1.00) (0.00, N/A, 0.0)	1151.4 1241.2	1.0206 96.5 100.3	21.5963 [ 20.0000 ]	108.0%			
NMeFOSAA	(570.0 / 419.0) 585752 (570.0 / 483.0) 261444	(9.59, 1.00) (0.01, N/A, 0.1)	538.5 421.6	0.4463 72.6 92.5	5.4127 [ 5.0000 ]	108.3%			
NEIFOSAA	(584.0 / 419.0) 522223 (584.0 / 526.0) 291920	(9.74, 1.00) (0.01, N/A, 0.0)	1977.9 3503.3	0.5590 76.2 89.6	4.7028 [ 5.0000 ]	94.1%			
NMeFOSE	(616.1 / 59.0) 664836	(10.61, 1.00) (0.00, N/A, 0.0)	928.2	N/A 0.0 0.0	21.9091 [ 20.0000 ]	109.5%			
NEtFOSE	(630.0 / 59.0) 109269	(10.70, 1.00) (0.01, N/A, 0.0)	1141.4	N/A 0.0 0.0	20.1745 [ 20.0000 ]	100.9%			
HFPO-DA	(285.0 / 169.0) 850730 (285.0 / 185.0) 2314431	(6.61, 1.00) (0.00, N/A, 0.1)	748.4 704.3	2.7205 99.1 95.0	9.9154 [ 10.0000 ]	99.2%			
ADONA	(377.0 / 85.0) 3584843 (377.0 / 251.0) 464996	(7.51, 1.14) (N/A, 0.12, 0.0)	913.2 517.6	0.1297 104.2 93.7	9.4068 [ 9.4270 ]	99.8%			
9CI-Pf3ONS	(531.0 / 351.0) 9737798 (533.0 / 353.0) 3421987	(9.77, 1.48) (N/A, 0.05, -0.1)	712.9 738.1	0.3514 118.7 112.7	9.4139 [ 9.3325 ]	100.9%			
11CI-PF3OUDS	(631.0 / 451.0) 5240339 (633.0 / 453.0) 1637030	(10.04, 1.52) (N/A, 0.03, 0.0)	1374.8 1174.4	0.3124 94.4 111.0	9.8384 [ 9.4321 ]	104.3%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 100323 (241.0 / 117.0) 165871	(4.55, 0.90) (N/A, 0.10, 0.1)	579.3 680.9	1.6534 98.8 96.0	20.8321 [ 20.0000 ]	104.2%			
5:3FTCA	(341.0 / 236.7) 774341 (341.0 / 217.0) 1215456	(6.90, 1.10) (N/A, 0.13, -0.1)	566.1 548.1	1.5697 107.2 101.4	19.1073 [ 20.0000 ]	95.5%			
7:3FTCA	(441.0 / 317.0) 923276 (441.0 / 337.0) 806717	(8.71, 1.39) (N/A, 0.12, 0.0)	498.7 536.4	0.8738 104.3 107.8	19.7999 [ 20.0000 ]	99.0%			
PFEESA	(315.0 / 135.0) 2135793 (315.0 / 83.0) 646367	(6.72, 1.07) (N/A, 0.13, 0.0)	726.4 816.7	0.3026 98.6 101.6	8.5058 [ 8.9246 ]	95.3%			
PFMPA	(229.0 / 85.0) 384110	(4.26, 0.84) (N/A, 0.09, 0.0)	946.3	N/A 0.0 0.0	10.0297 [ 10.0000 ]	100.3%			
PFMBA	(279.0 / 85.0) 1293598	(5.47, 1.08) (N/A, 0.11, 0.0)	827.3	N/A 0.0 0.0	9.7723 [ 10.0000 ]	97.7%			
NFDHA	(295.0 / 201.0) 1110761 (295.0 / 85.0) 1023816	(6.14, 0.98) (N/A, 0.13, 0.0)	724.4 1209.2	0.9217 104.4 99.0	9.6047 [ 10.0000 ]	96.0%			
13C3_PFBA_IIS	(216.0 / 172.0) 148112	(3.73, N/A) (N/A, 0.07, N/A)	656.0	N/A	1.0641 [ 1.0000 ]	106.4% { 90.9% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 240281	(6.26, N/A) (N/A, 0.13, N/A)	709.7	N/A	1.0405 [ 1.0000 ]	104.1% { 107.5% }			
13C4_PFOA_IIS	(417.0 / 372.0) 229571	(8.01, N/A) (N/A, 0.12, N/A)	618.4	N/A	1.0442 [ 1.0000 ]	104.4% { 94.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 201083	(8.74, N/A) (N/A, 0.11, N/A)	289.7	N/A	1.0859 [ 1.0000 ]	108.6% { 111.5% }			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 180746	(9.42, N/A) (N/A, 0.11, N/A)	433.9	N/A	0.9780 [ 1.0000 ]	97.8% { 90.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 438390	(8.13, N/A) (N/A, 0.12, N/A)	817.4	N/A	1.0859 [ 1.0000 ]	108.6% { 106.0% }			
13C4_PFOS_IIS	(502.8 / 79.9) 324729	(9.54, N/A) (N/A, 0.09, N/A)	445.8	N/A	1.0174 [ 1.0000 ]	101.7% { 96.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1223475	(3.73, N/A) (N/A, 0.07, N/A)	814.9	N/A	8.0260 [ 8.0000 ]	100.3% { 97.7% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 635526	(5.08, N/A) (N/A, 0.10, N/A)	643.7	N/A	3.8013 [ 4.0000 ]	95.0% { 95.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 534107	(6.26, N/A) (N/A, 0.13, N/A)	636.8	N/A	1.9316 [ 2.0000 ]	96.6% { 101.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 429042	(7.20, N/A) (N/A, 0.13, N/A)	584.4	N/A	1.7787 [ 2.0000 ]	88.9% { 92.2% }			
13C8_PFOA_EIS	(421.0 / 376.0) 478344	(8.00, N/A) (N/A, 0.12, N/A)	496.4	N/A	1.9000 [ 2.0000 ]	95.0% { 93.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 206027	(8.74, N/A) (N/A, 0.11, N/A)	368.7	N/A	0.9318 [ 1.0000 ]	93.2% { 112.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 300049	(9.41, N/A) (N/A, 0.10, N/A)	521.8	N/A	1.1672 [ 1.0000 ]	116.7% { 119.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 371561	(9.77, N/A) (N/A, 0.05, N/A)	375.9	N/A	1.0162 [ 1.0000 ]	101.6% { 115.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 426110	(9.93, N/A) (N/A, 0.04, N/A)	601.2	N/A	1.1676 [ 1.0000 ]	116.8% { 115.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 286210	(10.16, N/A) (N/A, 0.04, N/A)	487.9	N/A	1.1809 [ 1.0000 ]	118.1% { 103.5% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1297131	(6.21, N/A) (N/A, 0.12, N/A)	626.9	N/A	1.7500 [ 2.0000 ]	87.5% { 92.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 732880	(8.13, N/A) (N/A, 0.11, N/A)	729.8	N/A	1.8584 [ 2.0000 ]	92.9% { 105.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1214739	(9.54, N/A) (N/A, 0.09, N/A)	316.3	N/A	2.1796 [ 2.0000 ]	109.0% { 114.2% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 217107	(5.92, N/A) (N/A, 0.12, N/A)	605.0	N/A	3.4583 [ 4.0000 ]	86.5% { 96.3% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 271982	(7.67, N/A) (N/A, 0.12, N/A)	771.4	N/A	3.5985 [ 4.0000 ]	90.0% { 94.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 237631	(9.08, N/A) (N/A, 0.12, N/A)	370.7	N/A	3.1407 [ 4.0000 ]	78.5% { 105.5% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1457094	(10.22, N/A) (N/A, 0.04, N/A)	904.4	N/A	2.0683 [ 2.0000 ]	103.4% { 102.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 325193	(10.64, N/A) (N/A, 0.03, N/A)	841.8	N/A	2.1142 [ 2.0000 ]	105.7% { 95.9% }			
D5_NEtFOSA_EIS	(531.1 / 169.0) 323756	(10.72, N/A) (N/A, 0.03, N/A)	1081.0	N/A	2.2801 [ 2.0000 ]	114.0% { 107.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 555478	(9.58, N/A) (N/A, 0.08, N/A)	461.4	N/A	4.1915 [ 4.0000 ]	104.8% { 95.6% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 494751	(9.74, N/A) (N/A, 0.06, N/A)	360.3	N/A	4.2355 [ 4.0000 ]	105.9% { 109.5% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 480830	(10.61, N/A) (N/A, 0.04, N/A)	1425.4	N/A	22.2634 [ 20.0000 ]	111.3% { 102.5% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 211558	(10.70, N/A) (N/A, 0.03, N/A)	1286.7	N/A	21.5169 [ 20.0000 ]	107.6% { 96.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1129284	(6.61, N/A) (N/A, 0.13, N/A)	755.9	N/A	7.6816 [ 8.0000 ]	96.0% { 92.9% }			

## ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03941  
 Calibration: 2252011

SDG:  
 Project: Red Hill AFFF Assessment Sam  
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SB03941-ICB1	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.0144	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPEs	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.0146	ng/mL	0.10	U
	PFNS	0.00	ng/mL	0.10	U
	PFDS	0.00	ng/mL	0.10	U
	PFDOS	0.00	ng/mL	0.10	U
	4:2FTS	0.00	ng/mL	0.40	U
	6:2FTS	0.00	ng/mL	0.40	U
	8:2FTS	0.00	ng/mL	0.40	U
	PFOSA	0.0124	ng/mL	0.10	U
	NMeFOSA	0.00	ng/mL	0.40	U
	NEtFOSA	0.00	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.00	ng/mL	0.40	U
	NEtFOSE	0.00	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
PFMPA	0.00	ng/mL	0.20	U	

## ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03941  
 Calibration: 2252011

SDG:  
 Project: Red Hill AFFF Assessment Sam  
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SB03941-ICB1	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	8.24	ng/mL		
	13C5-PFPEA	4.11	ng/mL		
	13C5-PFHXA	1.95	ng/mL		
	13C4-PFHPA	2.08	ng/mL		
	13C8-PFOA	2.18	ng/mL		
	13C9-PFNA	1.04	ng/mL		
	13C6-PFDA	1.03	ng/mL		
	13C7-PFUnA	1.08	ng/mL		
	13C2-PFDOA	1.09	ng/mL		
	13C2-PFTEDA	1.15	ng/mL		
	13C3-PFBS	2.21	ng/mL		
	13C3-PFHXS	2.21	ng/mL		
	13C8-PFOS	2.47	ng/mL		
	13C2-4:2FTS	4.05	ng/mL		
	13C2-6:2FTS	4.81	ng/mL		
	13C2-8:2FTS	4.00	ng/mL		
	13C8-PFOSA	2.42	ng/mL		
	D5-NETFOSA	2.32	ng/mL		
	D3-NMEFOSA	2.31	ng/mL		
	D3-NMEFOSAA	4.78	ng/mL		
	D5-NETFOSAA	4.58	ng/mL		
	D7-NMEFOSE	21.9	ng/mL		
	D9-NETFOSAE	21.3	ng/mL		
	13C3-HFPO-DA	8.60	ng/mL		



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03941-ICB1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21A (9)  
 Acquired: 2022/12/21 - 16:08

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(262.9 / 219.0) N/A (262.9 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) 3496 (413.0 / 169.0) 986	(7.98, 1.00) (0.01, N/A, -0.4)	15.4 42.4	0.2821 86.3 86.3	0.0144	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03941-ICB1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21A (9)  
 Acquired: 2022/12/21 - 16:08

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) N/A ( 298.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 9898 ( 499.0 / 99.0 ) 1897	( 9.52 , 1.00 ) ( 0.00 , N/A , -1.2 )	48.5 19.3	0.1916 78.8 78.8	0.0146	N/A			MI5 DG 2022-12-21
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) N/A ( 427.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



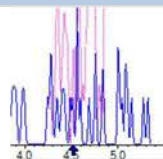
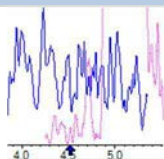
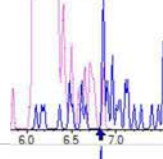
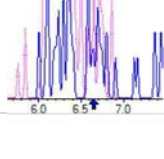
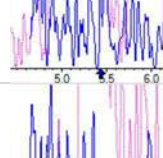
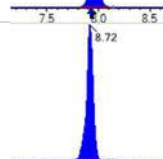
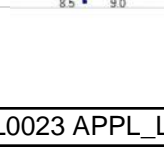
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

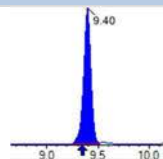
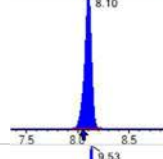
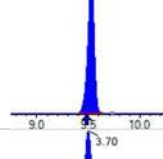
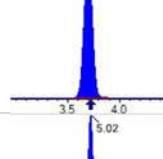
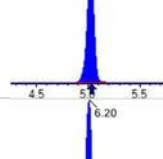
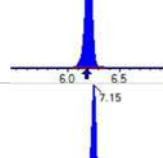
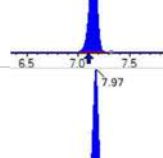
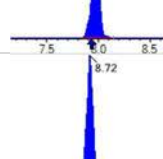
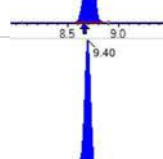
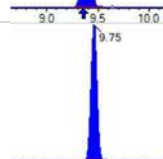
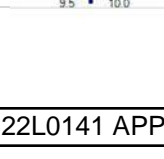
Sample I.D.: SB03941-ICB1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21A (9)  
 Acquired: 2022/12/21 - 16:08

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 9076 (498.0 / 478.0) 300	(10.20, 1.00) (0.00, N/A, -0.8)	34.8 12.4	0.0330 158.5 158.5	0.0124	N/A			
NMeFOSA	(511.9 / 219.0) N/A (511.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.1 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 137297	(3.70, N/A) (N/A, -0.02, N/A)	766.0	N/A	0.9864 [ 1.0000 ]	98.6% { 90.5% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 223416	(6.20, N/A) (N/A, 0.02, N/A)	460.7	N/A	0.9675 [ 1.0000 ]	96.8% { 95.5% }			
13C4_PFOA_IIS	(417.0 / 372.0) 206725	(7.97, N/A) (N/A, 0.05, N/A)	562.5	N/A	0.9403 [ 1.0000 ]	94.0% { 86.9% }			
13C5_PFNA_IIS	(468.0 / 423.0) 186093	(8.72, N/A) (N/A, 0.05, N/A)	497.6	N/A	1.0049 [ 1.0000 ]	100.5% { 92.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 184687	(9.40, N/A) (N/A, 0.05, N/A)	233.6	N/A	0.9993 [ 1.0000 ]	99.9% { 106.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 371811	(8.10, N/A) (N/A, 0.05, N/A)	662.9	N/A	0.9210 [ 1.0000 ]	92.1% { 88.0% }			
13C4_PFOS_IIS	(502.8 / 79.9) 294523	(9.53, N/A) (N/A, 0.05, N/A)	539.0	N/A	0.9228 [ 1.0000 ]	92.3% { 89.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1164618	(3.70, N/A) (N/A, -0.02, N/A)	949.7	N/A	8.2417 [ 8.0000 ]	103.0% { 97.8% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 639563	(5.02, N/A) (N/A, -0.01, N/A)	719.9	N/A	4.1143 [ 4.0000 ]	102.9% { 91.9% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 500638	(6.20, N/A) (N/A, 0.02, N/A)	697.9	N/A	1.9473 [ 2.0000 ]	97.4% { 92.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 466966	(7.15, N/A) (N/A, 0.04, N/A)	691.4	N/A	2.0820 [ 2.0000 ]	104.1% { 95.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 494304	(7.97, N/A) (N/A, 0.05, N/A)	917.1	N/A	2.1804 [ 2.0000 ]	109.0% { 99.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 213587	(8.72, N/A) (N/A, 0.05, N/A)	564.9	N/A	1.0438 [ 1.0000 ]	104.4% { 97.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 271082	(9.40, N/A) (N/A, 0.05, N/A)	432.0	N/A	1.0320 [ 1.0000 ]	103.2% { 96.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 404733	(9.75, N/A) (N/A, 0.03, N/A)	435.5	N/A	1.0833 [ 1.0000 ]	108.3% { 101.6% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03941-ICB1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21A (9)  
 Acquired: 2022/12/21 - 16:08

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 407883	(9.92, N/A) (N/A, 0.02, N/A)	595.7	N/A	1.0938 [ 1.0000 ]	109.4% { 105.2% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 285097	(10.15, N/A) (N/A, 0.02, N/A)	425.4	N/A	1.1512 [ 1.0000 ]	115.1% { 117.9% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1390129	(6.16, N/A) (N/A, 0.01, N/A)	781.9	N/A	2.2113 [ 2.0000 ]	110.6% { 101.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 737924	(8.10, N/A) (N/A, 0.05, N/A)	828.7	N/A	2.2062 [ 2.0000 ]	110.3% { 97.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1246594	(9.53, N/A) (N/A, 0.05, N/A)	598.1	N/A	2.4662 [ 2.0000 ]	123.3% { 104.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 215896	(5.86, N/A) (N/A, 0.01, N/A)	739.4	N/A	4.0548 [ 4.0000 ]	101.4% { 96.3% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 308341	(7.63, N/A) (N/A, 0.04, N/A)	911.4	N/A	4.8100 [ 4.0000 ]	120.3% { 112.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 256399	(9.06, N/A) (N/A, 0.06, N/A)	310.1	N/A	3.9955 [ 4.0000 ]	99.9% { 86.6% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1544524	(10.20, N/A) (N/A, 0.02, N/A)	1476.0	N/A	2.4173 [ 2.0000 ]	120.9% { 105.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 322844	(10.62, N/A) (N/A, 0.02, N/A)	1120.4	N/A	2.3142 [ 2.0000 ]	115.7% { 97.8% }			
D5_NEtFOSA_EIS	(531.1 / 169.0) 298222	(10.71, N/A) (N/A, 0.01, N/A)	1079.5	N/A	2.3157 [ 2.0000 ]	115.8% { 104.8% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03941-ICB1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21A (9)  
 Acquired: 2022/12/21 - 16:08

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 574276	(9.57, N/A) (N/A, 0.04, N/A)	542.0	N/A	4.7778 [ 4.0000 ]	119.4% { 112.5% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 485417	(9.73, N/A) (N/A, 0.03, N/A)	310.2	N/A	4.5818 [ 4.0000 ]	114.5% { 103.0% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 428343	(10.59, N/A) (N/A, 0.01, N/A)	811.6	N/A	21.8673 [ 20.0000 ]	109.3% { 99.3% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 189842	(10.68, N/A) (N/A, 0.01, N/A)	1103.1	N/A	21.2885 [ 20.0000 ]	106.4% { 104.1% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1175027	(6.56, N/A) (N/A, 0.03, N/A)	697.1	N/A	8.5961 [ 8.0000 ]	107.5% { 100.0% }			

## ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03942  
 Calibration: 2252011

SDG:  
 Project: Red Hill AFFF Assessment Sam  
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SB03942-CCB1	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.00	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPEs	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.00	ng/mL	0.10	U
	PFNS	0.00	ng/mL	0.10	U
	PFDS	0.00	ng/mL	0.10	U
	PFDOS	0.00	ng/mL	0.10	U
	4:2FTS	0.00	ng/mL	0.40	U
	6:2FTS	0.00	ng/mL	0.40	U
	8:2FTS	0.00	ng/mL	0.40	U
	PFOSA	0.00	ng/mL	0.10	U
	NMeFOSA	0.00	ng/mL	0.40	U
	NEtFOSA	0.00	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.00	ng/mL	0.40	U
	NEtFOSE	0.00	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
	PFMPA	0.00	ng/mL	0.20	U

## ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03942  
 Calibration: 2252011

SDG:  
 Project: Red Hill AFFF Assessment Sam  
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SB03942-CCB1	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	8.32	ng/mL		
	13C5-PFPEA	4.35	ng/mL		
	13C5-PFHXA	2.03	ng/mL		
	13C4-PFHPA	2.15	ng/mL		
	13C8-PFOA	1.83	ng/mL		
	13C9-PFNA	0.974	ng/mL		
	13C6-PFDA	1.14	ng/mL		
	13C7-PFUnA	1.00	ng/mL		
	13C2-PFDOA	1.09	ng/mL		
	13C2-PFTEDA	1.26	ng/mL		
	13C3-PFBS	1.99	ng/mL		
	13C3-PFHXS	2.08	ng/mL		
	13C8-PFOS	2.17	ng/mL		
	13C2-4:2FTS	4.15	ng/mL		
	13C2-6:2FTS	4.46	ng/mL		
	13C2-8:2FTS	4.51	ng/mL		
	13C8-PFOSA	2.42	ng/mL		
	D5-NETFOSA	2.33	ng/mL		
	D3-NMEFOSA	2.27	ng/mL		
	D3-NMEFOSAA	4.12	ng/mL		
	D5-NETFOSAA	4.72	ng/mL		
	D7-NMEFOSE	23.0	ng/mL		
	D9-NETFOSE	22.1	ng/mL		
	13C3-HFPO-DA	8.85	ng/mL		



Chemist: ABK  
Instrument: Saphira  
Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB1  
DF, IV: 1, 10.0µL  
Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
Path: S2022-12-21B (1)  
Acquired: 2022/12/21 - 16:46

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(262.9 / 219.0) N/A (262.9 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (1)  
 Acquired: 2022/12/21 - 16:46

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) N/A (298.9 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) N/A (399.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) N/A (499.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) N/A (599.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	(698.9 / 80.0) N/A (698.9 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	(327.0 / 307.0) N/A (327.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	(427.0 / 407.0) N/A (427.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			





Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (1)  
 Acquired: 2022/12/21 - 16:46

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(511.9 / 219.0) N/A (511.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.1 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

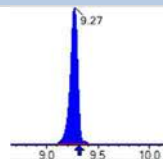
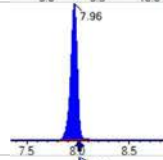
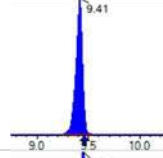
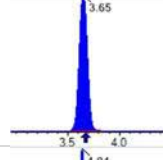
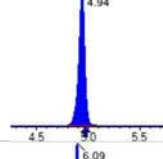
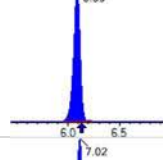
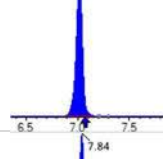
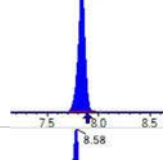
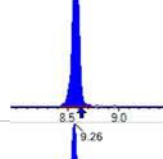
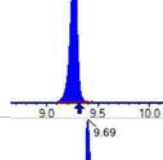
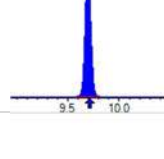


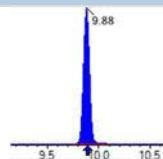
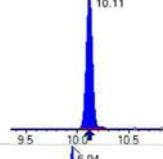
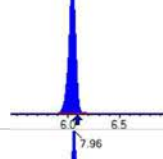
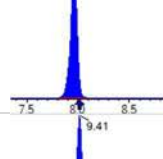
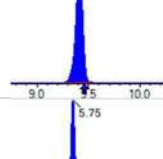
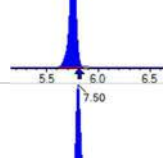
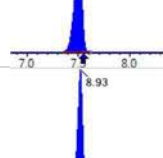
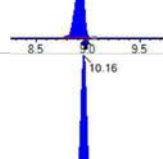
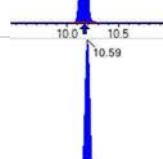
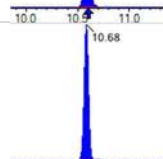
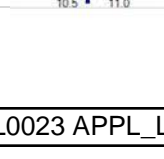
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (1)  
 Acquired: 2022/12/21 - 16:46

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 156629	(3.65, N/A) (N/A, -0.02, N/A)	970.0	N/A	1.1253 [ 1.0000 ]	112.5% { 96.1% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 224999	(6.09, N/A) (N/A, -0.05, N/A)	474.4	N/A	0.9744 [ 1.0000 ]	97.4% { 100.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 239801	(7.84, N/A) (N/A, -0.05, N/A)	684.3	N/A	1.0908 [ 1.0000 ]	109.1% { 98.4% }			
13C5_PFNA_IIS	(468.0 / 423.0) 187963	(8.58, N/A) (N/A, -0.05, N/A)	362.0	N/A	1.0150 [ 1.0000 ]	101.5% { 104.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-Imin, $\Delta$ RT-CVmin, $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 171105	(9.27, N/A) (N/A, -0.04, N/A)	464.7	N/A	0.9258 [1.0000]	92.6% {85.6%}			
18O2_PFHxS_IIS	(403.0 / 83.9) 392855	(7.96, N/A) (N/A, -0.05, N/A)	884.5	N/A	0.9731 [1.0000]	97.3% {95.0%}			
13C4_PFOS_IIS	(502.8 / 79.9) 309774	(9.41, N/A) (N/A, -0.04, N/A)	475.1	N/A	0.9705 [1.0000]	97.1% {91.8%}			
13C4_PFBA_EIS	(217.0 / 172.0) 1340552	(3.65, N/A) (N/A, -0.02, N/A)	985.7	N/A	8.3158 [8.0000]	103.9% {107.1%}			
13C5_PFPeA_EIS	(267.9 / 223.0) 681098	(4.94, N/A) (N/A, -0.03, N/A)	811.1	N/A	4.3506 [4.0000]	108.8% {102.7%}			
13C5_PFHxA_EIS	(318.0 / 273.0) 526457	(6.09, N/A) (N/A, -0.05, N/A)	615.5	N/A	2.0333 [2.0000]	101.7% {99.8%}			
13C4_PFHpA_EIS	(367.0 / 322.0) 486617	(7.02, N/A) (N/A, -0.05, N/A)	670.1	N/A	2.1544 [2.0000]	107.7% {104.6%}			
13C8_PFOA_EIS	(421.0 / 376.0) 481068	(7.84, N/A) (N/A, -0.05, N/A)	637.5	N/A	1.8293 [2.0000]	91.5% {94.1%}			
13C9_PFNA_EIS	(472.0 / 427.0) 201401	(8.58, N/A) (N/A, -0.05, N/A)	286.6	N/A	0.9744 [1.0000]	97.4% {109.8%}			
13C6_PFDA_EIS	(519.0 / 474.0) 276656	(9.26, N/A) (N/A, -0.05, N/A)	564.4	N/A	1.1369 [1.0000]	113.7% {110.4%}			
13C7_PFUnA_EIS	(570.0 / 525.0) 346094	(9.69, N/A) (N/A, -0.02, N/A)	450.9	N/A	0.9999 [1.0000]	100.0% {107.6%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-Imin, $\Delta$ RT-CVmin, $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 377063	(9.88, N/A) (N/A, -0.02, N/A)	378.9	N/A	1.0914 [1.0000]	109.1% {102.2%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 289934	(10.11, N/A) (N/A, 0.00, N/A)	414.2	N/A	1.2636 [1.0000]	126.4% {104.9%}			
13C3_PFBs_EIS	(302.0 / 80.0) 1321049	(6.04, N/A) (N/A, -0.05, N/A)	750.5	N/A	1.9889 [2.0000]	99.4% {94.0%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 733531	(7.96, N/A) (N/A, -0.05, N/A)	911.3	N/A	2.0756 [2.0000]	103.8% {105.9%}			
13C8_PFOS_EIS	(507.0 / 80.0) 1151375	(9.41, N/A) (N/A, -0.04, N/A)	475.0	N/A	2.1657 [2.0000]	108.3% {108.3%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 233235	(5.75, N/A) (N/A, -0.05, N/A)	712.8	N/A	4.1458 [4.0000]	103.6% {103.5%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 302320	(7.50, N/A) (N/A, -0.05, N/A)	896.0	N/A	4.4635 [4.0000]	111.6% {105.0%}			
13C2_8:2FTS_EIS	(529.0 / 81.0) 305733	(8.93, N/A) (N/A, -0.04, N/A)	487.8	N/A	4.5091 [4.0000]	112.7% {135.7%}			
13C8_PFOsa_EIS	(506.0 / 78.0) 1628473	(10.16, N/A) (N/A, -0.02, N/A)	941.7	N/A	2.4232 [2.0000]	121.2% {115.0%}			
D3_NMeFOSA_EIS	(515.0 / 169.0) 332778	(10.59, N/A) (N/A, -0.01, N/A)	895.1	N/A	2.2680 [2.0000]	113.4% {98.2%}			
D5_NEiFOSA_EIS	(531.1 / 169.0) 315843	(10.68, N/A) (N/A, -0.01, N/A)	1082.4	N/A	2.3318 [2.0000]	116.6% {104.7%}			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (1)  
 Acquired: 2022/12/21 - 16:46

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 521364	(9.46, N/A) (N/A, -0.04, N/A)	319.8	N/A	4.1240 [4.0000]	103.1% {89.8%}			
D5_EtFOSAA_EIS	(589.0 / 419.0) 525715	(9.66, N/A) (N/A, -0.02, N/A)	301.6	N/A	4.7179 [4.0000]	117.9% {116.4%}			
D7_NMeFOSE_EIS	(623.2 / 58.9) 473569	(10.56, N/A) (N/A, -0.01, N/A)	1559.1	N/A	22.9859 [20.0000]	114.9% {101.0%}			
D9_NEtFOSE_EIS	(639.2 / 58.9) 207453	(10.65, N/A) (N/A, -0.01, N/A)	1083.1	N/A	22.1180 [20.0000]	110.6% {94.8%}			
13C3_HFPODA_EIS	(287.0 / 169.0) 1217964	(6.43, N/A) (N/A, -0.05, N/A)	821.7	N/A	8.8475 [8.0000]	110.6% {100.2%}			

## ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03942  
 Calibration: 2252011

SDG:  
 Project: Red Hill AFFF Assessment Sam  
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SB03942-CCB2	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.00	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPEs	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.00	ng/mL	0.10	U
	PFNS	0.00	ng/mL	0.10	U
	PFDS	0.00	ng/mL	0.10	U
	PFDOS	0.00	ng/mL	0.10	U
	4:2FTS	0.00	ng/mL	0.40	U
	6:2FTS	0.00	ng/mL	0.40	U
	8:2FTS	0.00	ng/mL	0.40	U
	PFOSA	0.00	ng/mL	0.10	U
	NMeFOSA	0.00	ng/mL	0.40	U
	NEtFOSA	0.00	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.00	ng/mL	0.40	U
	NEtFOSE	0.00	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
	PFMPA	0.00	ng/mL	0.20	U

## ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03942  
 Calibration: 2252011

SDG:  
 Project: Red Hill AFFF Assessment Sam  
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SB03942-CCB2	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	7.75	ng/mL		
	13C5-PFPEA	4.38	ng/mL		
	13C5-PFHXA	2.00	ng/mL		
	13C4-PFHPA	2.16	ng/mL		
	13C8-PFOA	2.14	ng/mL		
	13C9-PFNA	0.969	ng/mL		
	13C6-PFDA	1.09	ng/mL		
	13C7-PFUnA	1.03	ng/mL		
	13C2-PFDOA	1.07	ng/mL		
	13C2-PFTEDA	1.14	ng/mL		
	13C3-PFBS	1.87	ng/mL		
	13C3-PFHXS	1.87	ng/mL		
	13C8-PFOS	1.87	ng/mL		
	13C2-4:2FTS	3.91	ng/mL		
	13C2-6:2FTS	4.04	ng/mL		
	13C2-8:2FTS	3.44	ng/mL		
	13C8-PFOSA	2.16	ng/mL		
	D5-NETFOSA	2.08	ng/mL		
	D3-NMEFOSA	2.11	ng/mL		
	D3-NMEFOSAA	3.97	ng/mL		
	D5-NETFOSAA	3.79	ng/mL		
	D7-NMEFOSE	21.3	ng/mL		
	D9-NETFOSSE	20.9	ng/mL		
	13C3-HFPO-DA	8.39	ng/mL		



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB2  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (4)  
 Acquired: 2022/12/21 - 17:49

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(262.9 / 219.0) N/A (262.9 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			





Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB2  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (4)  
 Acquired: 2022/12/21 - 17:49

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) N/A ( 298.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) N/A ( 499.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) N/A ( 427.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB2  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (4)  
 Acquired: 2022/12/21 - 17:49

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(511.9 / 219.0) N/A (511.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.1 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB2  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (4)  
 Acquired: 2022/12/21 - 17:49

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 170740	(3.68, N/A) (N/A, 0.01, N/A)	589.0	N/A	1.2266 [ 1.0000 ]	122.7% { 104.7% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 241408	(6.11, N/A) (N/A, -0.03, N/A)	610.6	N/A	1.0454 [ 1.0000 ]	104.5% { 108.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 230431	(7.84, N/A) (N/A, -0.05, N/A)	677.8	N/A	1.0481 [ 1.0000 ]	104.8% { 94.6% }			
13C5_PFNA_IIS	(468.0 / 423.0) 203225	(8.58, N/A) (N/A, -0.05, N/A)	550.4	N/A	1.0974 [ 1.0000 ]	109.7% { 112.7% }			

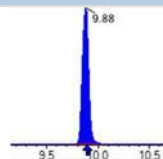
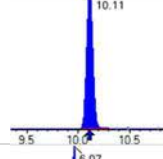
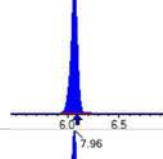
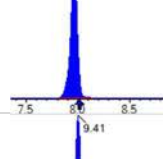
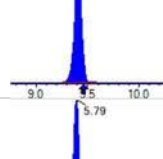
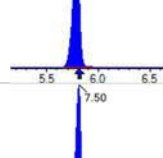
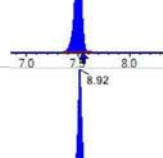
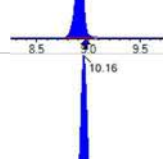
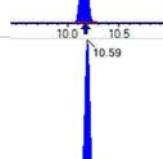
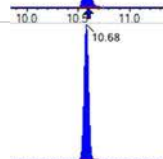
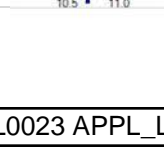


Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB2  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (4)  
 Acquired: 2022/12/21 - 17:49

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 179039	(9.27, N/A) (N/A, -0.05, N/A)	391.5	N/A	0.9688 [ 1.0000 ]	96.9% { 89.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 436720	(7.96, N/A) (N/A, -0.05, N/A)	732.1	N/A	1.0818 [ 1.0000 ]	108.2% { 105.6% }			
13C4_PFOS_IIS	(502.8 / 79.9) 337827	(9.41, N/A) (N/A, -0.04, N/A)	442.5	N/A	1.0584 [ 1.0000 ]	105.8% { 100.1% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1361944	(3.68, N/A) (N/A, 0.01, N/A)	762.8	N/A	7.7503 [ 8.0000 ]	96.9% { 108.8% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 736131	(4.99, N/A) (N/A, 0.01, N/A)	817.4	N/A	4.3825 [ 4.0000 ]	109.6% { 111.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 556950	(6.11, N/A) (N/A, -0.02, N/A)	642.8	N/A	2.0048 [ 2.0000 ]	100.2% { 105.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 522616	(7.03, N/A) (N/A, -0.04, N/A)	670.0	N/A	2.1565 [ 2.0000 ]	107.8% { 112.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 540602	(7.84, N/A) (N/A, -0.04, N/A)	604.6	N/A	2.1393 [ 2.0000 ]	107.0% { 105.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 216473	(8.58, N/A) (N/A, -0.05, N/A)	470.2	N/A	0.9687 [ 1.0000 ]	96.9% { 118.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 278745	(9.26, N/A) (N/A, -0.05, N/A)	453.4	N/A	1.0947 [ 1.0000 ]	109.5% { 111.3% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 372777	(9.70, N/A) (N/A, -0.02, N/A)	509.1	N/A	1.0292 [ 1.0000 ]	102.9% { 115.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 385606	(9.88, N/A) (N/A, -0.02, N/A)	499.7	N/A	1.0667 [ 1.0000 ]	106.7% { 104.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 273135	(10.11, N/A) (N/A, -0.01, N/A)	481.6	N/A	1.1377 [ 1.0000 ]	113.8% { 98.8% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1382001	(6.07, N/A) (N/A, -0.02, N/A)	563.3	N/A	1.8717 [ 2.0000 ]	93.6% { 98.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 733558	(7.96, N/A) (N/A, -0.05, N/A)	746.5	N/A	1.8672 [ 2.0000 ]	93.4% { 106.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1082602	(9.41, N/A) (N/A, -0.05, N/A)	425.7	N/A	1.8672 [ 2.0000 ]	93.4% { 101.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 244732	(5.79, N/A) (N/A, -0.02, N/A)	584.4	N/A	3.9132 [ 4.0000 ]	97.8% { 108.6% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 304531	(7.50, N/A) (N/A, -0.04, N/A)	888.9	N/A	4.0445 [ 4.0000 ]	101.1% { 105.7% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 259002	(8.92, N/A) (N/A, -0.05, N/A)	486.1	N/A	3.4362 [ 4.0000 ]	85.9% { 115.0% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1586035	(10.16, N/A) (N/A, -0.02, N/A)	740.6	N/A	2.1641 [ 2.0000 ]	108.2% { 112.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 338029	(10.59, N/A) (N/A, -0.01, N/A)	824.1	N/A	2.1125 [ 2.0000 ]	105.6% { 99.7% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 307061	(10.68, N/A) (N/A, -0.01, N/A)	811.5	N/A	2.0787 [ 2.0000 ]	103.9% { 101.8% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB2  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (4)  
 Acquired: 2022/12/21 - 17:49

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 546755	(9.47, N/A) (N/A, -0.04, N/A)	419.2	N/A	3.9657 [ 4.0000 ]	99.1% { 94.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 460120	(9.66, N/A) (N/A, -0.03, N/A)	379.8	N/A	3.7863 [ 4.0000 ]	94.7% { 101.9% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 477892	(10.56, N/A) (N/A, -0.01, N/A)	1218.0	N/A	21.2695 [ 20.0000 ]	106.3% { 101.9% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 213498	(10.65, N/A) (N/A, -0.01, N/A)	1094.1	N/A	20.8722 [ 20.0000 ]	104.4% { 97.6% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1239563	(6.45, N/A) (N/A, -0.03, N/A)	957.5	N/A	8.3923 [ 8.0000 ]	104.9% { 102.0% }			

## ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03942  
 Calibration: 2252011

SDG:  
 Project: Red Hill AFFF Assessment Sam  
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SB03942-CCB3	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.00	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPEs	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.0321	ng/mL	0.10	U
	PFNS	0.00	ng/mL	0.10	U
	PFDS	0.00	ng/mL	0.10	U
	PFDOS	0.00	ng/mL	0.10	U
	4:2FTS	0.00	ng/mL	0.40	U
	6:2FTS	0.00	ng/mL	0.40	U
	8:2FTS	0.00	ng/mL	0.40	U
	PFOSA	0.00	ng/mL	0.10	U
	NMeFOSA	0.00	ng/mL	0.40	U
	NEtFOSA	0.00	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.00	ng/mL	0.40	U
	NEtFOSE	0.00	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
	PFMPA	0.00	ng/mL	0.20	U

## ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03942  
 Calibration: 2252011

SDG:  
 Project: Red Hill AFFF Assessment Sam  
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SB03942-CCB3	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	8.32	ng/mL		
	13C5-PFPEA	4.24	ng/mL		
	13C5-PFHXA	2.07	ng/mL		
	13C4-PFHPA	2.02	ng/mL		
	13C8-PFOA	2.13	ng/mL		
	13C9-PFNA	0.922	ng/mL		
	13C6-PFDA	1.09	ng/mL		
	13C7-PFUnA	0.965	ng/mL		
	13C2-PFDOA	0.986	ng/mL		
	13C2-PFTEDA	0.969	ng/mL		
	13C3-PFBS	2.04	ng/mL		
	13C3-PFHXS	2.00	ng/mL		
	13C8-PFOS	2.15	ng/mL		
	13C2-4:2FTS	4.04	ng/mL		
	13C2-6:2FTS	4.06	ng/mL		
	13C2-8:2FTS	3.87	ng/mL		
	13C8-PFOSA	2.33	ng/mL		
	D5-NETFOSA	2.55	ng/mL		
	D3-NMEFOSA	2.35	ng/mL		
	D3-NMEFOSAA	4.80	ng/mL		
	D5-NETFOSAA	3.80	ng/mL		
	D7-NMEFOSE	23.3	ng/mL		
	D9-NETFOSAE	22.6	ng/mL		
	13C3-HFPO-DA	8.43	ng/mL		





Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB3  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (6)  
 Acquired: 2022/12/21 - 19:44

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(262.9 / 219.0) N/A (262.9 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB3  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (6)  
 Acquired: 2022/12/21 - 19:44

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) N/A ( 298.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 19479 ( 499.0 / 99.0 ) 9410	( 9.45 , 1.00 ) ( 0.00 , N/A , 1.5 )	33.9 22.9	0.4831 198.6 225.0	0.0321	N/A			IR2,
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) N/A ( 427.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB3  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (6)  
 Acquired: 2022/12/21 - 19:44

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) N/A ( 498.0 / 478.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	( 511.9 / 219.0 ) N/A ( 511.9 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	( 584.0 / 419.0 ) N/A ( 584.0 / 526.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	( 616.1 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	( 630.0 / 59.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-PF3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

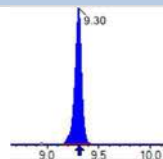
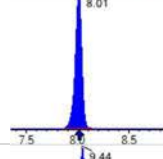
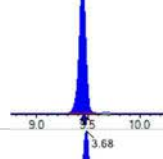
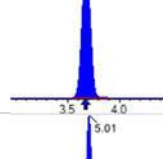
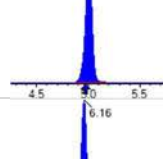
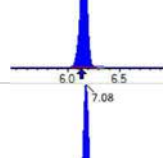
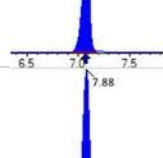
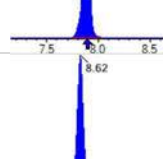
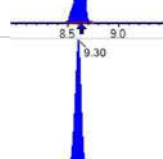
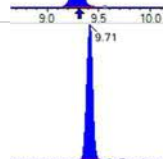
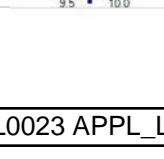


Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB3  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (6)  
 Acquired: 2022/12/21 - 19:44

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 143887	(3.68, N/A) (N/A, 0.01, N/A)	695.3	N/A	1.0337 [ 1.0000 ]	103.4% { 88.3% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 223621	(6.16, N/A) (N/A, 0.02, N/A)	391.0	N/A	0.9684 [ 1.0000 ]	96.8% { 100.1% }			
13C4_PFOA_IIS	(417.0 / 372.0) 216490	(7.88, N/A) (N/A, 0.00, N/A)	564.3	N/A	0.9847 [ 1.0000 ]	98.5% { 88.8% }			
13C5_PFNA_IIS	(468.0 / 423.0) 190613	(8.62, N/A) (N/A, 0.00, N/A)	334.1	N/A	1.0293 [ 1.0000 ]	102.9% { 105.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 196423	(9.30, N/A) (N/A, -0.01, N/A)	425.7	N/A	1.0628 [ 1.0000 ]	106.3% { 98.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 413568	(8.01, N/A) (N/A, 0.00, N/A)	810.6	N/A	1.0244 [ 1.0000 ]	102.4% { 100.0% }			
13C4_PFOS_IIS	(502.8 / 79.9) 302782	(9.44, N/A) (N/A, -0.01, N/A)	418.5	N/A	0.9486 [ 1.0000 ]	94.9% { 89.7% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1232006	(3.68, N/A) (N/A, 0.01, N/A)	739.7	N/A	8.3193 [ 8.0000 ]	104.0% { 98.4% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 660256	(5.01, N/A) (N/A, 0.03, N/A)	700.0	N/A	4.2435 [ 4.0000 ]	106.1% { 99.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 532778	(6.16, N/A) (N/A, 0.02, N/A)	558.1	N/A	2.0704 [ 2.0000 ]	103.5% { 101.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 453864	(7.08, N/A) (N/A, 0.01, N/A)	546.0	N/A	2.0217 [ 2.0000 ]	101.1% { 97.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 505212	(7.88, N/A) (N/A, 0.00, N/A)	698.6	N/A	2.1280 [ 2.0000 ]	106.4% { 98.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 193237	(8.62, N/A) (N/A, -0.01, N/A)	586.2	N/A	0.9219 [ 1.0000 ]	92.2% { 105.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 305354	(9.30, N/A) (N/A, -0.01, N/A)	459.0	N/A	1.0930 [ 1.0000 ]	109.3% { 121.9% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 383541	(9.71, N/A) (N/A, 0.00, N/A)	316.6	N/A	0.9652 [ 1.0000 ]	96.5% { 119.2% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB3  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (6)  
 Acquired: 2022/12/21 - 19:44

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 391164	(9.89, N/A) (N/A, -0.01, N/A)	474.7	N/A	0.9863 [ 1.0000 ]	98.6% { 106.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 255263	(10.12, N/A) (N/A, 0.00, N/A)	483.4	N/A	0.9691 [ 1.0000 ]	96.9% { 92.3% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1424441	(6.11, N/A) (N/A, 0.02, N/A)	637.7	N/A	2.0371 [ 2.0000 ]	101.9% { 101.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 744630	(8.01, N/A) (N/A, 0.00, N/A)	731.1	N/A	2.0015 [ 2.0000 ]	100.1% { 107.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1117331	(9.44, N/A) (N/A, -0.01, N/A)	561.0	N/A	2.1502 [ 2.0000 ]	107.5% { 105.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 239435	(5.83, N/A) (N/A, 0.03, N/A)	715.1	N/A	4.0429 [ 4.0000 ]	101.1% { 106.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 289587	(7.55, N/A) (N/A, 0.00, N/A)	733.5	N/A	4.0613 [ 4.0000 ]	101.5% { 100.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 276487	(8.96, N/A) (N/A, 0.00, N/A)	540.3	N/A	3.8735 [ 4.0000 ]	96.8% { 122.8% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1530890	(10.17, N/A) (N/A, 0.00, N/A)	879.8	N/A	2.3306 [ 2.0000 ]	116.5% { 108.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 337562	(10.60, N/A) (N/A, -0.01, N/A)	848.9	N/A	2.3537 [ 2.0000 ]	117.7% { 99.6% }			
D5_NEtFOSA_EIS	(531.1 / 169.0) 337642	(10.69, N/A) (N/A, -0.01, N/A)	1405.1	N/A	2.5503 [ 2.0000 ]	127.5% { 112.0% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB3  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (6)  
 Acquired: 2022/12/21 - 19:44

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 593336	(9.50, N/A) (N/A, 0.00, N/A)	285.1	N/A	4.8017 [ 4.0000 ]	120.0% { 102.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 413818	(9.68, N/A) (N/A, 0.00, N/A)	311.1	N/A	3.7994 [ 4.0000 ]	95.0% { 91.6% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 469973	(10.57, N/A) (N/A, -0.01, N/A)	919.2	N/A	23.3381 [ 20.0000 ]	116.7% { 100.2% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 207461	(10.66, N/A) (N/A, -0.01, N/A)	1071.9	N/A	22.6297 [ 20.0000 ]	113.1% { 94.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1153541	(6.50, N/A) (N/A, 0.01, N/A)	664.8	N/A	8.4311 [ 8.0000 ]	105.4% { 94.9% }			

## ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03942  
 Calibration: 2252011

SDG:  
 Project: Red Hill AFFF Assessment Sam  
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SB03942-CCB4	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.00	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPEs	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.0125	ng/mL	0.10	U
	PFNS	0.00	ng/mL	0.10	U
	PFDS	0.00	ng/mL	0.10	U
	PFDOS	0.00	ng/mL	0.10	U
	4:2FTS	0.00	ng/mL	0.40	U
	6:2FTS	0.00	ng/mL	0.40	U
	8:2FTS	0.00	ng/mL	0.40	U
	PFOSA	0.00	ng/mL	0.10	U
	NMeFOSA	0.00	ng/mL	0.40	U
	NEtFOSA	0.00	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.00	ng/mL	0.40	U
	NEtFOSE	0.00	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
	PFMPA	0.00	ng/mL	0.20	U



## ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03942  
 Calibration: 2252011

SDG:  
 Project: Red Hill AFFF Assessment Sam  
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SB03942-CCB4	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	8.19	ng/mL		
	13C5-PFPEA	4.30	ng/mL		
	13C5-PFHXA	1.98	ng/mL		
	13C4-PFHPA	1.88	ng/mL		
	13C8-PFOA	2.17	ng/mL		
	13C9-PFNA	1.05	ng/mL		
	13C6-PFDA	1.02	ng/mL		
	13C7-PFUnA	0.919	ng/mL		
	13C2-PFDOA	0.942	ng/mL		
	13C2-PFTEDA	1.05	ng/mL		
	13C3-PFBS	2.06	ng/mL		
	13C3-PFHXS	1.92	ng/mL		
	13C8-PFOS	1.88	ng/mL		
	13C2-4:2FTS	4.16	ng/mL		
	13C2-6:2FTS	4.24	ng/mL		
	13C2-8:2FTS	3.33	ng/mL		
	13C8-PFOSA	2.13	ng/mL		
	D5-NETFOSA	2.18	ng/mL		
	D3-NMEFOSA	2.12	ng/mL		
	D3-NMEFOSAA	4.41	ng/mL		
	D5-NETFOSAA	4.26	ng/mL		
	D7-NMEFOSE	22.8	ng/mL		
	D9-NETFOSAE	22.8	ng/mL		
	13C3-HFPO-DA	8.18	ng/mL		



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB4  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (31)  
 Acquired: 2022/12/22 - 01:01

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(262.9 / 219.0) N/A (262.9 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB4  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (31)  
 Acquired: 2022/12/22 - 01:01

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) N/A (298.9 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) N/A (399.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) 7662 (499.0 / 99.0) 1686	(9.44, 1.00) (-0.01, N/A, 0.7)	29.5 27.2	0.2200 90.5 102.5	0.0125	N/A			
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) N/A (599.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	(698.9 / 80.0) N/A (698.9 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	(327.0 / 307.0) N/A (327.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	(427.0 / 407.0) N/A (427.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB4  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (31)  
 Acquired: 2022/12/22 - 01:01

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(511.9 / 219.0) N/A (511.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.1 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

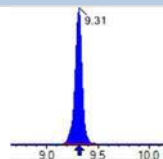
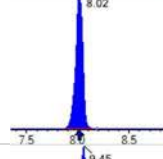
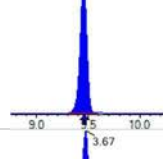
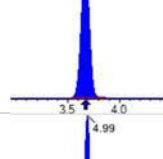
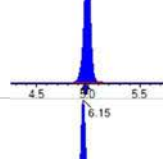
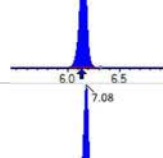
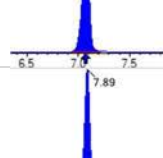
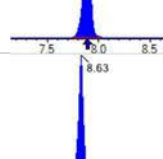
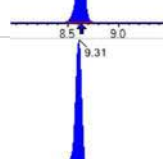
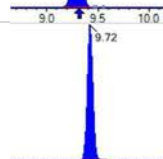
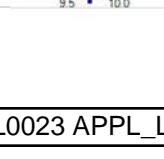


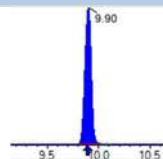
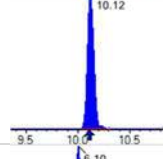
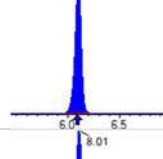
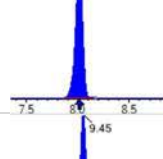
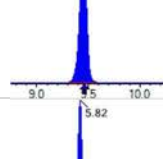
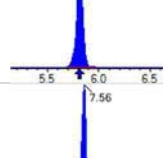
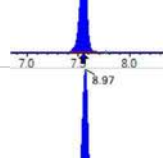
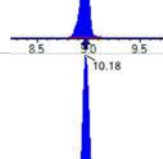
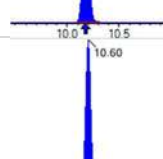
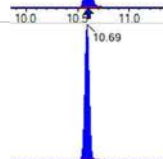
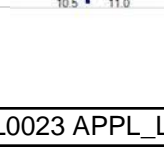
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB4  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (31)  
 Acquired: 2022/12/22 - 01:01

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 147658	(3.67, N/A) (N/A, 0.00, N/A)	742.3	N/A	1.0608 [ 1.0000 ]	106.1% { 90.6% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 235193	(6.15, N/A) (N/A, 0.01, N/A)	642.5	N/A	1.0185 [ 1.0000 ]	101.9% { 105.2% }			
13C4_PFOA_IIS	(417.0 / 372.0) 213398	(7.89, N/A) (N/A, 0.00, N/A)	702.0	N/A	0.9707 [ 1.0000 ]	97.1% { 87.6% }			
13C5_PFNA_IIS	(468.0 / 423.0) 183484	(8.63, N/A) (N/A, 0.00, N/A)	565.2	N/A	0.9908 [ 1.0000 ]	99.1% { 101.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 190729	(9.31, N/A) (N/A, 0.00, N/A)	459.5	N/A	1.0320 [ 1.0000 ]	103.2% { 95.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 419632	(8.02, N/A) (N/A, 0.00, N/A)	767.5	N/A	1.0394 [ 1.0000 ]	103.9% { 101.4% }			
13C4_PFOS_IIS	(502.8 / 79.9) 349264	(9.45, N/A) (N/A, 0.00, N/A)	471.8	N/A	1.0943 [ 1.0000 ]	109.4% { 103.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1244599	(3.67, N/A) (N/A, 0.00, N/A)	878.8	N/A	8.1897 [ 8.0000 ]	102.4% { 99.4% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 703198	(4.99, N/A) (N/A, 0.02, N/A)	873.5	N/A	4.2971 [ 4.0000 ]	107.4% { 106.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 535139	(6.15, N/A) (N/A, 0.01, N/A)	695.9	N/A	1.9772 [ 2.0000 ]	98.9% { 101.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 443162	(7.08, N/A) (N/A, 0.01, N/A)	560.3	N/A	1.8769 [ 2.0000 ]	93.8% { 95.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 507238	(7.89, N/A) (N/A, 0.00, N/A)	901.2	N/A	2.1675 [ 2.0000 ]	108.4% { 99.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 211111	(8.63, N/A) (N/A, 0.00, N/A)	627.4	N/A	1.0463 [ 1.0000 ]	104.6% { 115.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 276057	(9.31, N/A) (N/A, 0.00, N/A)	464.9	N/A	1.0177 [ 1.0000 ]	101.8% { 110.2% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 354738	(9.72, N/A) (N/A, 0.00, N/A)	610.1	N/A	0.9194 [ 1.0000 ]	91.9% { 110.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 362823	(9.90, N/A) (N/A, 0.00, N/A)	596.0	N/A	0.9421 [ 1.0000 ]	94.2% { 98.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 269584	(10.12, N/A) (N/A, 0.00, N/A)	533.7	N/A	1.0540 [ 1.0000 ]	105.4% { 97.5% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1464075	(6.10, N/A) (N/A, 0.01, N/A)	867.5	N/A	2.0636 [ 2.0000 ]	103.2% { 104.1% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 726152	(8.01, N/A) (N/A, 0.00, N/A)	904.5	N/A	1.9236 [ 2.0000 ]	96.2% { 104.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1126362	(9.45, N/A) (N/A, 0.00, N/A)	742.2	N/A	1.8791 [ 2.0000 ]	94.0% { 105.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 250171	(5.82, N/A) (N/A, 0.02, N/A)	671.2	N/A	4.1631 [ 4.0000 ]	104.1% { 111.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 306761	(7.56, N/A) (N/A, 0.01, N/A)	705.3	N/A	4.2400 [ 4.0000 ]	106.0% { 106.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 241109	(8.97, N/A) (N/A, 0.01, N/A)	455.9	N/A	3.3291 [ 4.0000 ]	83.2% { 107.0% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1612590	(10.18, N/A) (N/A, 0.00, N/A)	813.8	N/A	2.1283 [ 2.0000 ]	106.4% { 113.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 350295	(10.60, N/A) (N/A, 0.00, N/A)	1153.7	N/A	2.1174 [ 2.0000 ]	105.9% { 103.3% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 333388	(10.69, N/A) (N/A, -0.01, N/A)	1249.2	N/A	2.1830 [ 2.0000 ]	109.2% { 110.5% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB4  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (31)  
 Acquired: 2022/12/22 - 01:01

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 628747	(9.50, N/A) (N/A, 0.00, N/A)	396.7	N/A	4.4111 [ 4.0000 ]	110.3% { 108.2% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 534795	(9.68, N/A) (N/A, 0.00, N/A)	377.8	N/A	4.2567 [ 4.0000 ]	106.4% { 118.4% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 528718	(10.57, N/A) (N/A, 0.00, N/A)	1000.5	N/A	22.7610 [ 20.0000 ]	113.8% { 112.7% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 240978	(10.66, N/A) (N/A, 0.00, N/A)	1257.8	N/A	22.7873 [ 20.0000 ]	113.9% { 110.1% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1177226	(6.50, N/A) (N/A, 0.01, N/A)	696.0	N/A	8.1809 [ 8.0000 ]	102.3% { 96.9% }			



## ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03942  
 Calibration: 2252011

SDG:  
 Project: Red Hill AFFF Assessment Sam  
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SB03942-CCB5	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.00	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPEs	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.0194	ng/mL	0.10	U
	PFNS	0.00	ng/mL	0.10	U
	PFDS	0.00	ng/mL	0.10	U
	PFDOS	0.00	ng/mL	0.10	U
	4:2FTS	0.00	ng/mL	0.40	U
	6:2FTS	0.00	ng/mL	0.40	U
	8:2FTS	0.00	ng/mL	0.40	U
	PFOSA	0.00	ng/mL	0.10	U
	NMeFOSA	0.00	ng/mL	0.40	U
	NEtFOSA	0.00	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.00	ng/mL	0.40	U
	NEtFOSE	0.00	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
	PFMPA	0.00	ng/mL	0.20	U

## ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03942  
 Calibration: 2252011

SDG:  
 Project: Red Hill AFFF Assessment Sam  
 Instrument: Saphira

Lab Sample ID	Analyte	Found	Units	RL	C
SB03942-CCB5	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	8.01	ng/mL		
	13C5-PFPEA	4.76	ng/mL		
	13C5-PFHXA	2.35	ng/mL		
	13C4-PFHPA	2.32	ng/mL		
	13C8-PFOA	1.91	ng/mL		
	13C9-PFNA	0.913	ng/mL		
	13C6-PFDA	1.02	ng/mL		
	13C7-PFUnA	0.973	ng/mL		
	13C2-PFDOA	1.19	ng/mL		
	13C2-PFTEDA	1.28	ng/mL		
	13C3-PFBS	1.92	ng/mL		
	13C3-PFHXS	1.89	ng/mL		
	13C8-PFOS	2.02	ng/mL		
	13C2-4:2FTS	4.32	ng/mL		
	13C2-6:2FTS	4.69	ng/mL		
	13C2-8:2FTS	4.32	ng/mL		
	13C8-PFOSA	2.13	ng/mL		
	D5-NETFOSA	2.42	ng/mL		
	D3-NMEFOSA	2.38	ng/mL		
	D3-NMEFOSAA	4.40	ng/mL		
	D5-NETFOSAA	4.63	ng/mL		
	D7-NMEFOSE	24.4	ng/mL		
	D9-NETFOSSE	22.9	ng/mL		
	13C3-HFPO-DA	9.62	ng/mL		



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB5  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (41)  
 Acquired: 2022/12/22 - 03:34

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(262.9 / 219.0) N/A (262.9 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB5  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (41)  
 Acquired: 2022/12/22 - 03:34

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) N/A ( 298.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 11221 ( 499.0 / 99.0 ) 2306	( 9.40 , 1.00 ) ( 0.00 , N/A , -0.1 )	31.7 24.5	0.2055 84.5 95.7	0.0194	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) N/A ( 427.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

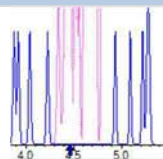
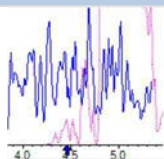
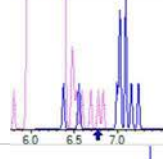
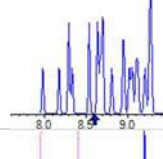
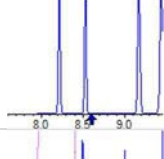
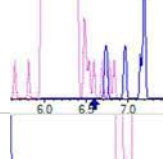
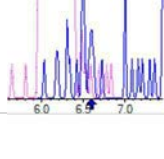
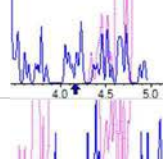
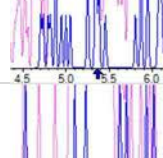
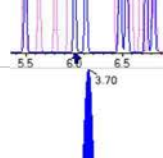
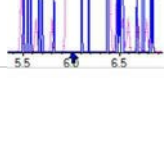
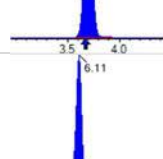
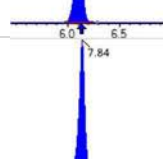
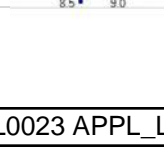


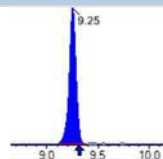
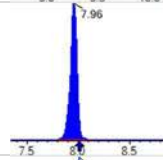
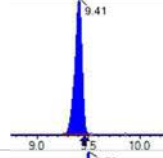
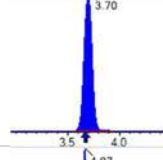
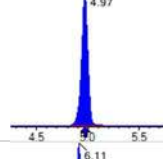
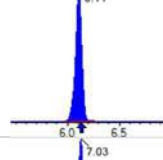
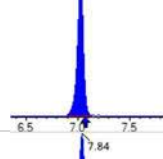
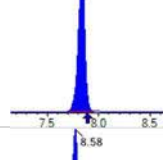
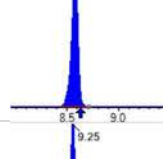
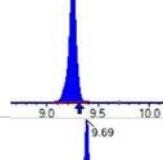
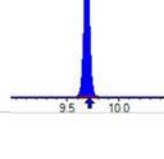
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB5  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (41)  
 Acquired: 2022/12/22 - 03:34

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(511.9 / 219.0) N/A (511.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.1 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 157754	(3.70, N/A) (N/A, 0.03, N/A)	663.7	N/A	1.1333 [ 1.0000 ]	113.3% { 96.8% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 207195	(6.11, N/A) (N/A, -0.03, N/A)	509.9	N/A	0.8973 [ 1.0000 ]	89.7% { 92.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 242858	(7.84, N/A) (N/A, -0.05, N/A)	616.0	N/A	1.1047 [ 1.0000 ]	110.5% { 99.7% }			
13C5_PFNxA_IIS	(468.0 / 423.0) 214002	(8.57, N/A) (N/A, -0.05, N/A)	372.1	N/A	1.1556 [ 1.0000 ]	115.6% { 118.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 175025	(9.25, N/A) (N/A, -0.06, N/A)	267.7	N/A	0.9471 [ 1.0000 ]	94.7% { 87.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 408336	(7.96, N/A) (N/A, -0.05, N/A)	768.3	N/A	1.0115 [ 1.0000 ]	101.1% { 98.7% }			
13C4_PFOS_IIS	(502.8 / 79.9) 307913	(9.41, N/A) (N/A, -0.05, N/A)	470.0	N/A	0.9647 [ 1.0000 ]	96.5% { 91.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1300208	(3.70, N/A) (N/A, 0.03, N/A)	721.1	N/A	8.0080 [ 8.0000 ]	100.1% { 103.8% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 686645	(4.97, N/A) (N/A, 0.00, N/A)	815.3	N/A	4.7629 [ 4.0000 ]	119.1% { 103.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 559362	(6.11, N/A) (N/A, -0.02, N/A)	696.7	N/A	2.3460 [ 2.0000 ]	117.3% { 106.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 482654	(7.03, N/A) (N/A, -0.04, N/A)	463.0	N/A	2.3204 [ 2.0000 ]	116.0% { 103.8% }			
13C8_PFOA_EIS	(421.0 / 376.0) 508172	(7.84, N/A) (N/A, -0.05, N/A)	663.7	N/A	1.9080 [ 2.0000 ]	95.4% { 99.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 214906	(8.58, N/A) (N/A, -0.05, N/A)	559.1	N/A	0.9132 [ 1.0000 ]	91.3% { 117.2% }			
13C6_PFDA_EIS	(519.0 / 474.0) 255023	(9.25, N/A) (N/A, -0.06, N/A)	370.1	N/A	1.0245 [ 1.0000 ]	102.4% { 101.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 344563	(9.69, N/A) (N/A, -0.03, N/A)	517.0	N/A	0.9731 [ 1.0000 ]	97.3% { 107.1% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB5  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (41)  
 Acquired: 2022/12/22 - 03:34

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 422314	(9.87, N/A) (N/A, -0.03, N/A)	687.7	N/A	1.1950 [ 1.0000 ]	119.5% { 114.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 299384	(10.11, N/A) (N/A, -0.01, N/A)	552.5	N/A	1.2756 [ 1.0000 ]	127.6% { 108.3% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1327330	(6.06, N/A) (N/A, -0.02, N/A)	669.1	N/A	1.9226 [ 2.0000 ]	96.1% { 94.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 694377	(7.96, N/A) (N/A, -0.05, N/A)	681.3	N/A	1.8903 [ 2.0000 ]	94.5% { 100.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1065070	(9.40, N/A) (N/A, -0.05, N/A)	405.2	N/A	2.0154 [ 2.0000 ]	100.8% { 100.2% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 252658	(5.78, N/A) (N/A, -0.02, N/A)	597.8	N/A	4.3208 [ 4.0000 ]	108.0% { 112.1% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 330434	(7.50, N/A) (N/A, -0.04, N/A)	757.4	N/A	4.6936 [ 4.0000 ]	117.3% { 114.7% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 304104	(8.91, N/A) (N/A, -0.05, N/A)	430.7	N/A	4.3150 [ 4.0000 ]	107.9% { 135.0% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1421143	(10.16, N/A) (N/A, -0.02, N/A)	866.6	N/A	2.1275 [ 2.0000 ]	106.4% { 100.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 346527	(10.59, N/A) (N/A, -0.02, N/A)	855.2	N/A	2.3760 [ 2.0000 ]	118.8% { 102.2% }			
D5_NEtFOSA_EIS	(531.1 / 169.0) 325828	(10.68, N/A) (N/A, -0.02, N/A)	1086.7	N/A	2.4200 [ 2.0000 ]	121.0% { 108.0% }			





Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB03942-CCB5  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

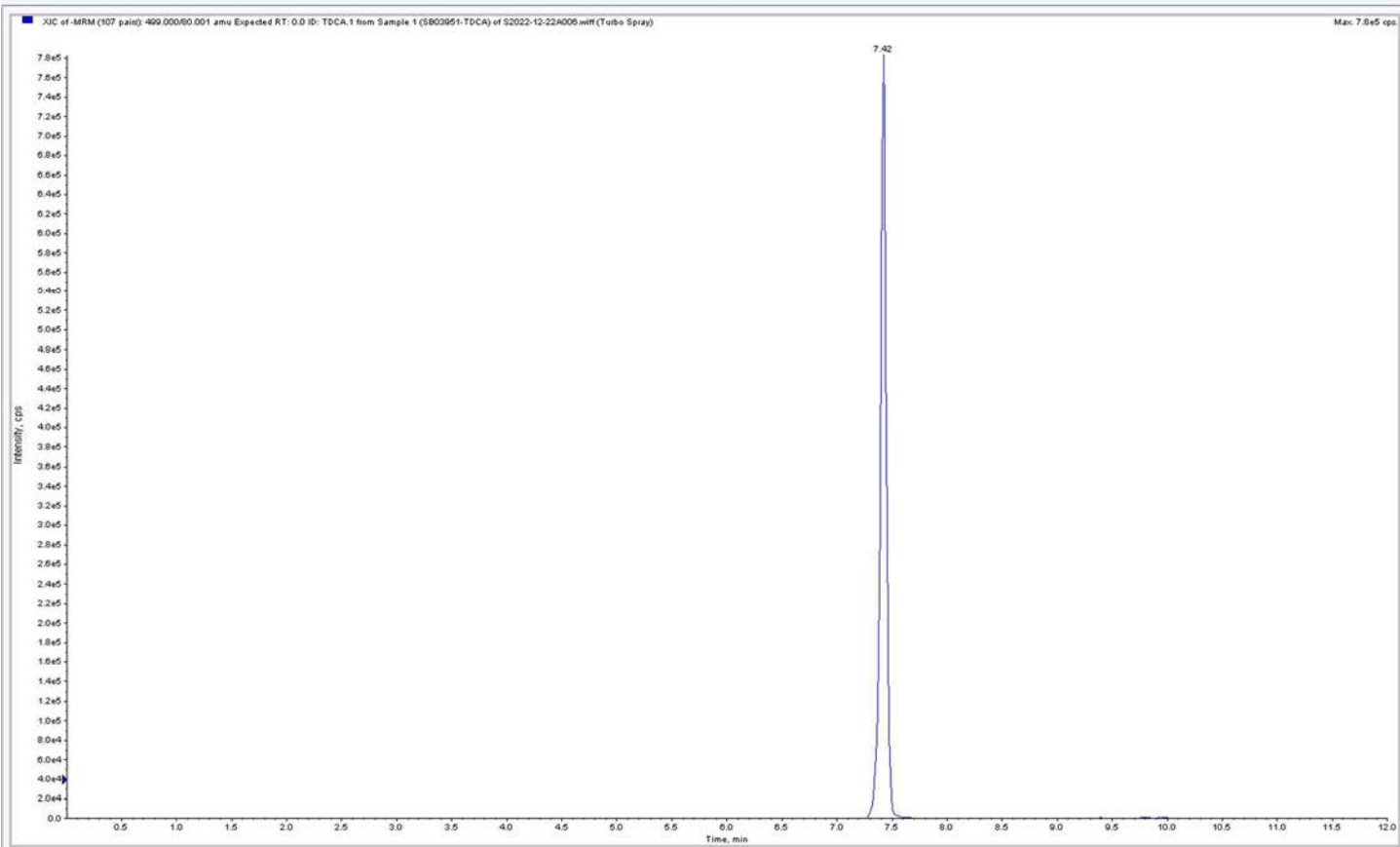
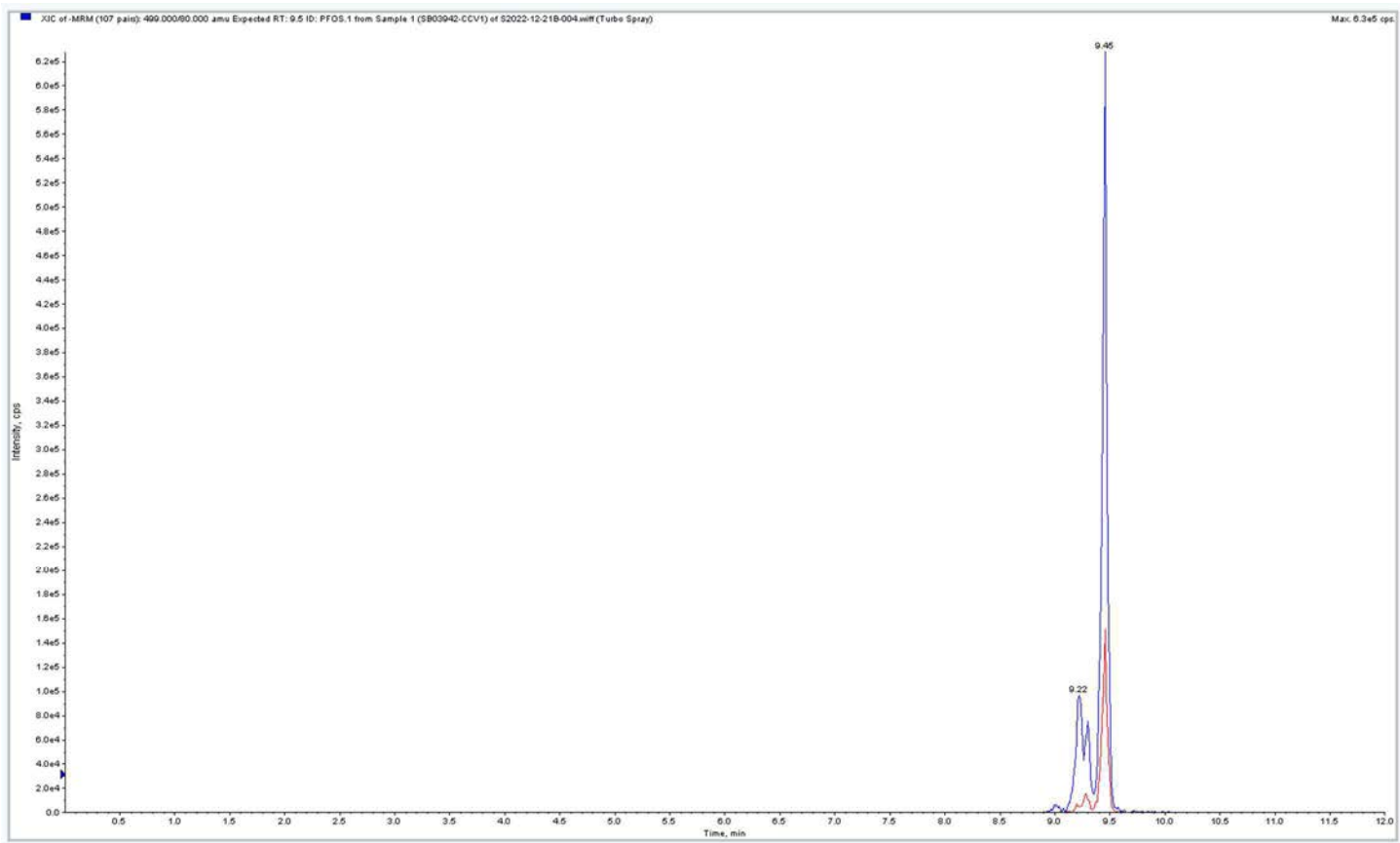
Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (41)  
 Acquired: 2022/12/22 - 03:34

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 553459	(9.45, N/A) (N/A, -0.05, N/A)	391.6	N/A	4.4043 [ 4.0000 ]	110.1% { 95.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 512920	(9.65, N/A) (N/A, -0.03, N/A)	558.1	N/A	4.6309 [ 4.0000 ]	115.8% { 113.5% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 498903	(10.55, N/A) (N/A, -0.02, N/A)	1356.8	N/A	24.3619 [ 20.0000 ]	121.8% { 106.4% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 213633	(10.65, N/A) (N/A, -0.01, N/A)	925.3	N/A	22.9145 [ 20.0000 ]	114.6% { 97.6% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1219902	(6.45, N/A) (N/A, -0.03, N/A)	737.7	N/A	9.6230 [ 8.0000 ]	120.3% { 100.4% }			

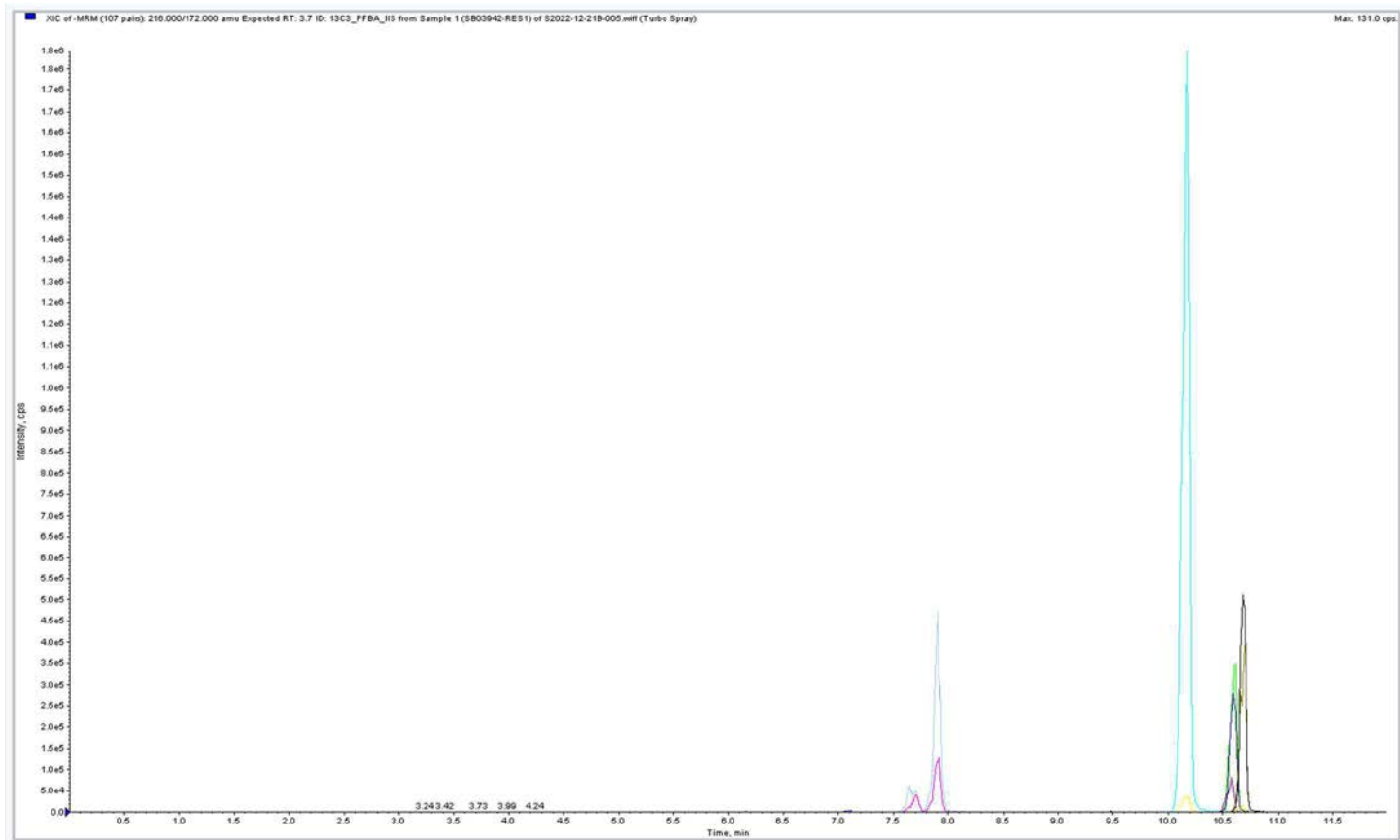
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BILE STANDARD CHECK S2022-12-21B/SB03942

TDCA = 7.42  
PFOS = 9.00  
TDCA-PFOS = 1.58 > 1.0 PASS



### S2022-12-21B/SB03951 Column Resolution



# QUALITY CONTROL RAW DATA

# ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0372-BLK1
Sampled:		File ID:	S2022-12-21B (7)
		Prepared:	12/19/22 12:22
Solids:		Analyzed:	12/21/22 19:57
		Preparation:	PFAS Leachates
Batch:	BBL0372	Dilution:	1
		Calibration:	2252011
Column:	1	Instrument:	Saphira

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	4.0 U	8.0	4.0	1.0	U
PFPEA	4.0 U	4.0	4.0	0.32	U
PFHXA	2.0 U	2.0	2.0	0.28	U
PFHPA	1.0 U	2.0	1.0	0.20	U
PFOA	1.0 U	2.0	1.0	0.75	IR2, U
PFNA	1.0 U	2.0	1.0	0.41	U
PFDA	1.0 U	2.0	1.0	0.50	U
PFUnA	1.0 U	2.0	1.0	0.80	U
PFDOA	1.0 U	2.0	1.0	0.55	U
PFTRDA	1.5 U	2.0	1.5	1.0	U
PFTEDA	1.0 U	2.0	1.0	1.0	U
PFBS	1.0 U	2.0	1.0	0.18	U
PFPEs	1.0 U	2.0	1.0	0.32	U
PFHXS	1.0 U	2.0	1.0	0.16	U
PFHPS	1.0 U	2.0	1.0	0.26	U
PFOS	0.604 J	2.0	1.0	0.32	J
PFNS	1.0 U	2.0	1.0	0.60	U
PFDS	1.0 U	2.0	1.0	0.75	U
PFDOS	1.0 U	2.0	1.0	0.60	U
4:2FTS	4.0 U	8.0	4.0	1.4	U
6:2FTS	4.0 U	8.0	4.0	1.6	U
8:2FTS	4.0 U	8.0	4.0	0.41	U
PFOSA	1.0 U	2.0	1.0	0.50	U
NMeFOSA	4.0 U	8.0	4.0	2.4	U
NEtFOSA	4.0 U	8.0	4.0	2.0	U
NMeFOSAA	1.0 U	2.0	1.0	0.55	U
NEtFOSAA	1.0 U	2.0	1.0	0.55	U
NMeFOSE	6.0 U	8.0	6.0	5.0	U
NEtFOSE	6.0 U	8.0	6.0	5.0	U
HFPO-DA	2.0 U	4.0	2.0	0.85	U

**ANALYSIS DATA SHEET**

Blank

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0372-BLK1
Sampled:		File ID:	S2022-12-21B (7)
Solids:		Prepared:	12/19/22 12:22
Batch:	BBL0372	Analyzed:	12/21/22 19:57
Column:	1	Preparation:	PFAS Leachates
		Dilution:	1
		Sequence:	SB03942
		Calibration:	2252011
		Instrument:	Saphira

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	2.0 U	4.0	2.0	0.60	U
PFEESA	2.0 U	4.0	2.0	0.55	U
PFMPA	2.0 U	4.0	2.0	0.27	U
PFMBA	2.0 U	4.0	2.0	0.46	U
NFDHA	2.0 U	4.0	2.0	1.5	U
9CL-PF3ONS	2.0 U	4.0	2.0	1.0	U
11CL-PF3OUDS	2.0 U	4.0	2.0	1.0	U
3:3FTCA	4.0 U	8.0	4.0	2.8	U
5:3FTCA	4.0 U	8.0	4.0	2.2	U
7:3FTCA	4.0 U	8.0	4.0	2.8	U



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0372-BLK1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (7)  
 Acquired: 2022/12/21 - 19:57

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(262.9 / 219.0) N/A (262.9 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) 6785 (413.0 / 169.0) 3550	(7.87, 1.00) (0.00, N/A, 0.0)	21.9 39.3	0.5233 160.1 159.1	0.0244	N/A			IR2,
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			





Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0372-BLK1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (7)  
 Acquired: 2022/12/21 - 19:57

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) N/A ( 298.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 18203 ( 499.0 / 99.0 ) 3300	( 9.44 , 1.00 ) ( 0.01 , N/A , 0.3 )	22.2 14.6	0.1813 74.6 84.4	0.0302	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) N/A ( 427.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0372-BLK1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (7)  
 Acquired: 2022/12/21 - 19:57

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(511.9 / 219.0) N/A (511.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.1 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

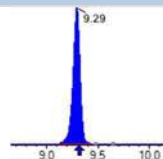
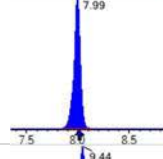
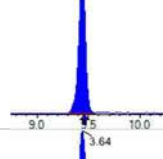
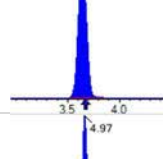
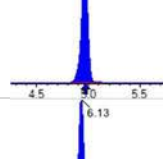
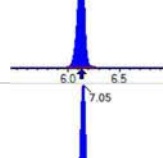
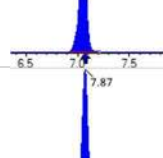
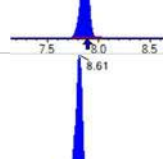
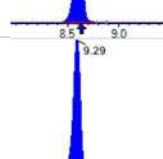
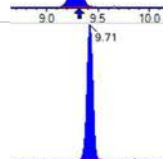
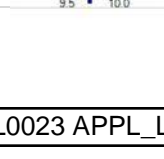


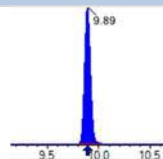
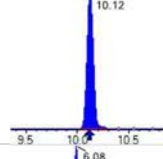
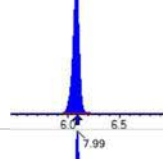
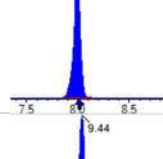
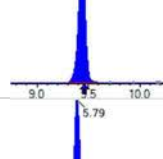
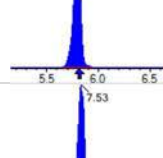
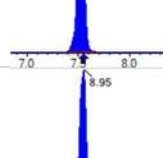
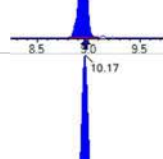
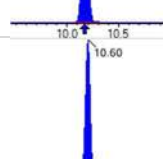
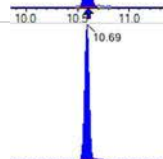
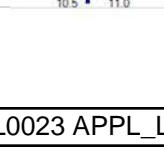
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0372-BLK1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (7)  
 Acquired: 2022/12/21 - 19:57

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 191074	(3.65, N/A) (N/A, -0.02, N/A)	637.8	N/A	1.3727 [ 1.0000 ]	137.3% { 117.2% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 315076	(6.13, N/A) (N/A, -0.01, N/A)	468.0	N/A	1.3644 [ 1.0000 ]	136.4% { 141.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 300927	(7.87, N/A) (N/A, -0.02, N/A)	639.1	N/A	1.3688 [ 1.0000 ]	136.9% { 123.5% }			
13C5_PFNA_IIS	(468.0 / 423.0) 253692	(8.61, N/A) (N/A, -0.02, N/A)	657.1	N/A	1.3700 [ 1.0000 ]	137.0% { 140.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 231401	(9.29, N/A) (N/A, -0.02, N/A)	323.6	N/A	1.2521 [ 1.0000 ]	125.2% { 115.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 536456	(7.99, N/A) (N/A, -0.02, N/A)	945.2	N/A	1.3288 [ 1.0000 ]	132.9% { 129.7% }			
13C4_PFOS_IIS	(502.8 / 79.9) 427065	(9.44, N/A) (N/A, -0.01, N/A)	314.4	N/A	1.3380 [ 1.0000 ]	133.8% { 126.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1485899	(3.64, N/A) (N/A, -0.02, N/A)	829.0	N/A	7.5558 [ 8.0000 ]	94.4% { 118.7% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 795800	(4.97, N/A) (N/A, -0.01, N/A)	823.1	N/A	3.6300 [ 4.0000 ]	90.8% { 120.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 633454	(6.13, N/A) (N/A, -0.01, N/A)	663.4	N/A	1.7471 [ 2.0000 ]	87.4% { 120.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 545278	(7.05, N/A) (N/A, -0.02, N/A)	539.6	N/A	1.7239 [ 2.0000 ]	86.2% { 117.2% }			
13C8_PFOA_EIS	(421.0 / 376.0) 565376	(7.87, N/A) (N/A, -0.02, N/A)	811.1	N/A	1.7132 [ 2.0000 ]	85.7% { 110.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 211362	(8.61, N/A) (N/A, -0.02, N/A)	455.8	N/A	0.7577 [ 1.0000 ]	75.8% { 115.3% }			
13C6_PFDA_EIS	(519.0 / 474.0) 284249	(9.29, N/A) (N/A, -0.02, N/A)	451.1	N/A	0.8637 [ 1.0000 ]	86.4% { 113.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 312866	(9.71, N/A) (N/A, 0.00, N/A)	408.8	N/A	0.6683 [ 1.0000 ]	66.8% { 97.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 359372	(9.89, N/A) (N/A, -0.01, N/A)	631.1	N/A	0.7691 [ 1.0000 ]	76.9% { 97.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 255620	(10.12, N/A) (N/A, 0.00, N/A)	419.2	N/A	0.8238 [ 1.0000 ]	82.4% { 92.5% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1641989	(6.08, N/A) (N/A, -0.01, N/A)	751.5	N/A	1.8103 [ 2.0000 ]	90.5% { 116.8% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 791961	(7.99, N/A) (N/A, -0.02, N/A)	918.1	N/A	1.6411 [ 2.0000 ]	82.1% { 114.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1110203	(9.44, N/A) (N/A, -0.02, N/A)	397.9	N/A	1.5147 [ 2.0000 ]	75.7% { 104.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 252530	(5.79, N/A) (N/A, -0.01, N/A)	693.8	N/A	3.2872 [ 4.0000 ]	82.2% { 112.1% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 272124	(7.53, N/A) (N/A, -0.02, N/A)	912.0	N/A	2.9422 [ 4.0000 ]	73.6% { 94.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 295396	(8.95, N/A) (N/A, -0.02, N/A)	457.1	N/A	3.1904 [ 4.0000 ]	79.8% { 131.1% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1442258	(10.17, N/A) (N/A, -0.01, N/A)	957.2	N/A	1.5567 [ 2.0000 ]	77.8% { 101.8% }			
D3_NMeFOsa_EIS	(515.0 / 169.0) 100919	(10.60, N/A) (N/A, -0.01, N/A)	417.7	N/A	0.4989 [ 2.0000 ]	24.9% { 29.8% }			
D5_NEtFOsa_EIS	(531.1 / 169.0) 80705	(10.69, N/A) (N/A, -0.01, N/A)	880.4	N/A	0.4322 [ 2.0000 ]	21.6% { 26.8% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0372-BLK1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (7)  
 Acquired: 2022/12/21 - 19:57

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	( 573.0 / 419.0 ) 547912	( 9.49 , N/A ) ( N/A , -0.02 , N/A )	315.7	N/A	3.1437 [ 4.0000 ]	78.6% { 94.3% }			
D5_EtFOSAA_EIS	( 589.0 / 419.0 ) 523431	( 9.68 , N/A ) ( N/A , -0.01 , N/A )	552.7	N/A	3.4073 [ 4.0000 ]	85.2% { 115.9% }			
D7_NMeFOSE_EIS	( 623.2 / 58.9 ) 268251	( 10.57 , N/A ) ( N/A , 0.00 , N/A )	870.3	N/A	9.4443 [ 20.0000 ]	47.2% { 57.2% }			
D9_NEtFOSE_EIS	( 639.2 / 58.9 ) 106668	( 10.66 , N/A ) ( N/A , -0.01 , N/A )	1059.5	N/A	8.2491 [ 20.0000 ]	41.2% { 48.7% }			
13C3_HFPODA_EIS	( 287.0 / 169.0 ) 1292001	( 6.47 , N/A ) ( N/A , -0.01 , N/A )	719.2	N/A	6.7021 [ 8.0000 ]	83.8% { 106.3% }			

# ANALYSIS DATA SHEET

## LCS

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0372-BS1
Sampled:		File ID:	S2022-12-21B (8)
		Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 20:09
Solids:		Preparation:	PFAS Leachates
		Dilution:	1
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011
		Instrument:	Saphira
Column:	1		

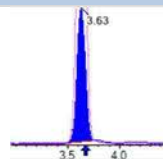
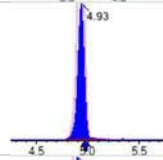
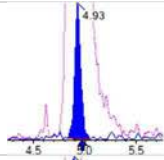
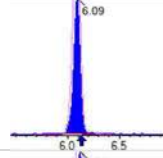
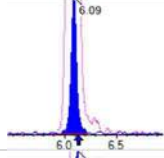
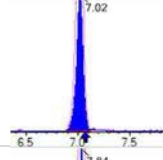
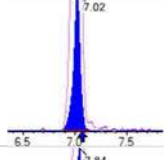
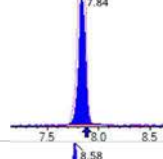
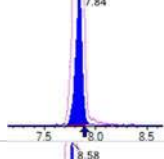
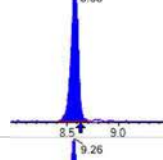
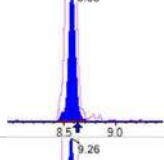
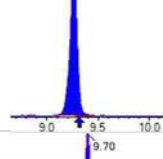
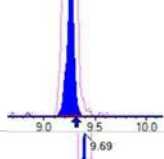
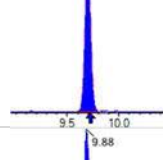
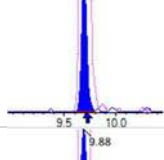
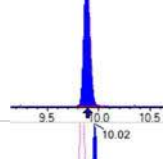
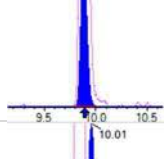
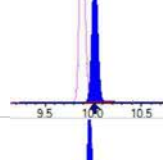
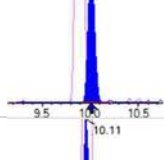
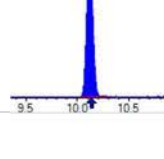
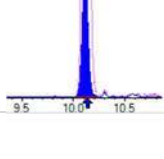
COMPOUND	CONC. (ng/L)	LOQ	DL	Q
PFBA	79.8	8.0	1.0	
PFPEA	39.7	4.0	0.32	
PFHXA	20.9	2.0	0.28	
PFHPA	19.3	2.0	0.20	
PFOA	19.6	2.0	0.75	
PFNA	21.7	2.0	0.41	
PFDA	19.3	2.0	0.50	
PFUnA	19.4	2.0	0.80	
PFDOA	21.4	2.0	0.55	
PFTRDA	20.5	2.0	1.0	
PFTEDA	21.9	2.0	1.0	
PFBS	18.7	2.0	0.18	
PFPEs	20.5	2.0	0.32	
PFHXS	19.1	2.0	0.16	
PFHPS	21.1	2.0	0.26	
PFOS	19.8	2.0	0.32	
PFNS	19.3	2.0	0.60	
PFDS	19.0	2.0	0.75	
PFDOS	20.3	2.0	0.60	
4:2FTS	76.8	8.0	1.4	
6:2FTS	81.0	8.0	1.6	
8:2FTS	77.3	8.0	0.41	
PFOSA	20.5	2.0	0.50	
NMeFOSA	87.1	8.0	2.4	
NEtFOSA	91.7	8.0	2.0	
NMeFOSAA	23.5	2.0	0.55	
NEtFOSAA	23.3	2.0	0.55	
NMeFOSE	71.2	8.0	5.0	
NEtFOSE	58.1	8.0	5.0	
HFPO-DA	37.4	4.0	0.25	

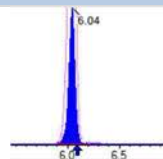
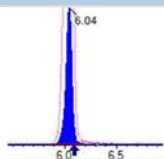
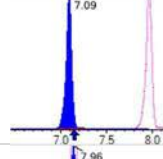
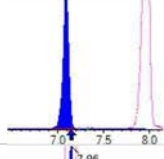
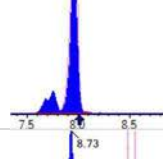
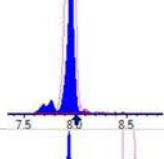
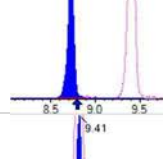
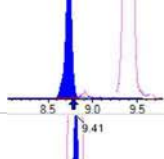
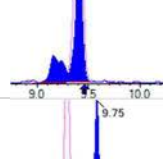
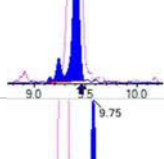
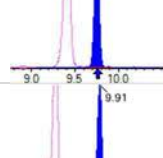
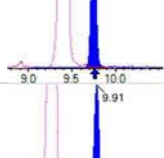
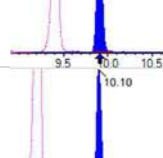
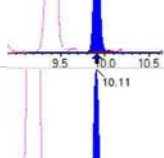
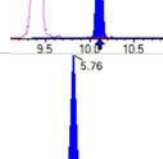
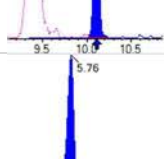
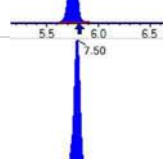
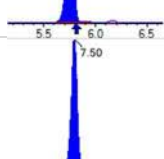
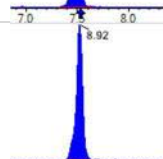
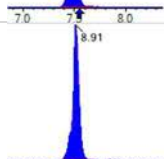
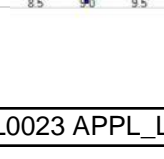
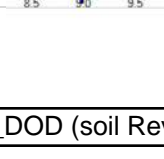
**ANALYSIS DATA SHEET****LCS**

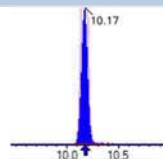
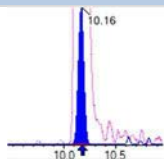
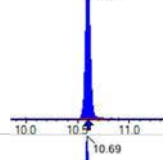
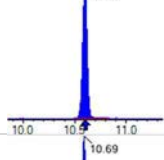
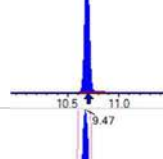
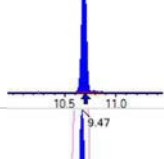
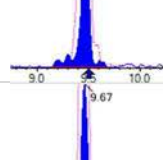
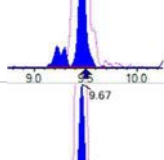
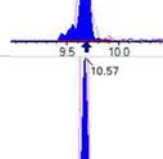
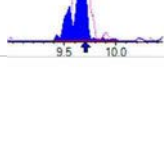
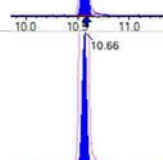
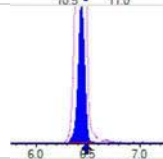
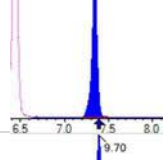
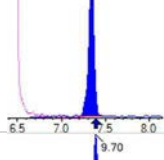
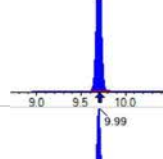
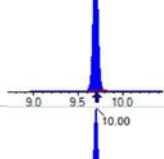
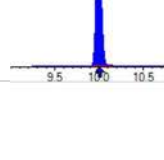
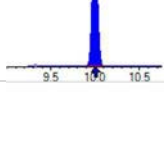
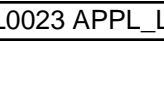
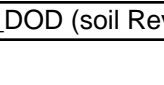
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Matrix:	Solid	Laboratory ID:	BBL0372-BS1
Sampled:		File ID:	S2022-12-21B (8)
Solids:		Prepared:	12/19/22 12:22
Batch:	BBL0372	Analyzed:	12/21/22 20:09
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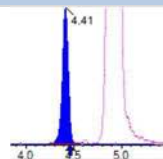
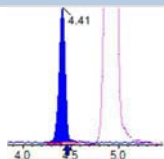
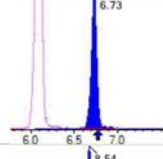
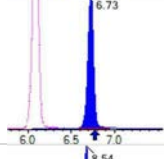
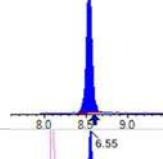
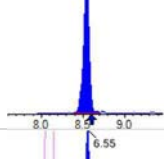
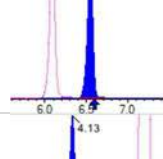
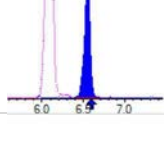
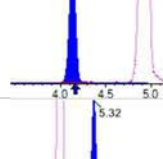
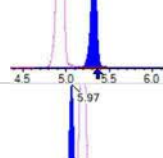
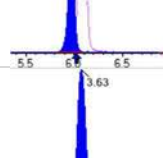
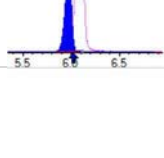
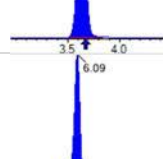
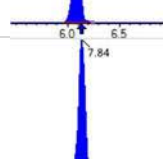
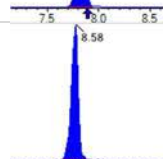
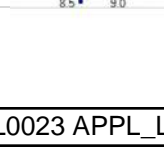
COMPOUND	CONC. (ng/L)	LOQ	DL	Q
ADONA	35.7	4.0	0.60	
PFEESA	36.6	4.0	0.55	
PFMPA	40.7	4.0	0.27	
PFMBA	36.6	4.0	0.46	
NFDHA	44.2	4.0	1.5	
9CL-PF3ONS	29.5	4.0	1.0	
11CL-PF3OUDS	29.1	4.0	1.0	
3:3FTCA	77.0	8.0	2.8	
5:3FTCA	80.7	8.0	2.2	
7:3FTCA	82.3	8.0	2.8	



Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 457768	(3.63, 1.00) (0.00, N/A, 0.0)	74.7	N/A 0.0 0.0	3.9896 [ 4.0000 ]	99.7%			
PFPeA	(262.9 / 219.0) 334815 (262.9 / 69.0) 3544	(4.93, 1.00) (0.00, N/A, 0.3)	738.9 91.6	0.0106 94.6 91.3	1.9863 [ 2.0000 ]	99.3%			
PFHxA	(313.0 / 269.0) 259860 (313.0 / 119.0) 25762	(6.09, 1.00) (0.00, N/A, 0.1)	380.9 185.3	0.0991 101.4 106.9	1.0466 [ 1.0000 ]	104.7%			
PFHpA	(363.0 / 319.0) 230144 (363.0 / 169.0) 70554	(7.02, 1.00) (0.00, N/A, -0.1)	360.3 305.9	0.3066 98.4 98.3	0.9674 [ 1.0000 ]	96.7%			
PFOA	(413.0 / 369.0) 259558 (413.0 / 169.0) 86753	(7.84, 1.00) (0.00, N/A, 0.0)	348.9 496.3	0.3342 102.3 101.6	0.9802 [ 1.0000 ]	98.0%			
PFNA	(463.0 / 419.0) 189733 (463.0 / 169.0) 42365	(8.58, 1.00) (0.00, N/A, 0.0)	262.8 135.3	0.2233 115.8 97.3	1.0861 [ 1.0000 ]	108.6%			
PFDA	(513.0 / 469.0) 239514 (513.0 / 169.0) 24027	(9.26, 1.00) (0.01, N/A, 0.0)	302.5 1095.8	0.1003 105.0 92.9	0.9648 [ 1.0000 ]	96.5%			
PFUnA	(563.0 / 519.0) 276442 (563.0 / 169.0) 20818	(9.70, 1.00) (0.00, N/A, 0.4)	418.0 154.3	0.0753 86.7 73.5	0.9683 [ 1.0000 ]	96.8%			
PFDoA	(613.0 / 569.0) 290888 (613.0 / 169.0) 34898	(9.88, 1.00) (0.00, N/A, -0.1)	582.0 106.4	0.1200 86.2 102.3	1.0706 [ 1.0000 ]	107.1%			
PFTrDA	(663.0 / 619.0) 241039 (663.0 / 169.0) 47278	(10.02, 1.01) (N/A, 0.00, 0.3)	523.4 417.5	0.1961 95.8 91.9	1.0239 [ 1.0000 ]	102.4%			
PFTeDA	(713.0 / 669.0) 201184 (713.0 / 169.0) 42373	(10.12, 1.00) (0.00, N/A, 0.4)	494.5 178.0	0.2106 103.6 119.8	1.0926 [ 1.0000 ]	109.3%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 400509 (298.9 / 99.0) 250905	(6.04, 1.00) (0.00, N/A, -0.1)	698.3 508.0	0.6265 101.8 100.3	0.9373 [0.8847]	105.9%			
PFPeS	(349.0 / 80.0) 690858 (349.0 / 99.0) 246355	(7.09, 0.89) (N/A, -0.05, 0.0)	708.5 613.6	0.3566 100.2 104.0	1.0249 [0.9384]	109.2%			
PFHxS	(399.0 / 80.0) 560434 (399.0 / 99.0) 196306	(7.96, 1.00) (0.00, N/A, -0.1)	1934.2 36979.7	0.3503 104.2 103.1	0.9560 [0.9110]	104.9%			
PFHpS	(449.0 / 80.0) 464864 (449.0 / 99.0) 138540	(8.73, 0.93) (N/A, -0.06, -0.3)	453.1 492.0	0.2980 108.9 107.2	1.0570 [0.9514]	111.1%			
PFOS	(499.0 / 80.0) 540898 (499.0 / 99.0) 103881	(9.41, 1.00) (0.00, N/A, 0.1)	78.5 111.0	0.1921 79.0 89.5	0.9887 [0.9275]	106.6%			
PFNS	(549.0 / 80.0) 585171 (549.0 / 99.0) 159100	(9.75, 1.04) (N/A, -0.01, 0.4)	647.2 340.4	0.2719 111.4 108.9	0.9642 [0.9599]	100.5%			
PFDS	(599.0 / 80.0) 638836 (599.0 / 99.0) 160217	(9.91, 1.05) (N/A, -0.01, -0.1)	909.8 410.7	0.2508 111.4 120.9	0.9482 [0.9631]	98.5%			
PFDoS	(698.9 / 80.0) 285127 (698.9 / 99.0) 62736	(10.10, 1.07) (N/A, -0.01, -0.2)	725.1 272.3	0.2200 89.9 88.8	1.0126 [0.9696]	104.4%			
4:2FTS	(327.0 / 307.0) 808487 (327.0 / 81.0) 437740	(5.76, 1.00) (0.00, N/A, -0.2)	649.0 452.3	0.5414 109.6 104.9	3.8383 [3.7381]	102.7%			
6:2FTS	(427.0 / 407.0) 443299 (427.0 / 81.0) 334939	(7.50, 1.00) (-0.01, N/A, -0.1)	558.7 642.2	0.7556 97.1 116.7	4.0487 [3.7962]	106.7%			
8:2FTS	(527.0 / 507.0) 402499 (527.0 / 81.0) 259585	(8.92, 1.00) (0.00, N/A, 0.4)	388.4 506.0	0.6449 113.9 80.3	3.8667 [3.8332]	100.9%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 675318 (498.0 / 478.0) 17173	(10.17, 1.00) (0.00, N/A, 0.3)	792.7 217.3	0.0254 122.0 108.5	1.0256 [ 1.0000 ]	102.6%			
NMeFOSA	(511.9 / 219.0) 159594 (511.9 / 169.0) 106866	(10.60, 1.00) (0.00, N/A, -0.1)	761.0 447.4	0.6696 93.0 103.8	4.3545 [ 4.0000 ]	108.9%			
NEIFOSA	(526.0 / 219.0) 139333 (526.0 / 169.0) 142928	(10.69, 1.00) (0.00, N/A, 0.0)	828.8 577.9	1.0258 97.0 100.8	4.5838 [ 4.0000 ]	114.6%			
NMeFOSAA	(570.0 / 419.0) 106989 (570.0 / 483.0) 57946	(9.47, 1.00) (0.01, N/A, 0.3)	158.5 1352.2	0.5416 88.1 112.3	1.1737 [ 1.0000 ]	117.4%			
NEIFOSAA	(584.0 / 419.0) 104671 (584.0 / 526.0) 63936	(9.67, 1.00) (0.01, N/A, -0.2)	295.0 8364.3	0.6108 83.3 97.9	1.1640 [ 1.0000 ]	116.4%			
NMeFOSE	(616.1 / 59.0) 51952	(10.57, 1.00) (0.01, N/A, 0.0)	559.5	N/A 0.0 0.0	3.5591 [ 4.0000 ]	89.0%			
NEtFOSE	(630.0 / 59.0) 7015	(10.66, 1.00) (0.01, N/A, 0.0)	184.9	N/A 0.0 0.0	2.9035 [ 4.0000 ]	72.6%			
HFPO-DA	(285.0 / 169.0) 186764 (285.0 / 185.0) 580133	(6.44, 1.00) (0.00, N/A, 0.0)	600.0 845.9	3.1062 113.2 108.4	1.8716 [ 2.0000 ]	93.6%			
ADONA	(377.0 / 85.0) 790625 (377.0 / 251.0) 105547	(7.34, 1.14) (N/A, -0.04, 0.2)	955.6 310.5	0.1335 107.2 96.4	1.7838 [ 1.8854 ]	94.6%			
9CI-Pf3ONS	(531.0 / 351.0) 1845709 (533.0 / 353.0) 568940	(9.70, 1.51) (N/A, -0.02, 0.2)	609.5 520.9	0.3083 104.2 98.8	1.4773 [ 1.8665 ]	79.1%			
11CI-PF3OUDS	(631.0 / 451.0) 900836 (633.0 / 453.0) 292329	(9.99, 1.55) (N/A, -0.01, -0.1)	477.9 465.2	0.3245 98.1 115.3	1.4542 [ 1.8864 ]	77.1%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 22393 (241.0 / 117.0) 39244	(4.41, 0.89) (N/A, -0.04, 0.1)	474.7 281.2	1.7525 104.7 101.8	3.8493 [4.0000]	96.2%			
5:3FTCA	(341.0 / 236.7) 176959 (341.0 / 217.0) 283071	(6.73, 1.11) (N/A, -0.04, 0.2)	417.7 479.6	1.5996 109.3 103.3	4.0336 [4.0000]	100.8%			
7:3FTCA	(441.0 / 317.0) 207653 (441.0 / 337.0) 169239	(8.54, 1.40) (N/A, -0.05, -0.2)	367.4 284.8	0.8150 97.3 100.6	4.1136 [4.0000]	102.8%			
PFEESA	(315.0 / 135.0) 497621 (315.0 / 83.0) 135281	(6.55, 1.08) (N/A, -0.04, -0.1)	659.9 435.4	0.2719 88.6 91.3	1.8306 [1.7849]	102.6%			
PFMPA	(229.0 / 85.0) 94140	(4.13, 0.84) (N/A, -0.04, 0.0)	797.7	N/A 0.0 0.0	2.0349 [2.0000]	101.7%			
PFMBA	(279.0 / 85.0) 292798	(5.32, 1.08) (N/A, -0.04, 0.0)	745.0	N/A 0.0 0.0	1.8311 [2.0000]	91.6%			
NFDHA	(295.0 / 201.0) 276597 (295.0 / 85.0) 240325	(5.97, 0.98) (N/A, -0.04, 0.1)	606.9 700.7	0.8689 98.4 93.4	2.2093 [2.0000]	110.5%			
13C3_PFBA_IIS	(216.0 / 172.0) 187938	(3.63, N/A) (N/A, -0.03, N/A)	629.6	N/A	1.3502 [1.0000]	135.0% {115.3%}			
13C2_PFHxA_IIS	(315.1 / 270.0) 291882	(6.09, N/A) (N/A, -0.04, N/A)	458.8	N/A	1.2640 [1.0000]	126.4% {130.6%}			
13C4_PFOA_IIS	(417.0 / 372.0) 281582	(7.84, N/A) (N/A, -0.05, N/A)	703.1	N/A	1.2808 [1.0000]	128.1% {115.6%}			
13C5_PFNA_IIS	(468.0 / 423.0) 205985	(8.58, N/A) (N/A, -0.05, N/A)	389.2	N/A	1.1123 [1.0000]	111.2% {114.2%}			

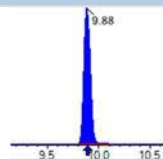
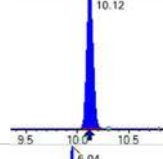
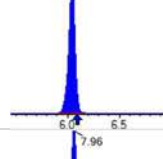
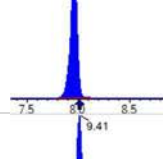
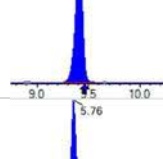
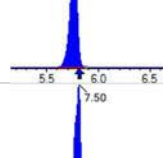
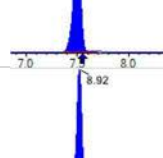
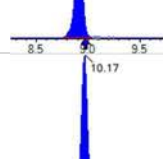
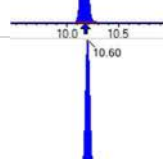
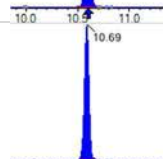
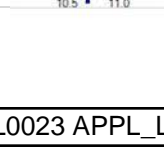


Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0372-BS1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (8)  
 Acquired: 2022/12/21 - 20:09

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 227056	(9.26, N/A) (N/A, -0.05, N/A)	274.0	N/A	1.2286 [ 1.0000 ]	122.9% { 113.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 515436	(7.96, N/A) (N/A, -0.05, N/A)	968.5	N/A	1.2768 [ 1.0000 ]	127.7% { 124.6% }			
13C4_PFOS_IIS	(502.8 / 79.9) 421087	(9.41, N/A) (N/A, -0.04, N/A)	742.7	N/A	1.3193 [ 1.0000 ]	131.9% { 124.7% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1407024	(3.63, N/A) (N/A, -0.03, N/A)	858.6	N/A	7.2741 [ 8.0000 ]	90.9% { 112.4% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 767699	(4.93, N/A) (N/A, -0.04, N/A)	826.1	N/A	3.7801 [ 4.0000 ]	94.5% { 115.7% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 578203	(6.09, N/A) (N/A, -0.05, N/A)	596.8	N/A	1.7214 [ 2.0000 ]	86.1% { 109.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 521986	(7.02, N/A) (N/A, -0.05, N/A)	606.7	N/A	1.7814 [ 2.0000 ]	89.1% { 112.2% }			
13C8_PFOA_EIS	(421.0 / 376.0) 538541	(7.83, N/A) (N/A, -0.05, N/A)	613.0	N/A	1.7440 [ 2.0000 ]	87.2% { 105.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 203582	(8.57, N/A) (N/A, -0.06, N/A)	320.0	N/A	0.8988 [ 1.0000 ]	89.9% { 111.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 260824	(9.26, N/A) (N/A, -0.05, N/A)	456.0	N/A	0.8077 [ 1.0000 ]	80.8% { 104.1% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 361252	(9.70, N/A) (N/A, -0.02, N/A)	606.8	N/A	0.7865 [ 1.0000 ]	78.6% { 112.3% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 315185	(9.88, N/A) (N/A, -0.01, N/A)	600.5	N/A	0.6875 [ 1.0000 ]	68.7% { 85.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 207762	(10.12, N/A) (N/A, 0.00, N/A)	357.0	N/A	0.6824 [ 1.0000 ]	68.2% { 75.2% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1558765	(6.04, N/A) (N/A, -0.04, N/A)	767.4	N/A	1.7887 [ 2.0000 ]	89.4% { 110.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 754685	(7.96, N/A) (N/A, -0.05, N/A)	710.1	N/A	1.6276 [ 2.0000 ]	81.4% { 109.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1008024	(9.41, N/A) (N/A, -0.05, N/A)	363.4	N/A	1.3948 [ 2.0000 ]	69.7% { 94.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 254811	(5.76, N/A) (N/A, -0.04, N/A)	803.5	N/A	3.4522 [ 4.0000 ]	86.3% { 113.1% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 284851	(7.50, N/A) (N/A, -0.04, N/A)	458.0	N/A	3.2054 [ 4.0000 ]	80.1% { 98.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 262813	(8.92, N/A) (N/A, -0.05, N/A)	397.0	N/A	2.9543 [ 4.0000 ]	73.9% { 116.7% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1393431	(10.17, N/A) (N/A, -0.01, N/A)	975.4	N/A	1.5253 [ 2.0000 ]	76.3% { 98.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 89923	(10.60, N/A) (N/A, -0.01, N/A)	433.6	N/A	0.4508 [ 2.0000 ]	22.5% { 26.5% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 67398	(10.69, N/A) (N/A, -0.01, N/A)	794.4	N/A	0.3660 [ 2.0000 ]	18.3% { 22.3% }			S1,



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0372-BS1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (8)  
 Acquired: 2022/12/21 - 20:09

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 467898	(9.46, N/A) (N/A, -0.04, N/A)	469.6	N/A	2.7227 [ 4.0000 ]	68.1% { 80.5% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 400646	(9.66, N/A) (N/A, -0.03, N/A)	403.3	N/A	2.6450 [ 4.0000 ]	66.1% { 88.7% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 231292	(10.56, N/A) (N/A, -0.01, N/A)	1032.5	N/A	8.2587 [ 20.0000 ]	41.3% { 49.3% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 94377	(10.66, N/A) (N/A, -0.01, N/A)	825.5	N/A	7.4023 [ 20.0000 ]	37.0% { 43.1% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1313384	(6.44, N/A) (N/A, -0.05, N/A)	752.3	N/A	7.3545 [ 8.0000 ]	91.9% { 108.1% }			

**ANALYSIS DATA SHEET****MRL Check**

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0372-MRL1
Sampled:		File ID:	S2022-12-21B (9)
		Prepared:	12/19/22 12:22
		Analyzed:	12/21/22 20:22
Solids:		Preparation:	PFAS Leachates
		Dilution:	1
Batch:	BBL0372	Sequence:	SB03942
		Calibration:	2252011
		Instrument:	Saphira
Column:	1		

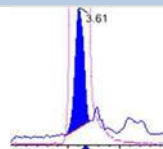
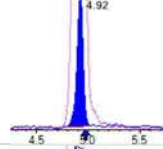
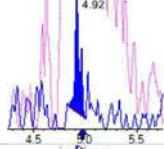
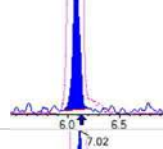
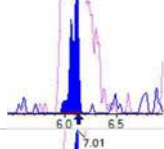
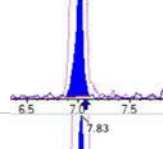
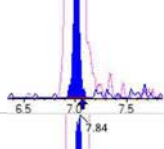
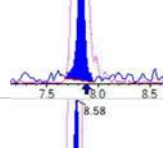
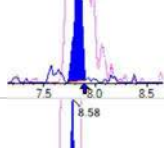
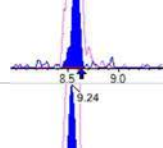
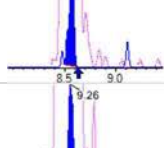
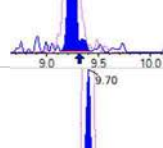
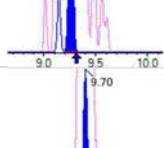
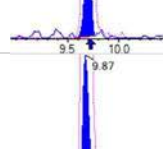
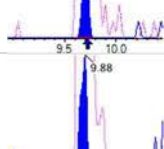
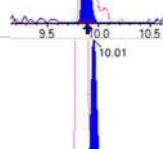
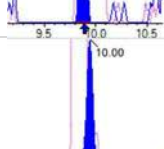
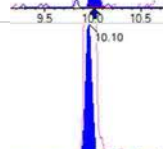
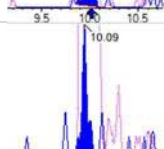
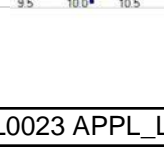
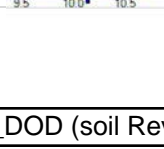
COMPOUND	CONC. (ng/L)	LOQ	DL	Q
PFBA	6.93	8.0	1.0	J
PFPEA	4.18	4.0	0.32	
PFHXA	2.19	2.0	0.28	
PFHPA	2.47	2.0	0.20	
PFOA	2.42	2.0	0.75	
PFNA	2.24	2.0	0.41	
PFDA	2.37	2.0	0.50	
PFUnA	1.90	2.0	0.80	IR2, J
PFDOA	1.26	2.0	0.55	IR2, J
PFTRDA	1.57	2.0	1.0	IR2, J
PFTEDA	1.95	2.0	1.0	J
PFBS	1.81	2.0	0.18	J
PFPEs	1.90	2.0	0.32	J
PFHXS	1.90	2.0	0.16	J
PFHPS	1.67	2.0	0.26	J
PFOS	2.00	2.0	0.32	
PFNS	1.40	2.0	0.60	J
PFDS	1.52	2.0	0.75	J
PFDOS	1.36	2.0	0.60	J
4:2FTS	6.65	8.0	1.4	J
6:2FTS	8.82	8.0	1.6	
8:2FTS	6.56	8.0	0.41	J
PFOSA	1.76	2.0	0.50	J
NMeFOSA	5.78	8.0	2.4	J
NEtFOSA	6.02	8.0	2.0	J
NMeFOSAA	2.08	2.0	0.55	
NEtFOSAA	1.94	2.0	0.55	J
NMeFOSE	7.27	8.0	5.0	J
NEtFOSE	7.22	8.0	5.0	J
HFPO-DA	3.59	4.0	0.85	J

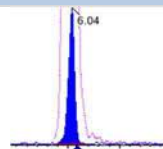
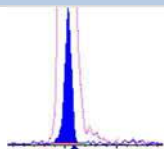
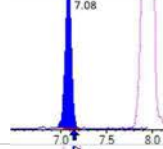
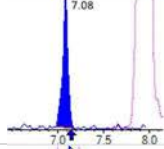
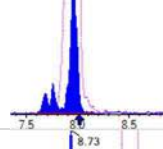
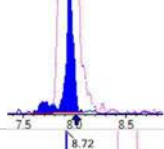
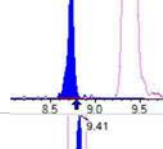
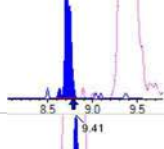
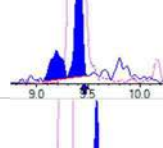
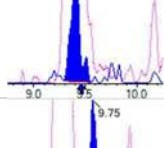
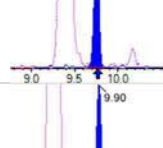
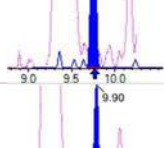
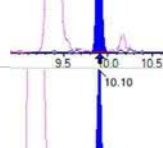
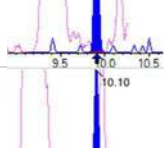
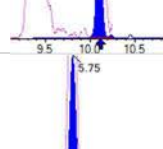
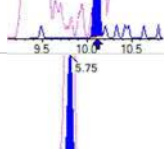
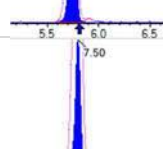
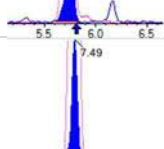
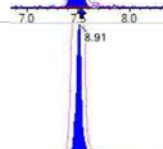
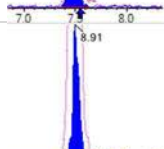

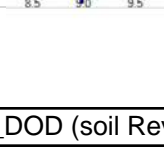


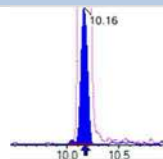
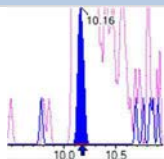
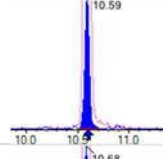
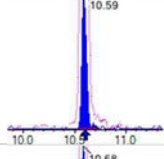
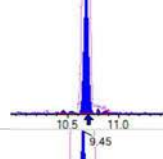
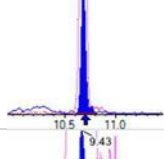
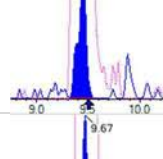
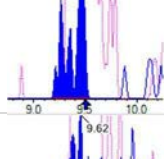
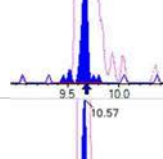
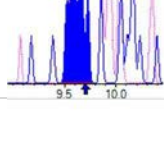
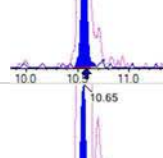
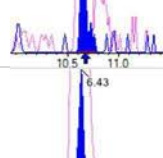
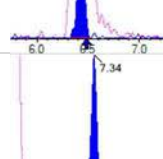
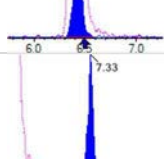
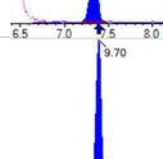
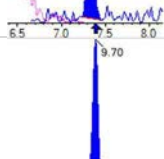
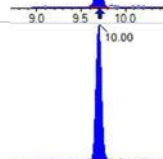
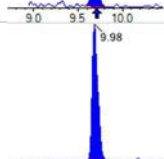
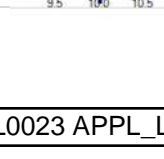
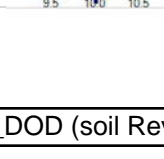
**ANALYSIS DATA SHEET****MRL Check**

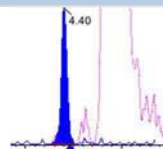
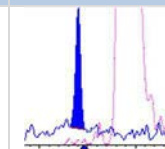
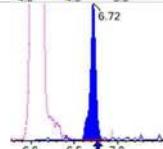
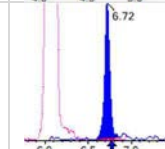
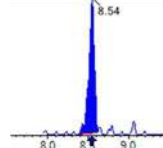
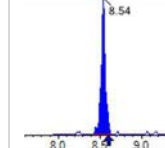
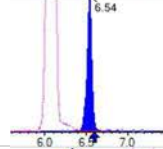
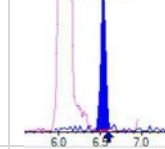
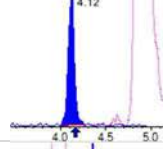
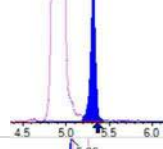
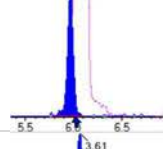
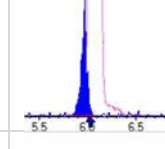
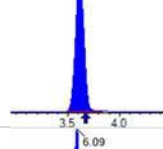
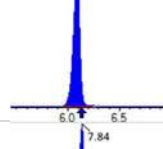
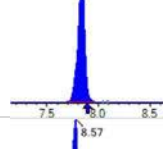
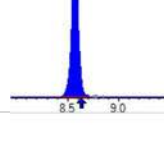
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Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Solid	Laboratory ID:	BBL0372-MRL1
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Solids:		Analyzed:	12/21/22 20:22
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		Instrument:	Saphira

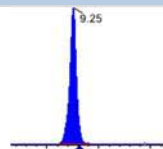
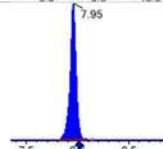
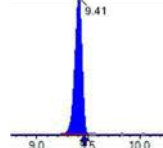
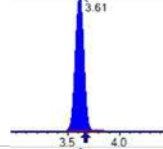
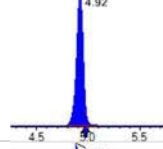
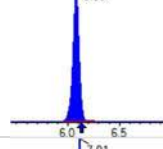
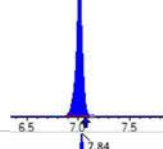
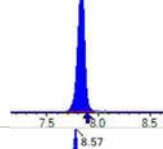
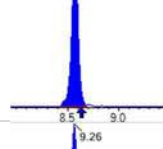
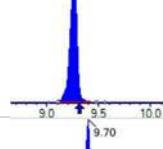
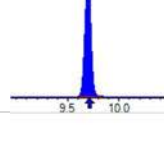
COMPOUND	CONC. (ng/L)	LOQ	DL	Q
ADONA	3.68	4.0	0.60	J
PFEESA	3.22	4.0	0.55	J
PFMPA	3.78	4.0	0.27	J
PFMBA	3.64	4.0	0.46	J
NFDHA	3.61	4.0	1.5	J
9CL-PF3ONS	2.84	4.0	1.0	J
11CL-PF3OUDS	2.80	4.0	1.0	J
3:3FTCA	9.01	8.0	2.8	
5:3FTCA	7.50	8.0	2.2	J
7:3FTCA	7.90	8.0	2.8	J

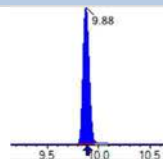
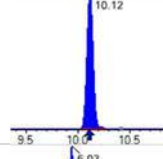
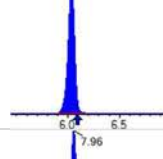
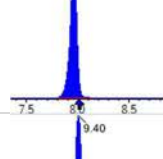
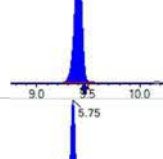
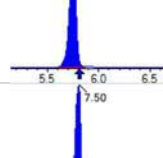
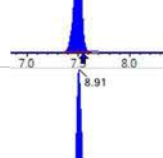
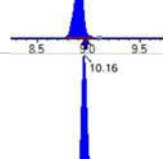
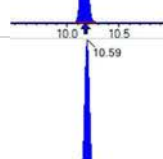
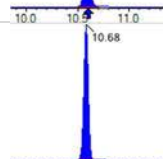
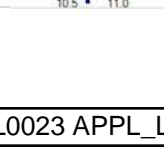
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 40183	(3.61, 1.00) (0.00, N/A, 0.0)	37.8	N/A 0.0 0.0	0.3466 [0.4000]	86.7%			
PFPeA	(262.9 / 219.0) 33176 (262.9 / 69.0) 324	(4.92, 1.00) (0.00, N/A, 0.1)	214.6 14.4	0.0098 87.4 84.3	0.2089 [0.2000]	104.4%			
PFHxA	(313.0 / 269.0) 27389 (313.0 / 119.0) 3293	(6.08, 1.00) (0.00, N/A, -1.4)	76.1 39.5	0.1202 123.0 129.7	0.1096 [0.1000]	109.6%			
PFHpA	(363.0 / 319.0) 29534 (363.0 / 169.0) 7769	(7.02, 1.00) (0.00, N/A, 0.1)	121.5 73.3	0.2631 84.5 84.4	0.1235 [0.1000]	123.5%			
PFOA	(413.0 / 369.0) 31534 (413.0 / 169.0) 8855	(7.83, 1.00) (0.00, N/A, -0.3)	78.9 70.5	0.2808 85.9 85.4	0.1209 [0.1000]	120.9%			
PFNA	(463.0 / 419.0) 18472 (463.0 / 169.0) 4349	(8.58, 1.00) (0.01, N/A, 0.5)	105.2 51.5	0.2355 122.2 102.6	0.1121 [0.1000]	112.1%			
PFDA	(513.0 / 469.0) 26246 (513.0 / 169.0) 1825	(9.24, 1.00) (-0.02, N/A, -1.1)	50.5 35.4	0.0695 72.7 64.4	0.1185 [0.1000]	118.5%			
PFUnA	(563.0 / 519.0) 24320 (563.0 / 169.0) 3449	(9.70, 1.00) (0.00, N/A, 0.0)	77.4 313.6	0.1418 163.3 138.4	0.0948 [0.1000]	94.8%			IR2,
PFDoA	(613.0 / 569.0) 19933 (613.0 / 169.0) 4125	(9.87, 1.00) (0.00, N/A, -0.6)	93.6 30.6	0.2069 148.6 176.4	0.0630 [0.1000]	63.0%			QC,IR2,
PFTrDA	(663.0 / 619.0) 21553 (663.0 / 169.0) 8171	(10.01, 1.01) (N/A, -0.01, 0.6)	101.1 50.8	0.3791 185.2 177.6	0.0786 [0.1000]	78.6%			IR2,
PFTeDA	(713.0 / 669.0) 21971 (713.0 / 169.0) 2833	(10.10, 1.00) (-0.01, N/A, 0.7)	86.5 25.2	0.1290 63.4 73.3	0.0973 [0.1000]	97.3%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 35555 (298.9 / 99.0) 24215	(6.04, 1.00) (0.00, N/A, 0.3)	249.0 138.2	0.6811 110.7 109.0	0.0907 [0.0885]	102.5%			
PFPeS	(349.0 / 80.0) 65078 (349.0 / 99.0) 20671	(7.08, 0.89) (N/A, -0.05, -0.1)	305.4 120.1	0.3176 89.2 92.6	0.0948 [0.0938]	101.0%			
PFHxS	(399.0 / 80.0) 56809 (399.0 / 99.0) 17411	(7.96, 1.00) (0.00, N/A, 0.5)	2776.7 218.0	0.3065 91.2 90.2	0.0952 [0.0911]	104.5%			
PFHpS	(449.0 / 80.0) 40140 (449.0 / 99.0) 13038	(8.73, 0.93) (N/A, -0.05, 0.8)	178.5 110.4	0.3248 118.7 116.8	0.0835 [0.0951]	87.8%			
PFOS	(499.0 / 80.0) 59841 (499.0 / 99.0) 15276	(9.41, 1.00) (0.01, N/A, 0.1)	97.5 40.7	0.2553 105.0 118.9	0.1001 [0.0927]	107.9%			M14 ABK 12/22/22
PFNS	(549.0 / 80.0) 46281 (549.0 / 99.0) 9579	(9.75, 1.04) (N/A, -0.02, 0.1)	209.2 95.2	0.2070 84.8 82.9	0.0698 [0.0960]	72.7%			
PFDS	(599.0 / 80.0) 56083 (599.0 / 99.0) 9883	(9.90, 1.05) (N/A, -0.01, -0.2)	205.1 71.2	0.1762 78.3 84.9	0.0762 [0.0963]	79.1%			
PFDoS	(698.9 / 80.0) 20928 (698.9 / 99.0) 5282	(10.10, 1.07) (N/A, -0.01, -0.2)	882.0 51.9	0.2524 103.2 101.9	0.0680 [0.0970]	70.1%			
4:2FTS	(327.0 / 307.0) 73847 (327.0 / 81.0) 44468	(5.75, 1.00) (0.00, N/A, -0.1)	607.9 132.1	0.6022 121.9 116.7	0.3326 [0.3738]	89.0%			
6:2FTS	(427.0 / 407.0) 51047 (427.0 / 81.0) 38283	(7.50, 1.00) (0.00, N/A, 0.2)	279.3 215.6	0.7500 96.4 115.8	0.4411 [0.3796]	116.2%			
8:2FTS	(527.0 / 507.0) 35241 (527.0 / 81.0) 23642	(8.91, 1.00) (0.00, N/A, 0.2)	219.7 113.3	0.6709 118.5 83.5	0.3278 [0.3833]	85.5%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 53551 (498.0 / 478.0) 1542	(10.16, 1.00) (0.00, N/A, 0.3)	210.5 23.6	0.0288 138.2 122.8	0.0880 [0.1000]	88.0%			
NMeFOSA	(511.9 / 219.0) 12698 (511.9 / 169.0) 7583	(10.59, 1.00) (0.00, N/A, 0.0)	265.2 215.2	0.5972 82.9 92.5	0.2892 [0.4000]	72.3%			
NEIFOSA	(526.0 / 219.0) 11723 (526.0 / 169.0) 12205	(10.68, 1.00) (0.00, N/A, -0.1)	126902.9 156.3	1.0412 98.4 102.3	0.3012 [0.4000]	75.3%			
NMeFOSAA	(570.0 / 419.0) 10202 (570.0 / 483.0) 4663	(9.45, 1.00) (-0.01, N/A, 1.0)	45.6 141.1	0.4571 74.4 94.8	0.1042 [0.1000]	104.2%			
NEIFOSAA	(584.0 / 419.0) 9305 (584.0 / 526.0) 3738	(9.67, 1.00) (0.01, N/A, 3.0)	2559.7 91.7	0.4017 54.8 64.4	0.0968 [0.1000]	96.8%			
NMeFOSE	(616.1 / 59.0) 6114	(10.57, 1.00) (0.00, N/A, 0.0)	123.0	N/A 0.0 0.0	0.3635 [0.4000]	90.9%			
NEtFOSE	(630.0 / 59.0) 1067	(10.65, 1.00) (0.00, N/A, 0.0)	40.1	N/A 0.0 0.0	0.3611 [0.4000]	90.3%			
HFPO-DA	(285.0 / 169.0) 17147 (285.0 / 185.0) 53897	(6.43, 1.00) (0.00, N/A, 0.2)	192.6 263.1	3.1432 114.5 109.7	0.1795 [0.2000]	89.8%			
ADONA	(377.0 / 85.0) 78157 (377.0 / 251.0) 11701	(7.34, 1.14) (N/A, -0.05, 0.2)	434.4 49.0	0.1497 120.2 108.1	0.1842 [0.1885]	97.7%			
9CI-Pf3ONS	(531.0 / 351.0) 184212 (533.0 / 353.0) 51465	(9.70, 1.51) (N/A, -0.02, 0.2)	405.2 114.1	0.2794 94.4 89.6	0.1422 [0.1867]	76.2%			
11CI-PF3OUDS	(631.0 / 451.0) 82900 (633.0 / 453.0) 26728	(10.00, 1.55) (N/A, -0.01, 0.7)	377.9 1217.7	0.3224 97.5 114.6	0.1398 [0.1886]	74.1%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 2468 (241.0 / 117.0) 3214	(4.40, 0.89) (N/A, -0.05, 0.0)	123.7 49.4	1.3023 77.8 75.6	0.4503 [0.4000]	112.6%			
5:3FTCA	(341.0 / 236.7) 16555 (341.0 / 217.0) 27874	(6.72, 1.11) (N/A, -0.05, 0.0)	147.7 132.4	1.6837 115.0 108.7	0.3751 [0.4000]	93.8%			
7:3FTCA	(441.0 / 317.0) 20066 (441.0 / 337.0) 16631	(8.54, 1.41) (N/A, -0.05, 0.2)	81.0 242.4	0.8288 99.0 102.3	0.3951 [0.4000]	98.8%			
PFEESA	(315.0 / 135.0) 44007 (315.0 / 83.0) 14332	(6.54, 1.08) (N/A, -0.05, 0.3)	322.7 103.4	0.3257 106.1 109.4	0.1609 [0.1785]	90.1%			
PFMPA	(229.0 / 85.0) 8234	(4.12, 0.84) (N/A, -0.05, 0.0)	205.7	N/A 0.0 0.0	0.1889 [0.2000]	94.4%			
PFMBA	(279.0 / 85.0) 27390	(5.31, 1.08) (N/A, -0.05, 0.0)	474.3	N/A 0.0 0.0	0.1818 [0.2000]	90.9%			
NFDHA	(295.0 / 201.0) 22711 (295.0 / 85.0) 23324	(5.96, 0.98) (N/A, -0.05, -0.1)	177.5 88.1	1.0270 116.3 110.3	0.1803 [0.2000]	90.1%			
13C3_PFBA_IIS	(216.0 / 172.0) 188091	(3.61, N/A) (N/A, -0.05, N/A)	767.3	N/A	1.3513 [1.0000]	135.1% {115.4%}			
13C2_PFHxA_IIS	(315.1 / 270.0) 285607	(6.09, N/A) (N/A, -0.05, N/A)	419.0	N/A	1.2368 [1.0000]	123.7% {127.8%}			
13C4_PFOA_IIS	(417.0 / 372.0) 281063	(7.84, N/A) (N/A, -0.05, N/A)	590.3	N/A	1.2784 [1.0000]	127.8% {115.3%}			
13C5_PFNA_IIS	(468.0 / 423.0) 229751	(8.57, N/A) (N/A, -0.06, N/A)	356.5	N/A	1.2407 [1.0000]	124.1% {127.4%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 223276	(9.25, N/A) (N/A, -0.06, N/A)	398.4	N/A	1.2081 [ 1.0000 ]	120.8% { 111.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 539093	(7.95, N/A) (N/A, -0.06, N/A)	818.9	N/A	1.3353 [ 1.0000 ]	133.5% { 130.3% }			
13C4_PFOS_IIS	(502.8 / 79.9) 403555	(9.41, N/A) (N/A, -0.05, N/A)	383.4	N/A	1.2644 [ 1.0000 ]	126.4% { 119.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1421591	(3.61, N/A) (N/A, -0.05, N/A)	791.8	N/A	7.3434 [ 8.0000 ]	91.8% { 113.5% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 723384	(4.92, N/A) (N/A, -0.05, N/A)	646.8	N/A	3.6402 [ 4.0000 ]	91.0% { 109.1% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 581753	(6.08, N/A) (N/A, -0.05, N/A)	592.7	N/A	1.7700 [ 2.0000 ]	88.5% { 110.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 524865	(7.01, N/A) (N/A, -0.06, N/A)	640.8	N/A	1.8306 [ 2.0000 ]	91.5% { 112.8% }			
13C8_PFOA_EIS	(421.0 / 376.0) 530407	(7.84, N/A) (N/A, -0.05, N/A)	631.7	N/A	1.7208 [ 2.0000 ]	86.0% { 103.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 192008	(8.57, N/A) (N/A, -0.06, N/A)	297.1	N/A	0.7600 [ 1.0000 ]	76.0% { 104.7% }			
13C6_PFDA_EIS	(519.0 / 474.0) 232662	(9.26, N/A) (N/A, -0.05, N/A)	308.2	N/A	0.7327 [ 1.0000 ]	73.3% { 92.9% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 324478	(9.70, N/A) (N/A, -0.02, N/A)	619.6	N/A	0.7184 [ 1.0000 ]	71.8% { 100.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 367208	(9.88, N/A) (N/A, -0.02, N/A)	26.6	N/A	0.8145 [ 1.0000 ]	81.5% { 99.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 254864	(10.12, N/A) (N/A, 0.00, N/A)	411.1	N/A	0.8512 [ 1.0000 ]	85.1% { 92.2% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1430440	(6.03, N/A) (N/A, -0.05, N/A)	836.9	N/A	1.5694 [ 2.0000 ]	78.5% { 101.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 768386	(7.96, N/A) (N/A, -0.05, N/A)	716.1	N/A	1.5844 [ 2.0000 ]	79.2% { 111.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1101700	(9.40, N/A) (N/A, -0.05, N/A)	464.7	N/A	1.5907 [ 2.0000 ]	79.5% { 103.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 268577	(5.75, N/A) (N/A, -0.05, N/A)	594.7	N/A	3.4790 [ 4.0000 ]	87.0% { 119.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 301088	(7.50, N/A) (N/A, -0.04, N/A)	540.2	N/A	3.2394 [ 4.0000 ]	81.0% { 104.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 271464	(8.91, N/A) (N/A, -0.05, N/A)	522.6	N/A	2.9176 [ 4.0000 ]	72.9% { 120.5% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1287350	(10.16, N/A) (N/A, -0.02, N/A)	892.2	N/A	1.4704 [ 2.0000 ]	73.5% { 90.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 107716	(10.59, N/A) (N/A, -0.01, N/A)	720.4	N/A	0.5635 [ 2.0000 ]	28.2% { 31.8% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 86308	(10.68, N/A) (N/A, -0.01, N/A)	740.5	N/A	0.4891 [ 2.0000 ]	24.5% { 28.6% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0372-MRL1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-21.dam

Quant Method: 1633 - S2022-12-21A  
 Path: S2022-12-21B (9)  
 Acquired: 2022/12/21 - 20:22

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 502410	(9.46, N/A) (N/A, -0.05, N/A)	471.3	N/A	3.0505 [ 4.0000 ]	76.3% { 86.5% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 428519	(9.66, N/A) (N/A, -0.03, N/A)	423.1	N/A	2.9519 [ 4.0000 ]	73.8% { 94.9% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 266547	(10.56, N/A) (N/A, -0.01, N/A)	993.2	N/A	9.9310 [ 20.0000 ]	49.7% { 56.8% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 115411	(10.65, N/A) (N/A, -0.01, N/A)	1079.6	N/A	9.4453 [ 20.0000 ]	47.2% { 52.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1257202	(6.43, N/A) (N/A, -0.05, N/A)	732.5	N/A	7.1945 [ 8.0000 ]	89.9% { 103.4% }			



## PREPARATION BATCH SUMMARY

### EPA 1633 SPLP

Laboratory:	APPL, LLC	Work Order:	22L0023
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Batch:	BBL0372	Batch Matrix:	Solid
		Preparation:	PFAS Leachates

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT mL	FINAL VOL. mL
ADIT6-IDW-SON01MI-22DEC	22L0023-01	12/19/22 12:22	107.51	2.00
ADIT6-IDW-SON01MI-22DEC	22L0023-01RE1	12/19/22 12:22	107.51	2.00
ADIT6-IDW-SOFD01MI-22DEC	22L0023-02	12/19/22 12:22	105.04	2.00
ADIT6-IDW-SOFD01MI-22DEC	22L0023-02RE1	12/19/22 12:22	105.04	2.00
ADIT6-IDW-SOFT01MI-22DEC	22L0023-03	12/19/22 12:22	108.34	2.00
ADIT6-IDW-SOFT01MI-22DEC	22L0023-03RE1	12/19/22 12:22	108.34	2.00
ADIT6-DU02-SON01MI-22DEC	22L0023-04	12/19/22 12:22	109.11	2.00
ADIT6-DU02-SON01MI-22DEC	22L0023-04RE1	12/19/22 12:22	109.11	2.00
ADIT6-DU02-SOFD01MI-22DEC	22L0023-05	12/19/22 12:22	107.57	2.00
ADIT6-DU02-SOFD01MI-22DEC	22L0023-05RE1	12/19/22 12:22	107.57	2.00
ADIT6-DU02-SOFT01MI-22DEC	22L0023-06	12/19/22 12:22	109.78	2.00
ADIT6-DU02-SOFT01MI-22DEC	22L0023-06RE1	12/19/22 12:22	109.78	2.00
ADIT6-DU04A-SON01MI-22DEC	22L0023-07	12/19/22 12:22	109.00	2.00
ADIT6-DU01-SON01MI-22DEC	22L0023-08	12/19/22 12:22	108.35	2.00
ADIT6-DU04B-SON01MI-22DEC	22L0023-09	12/19/22 12:22	106.80	2.00
Blank	BBL0372-BLK1	12/19/22 12:22	100.00	2.00
LCS	BBL0372-BS1	12/19/22 12:22	100.00	2.00
MRL Check	BBL0372-MRL1	12/19/22 12:22	100.00	2.00

# PREPARATION BENCH SHEET

## Organics

BBL0372

**Matrix: Solid**      **Prepared using: PFAS - PFAS Leachates**

Analyses		Spiking Solution(s)			Surrogate Solution(s)				
1633 SPLP		PFAS - MIX 1633 10ng/mL			MPFAC-HIF-ES 20.0ng/mL				
22L0269		22L0269			22L0359				
Lab Number	Sample and Source ID	Date Due	Extract by	Prepared	Initial (mL)	Final (mL)	ul Spike	ul Surrogate	Extraction Comments
22L0023-01	ADIT6-IDW-SON01MI-22DEC	12/16/2022	12/30/2022	12/19/2022 12:22:00PM	107.51	2		200	prepped by HGH extracted by LYA
22L0023-01RE1	ADIT6-IDW-SON01MI-22DEC	12/16/2022	12/30/2022	12/19/2022 12:22:00PM	107.51	2		200	Added 12/21/2022 by DAG
22L0023-02	ADIT6-IDW-SOFD01MI-22DEC	12/16/2022	12/30/2022	12/19/2022 12:22:00PM	105.04	2		200	prepped by HGH extracted by LYA
22L0023-02RE1	ADIT6-IDW-SOFD01MI-22DEC	12/16/2022	12/30/2022	12/19/2022 12:22:00PM	105.04	2		200	Added 12/21/2022 by DAG
22L0023-03	ADIT6-IDW-SOFT01MI-22DEC	12/16/2022	12/30/2022	12/19/2022 12:22:00PM	108.34	2		200	prepped by HGH extracted by LYA
22L0023-03RE1	ADIT6-IDW-SOFT01MI-22DEC	12/16/2022	12/30/2022	12/19/2022 12:22:00PM	108.34	2		200	Added 12/21/2022 by DAG
22L0023-04	ADIT6-DU02-SON01MI-22DEC	12/16/2022	12/30/2022	12/19/2022 12:22:00PM	109.11	2		200	prepped by HGH extracted by LYA
22L0023-04RE1	ADIT6-DU02-SON01MI-22DEC	12/16/2022	12/30/2022	12/19/2022 12:22:00PM	109.11	2		200	Added 12/21/2022 by DAG
22L0023-05	ADIT6-DU02-SOFD01MI-22DEC	12/16/2022	12/30/2022	12/19/2022 12:22:00PM	107.57	2		200	prepped by HGH extracted by LYA
22L0023-05RE1	ADIT6-DU02-SOFD01MI-22DEC	12/16/2022	12/30/2022	12/19/2022 12:22:00PM	107.57	2		200	Added 12/21/2022 by DAG
22L0023-06	ADIT6-DU02-SOFT01MI-22DEC	12/16/2022	12/30/2022	12/19/2022 12:22:00PM	109.78	2		200	prepped by HGH extracted by LYA
22L0023-06RE1	ADIT6-DU02-SOFT01MI-22DEC	12/16/2022	12/30/2022	12/19/2022 12:22:00PM	109.78	2		200	Added 12/21/2022 by DAG
22L0023-07	ADIT6-DU04A-SON01MI-22DEC	12/16/2022	12/30/2022	12/19/2022 12:22:00PM	109	2		200	prepped by HGH extracted by LYA
22L0023-07RE1	ADIT6-DU04A-SON01MI-22DEC	12/16/2022	12/30/2022	12/19/2022 12:22:00PM	109	2		200	Added 12/21/2022 by DAG
22L0023-08	ADIT6-DU01-SON01MI-22DEC	12/16/2022	12/30/2022	12/19/2022 12:22:00PM	108.35	2		200	prepped by HGH extracted by LYA
22L0023-08RE1	ADIT6-DU01-SON01MI-22DEC	12/16/2022	12/30/2022	12/19/2022 12:22:00PM	108.35	2		200	Added 12/21/2022 by DAG
22L0023-09	ADIT6-DU04B-SON01MI-22DEC	12/16/2022	12/30/2022	12/19/2022 12:22:00PM	106.8	2		200	prepped by HGH extracted by LYA
22L0023-09RE1	ADIT6-DU04B-SON01MI-22DEC	12/16/2022	12/30/2022	12/19/2022 12:22:00PM	106.8	2		200	Added 12/21/2022 by DAG
22L0057-01	ADIT6-DU03-SON01MI-22DEC	12/15/2022	01/04/2023	12/19/2022 12:22:00PM	107.38	2		200	prepped by HGH extracted by LYA
22L0057-01RE1	ADIT6-DU03-SON01MI-22DEC	12/15/2022	01/04/2023	12/19/2022 12:22:00PM	107.38	2		200	Added 12/21/2022 by DAG
BBL0372-BLK1	Blank			12/19/2022 12:22:00PM	100	2	0	200	
BBL0372-BS1	LCS			12/19/2022 12:22:00PM	100	2	200	200	

Spiking Witnessed By \_\_\_\_\_ Date \_\_\_\_\_ Preparation Reviewed By \_\_\_\_\_ Date \_\_\_\_\_ Extracts Received By \_\_\_\_\_ Date \_\_\_\_\_

# PREPARATION BENCH SHEET

## Organics

Print Date/Time: 12/22/2022 3:34 pm

BBL0372

(Continued)

**Matrix: Solid**

**Prepared using: PFAS - PFAS Leachates**

Analyses	MRL Check	Spiking Solution(s)	Surrogate Solution(s)
1633 SPLP		PFAS - MIX 1633 10ng/mL	MPFAC-HIF-ES 20.0ng/mL
BBL0372-MRL1		12/19/2022 12:22:00PM 100	20 200
		2	

Start Date/Time \_\_\_\_\_  
 Stop Date/Time \_\_\_\_\_

Reagents	Standard	Description	LotNum
	22K0511	Reagent -0.3M Formic Acid	M13H051
	22L0094	Reagent - 0.05MFA wash	x
	22L0368	Reagent - 1.0% Ammonia Hydroxide	219481

Batch Comments:  
 Spiked by: HIGH  
 Balance #: WB2  
 Cartridge: Oasis  
 concentration: 12/20/2 6:10PM-9:00PM  
 12/21/22 6:36AM-7:10AM

Spiking Witnessed By \_\_\_\_\_ Date \_\_\_\_\_  
 Preparation Reviewed By \_\_\_\_\_ Date \_\_\_\_\_  
 Extracts Received By \_\_\_\_\_ Date \_\_\_\_\_

# INJECTION LOG - ANALYSIS SEQUENCE SUMMARY

## EPA 1633 SPLP

Laboratory:	APPL, LLC	SDG:	
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Sequence:	SB03941	Instrument:	Saphira
Calibration:	2252011		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	SB03941-CAL1	S2022-12-21A (1)	12/21/22 14:26
Cal Standard	SB03941-CAL2	S2022-12-21A (2)	12/21/22 14:39
Cal Standard	SB03941-CAL3	S2022-12-21A (3)	12/21/22 14:51
Cal Standard	SB03941-CAL4	S2022-12-21A (4)	12/21/22 15:04
Cal Standard	SB03941-CAL5	S2022-12-21A (5)	12/21/22 15:17
Cal Standard	SB03941-CAL6	S2022-12-21A (6)	12/21/22 15:30
Cal Standard	SB03941-CAL7	S2022-12-21A (7)	12/21/22 15:42
Cal Standard	SB03941-CAL8	S2022-12-21A (8)	12/21/22 15:55
Initial Cal Blank	SB03941-ICB1	S2022-12-21A (9)	12/21/22 16:08
Secondary Cal Check	SB03941-SCV1	S2022-12-21A (10)	12/21/22 16:20

## INJECTION LOG - ANALYSIS SEQUENCE SUMMARY

## EPA 1633 SPLP

Laboratory: APPL, LLC  
 Client: AECOM  
 Sequence: SB03942  
 Calibration: 2252011

SDG:  
 Project: Red Hill AFFF Assessment Sampling  
 Instrument: Saphira

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Blank	SB03942-CCB1	S2022-12-21B (1)	12/21/22 16:46
Low Cal Check	SB03942-LCV1	S2022-12-21B (2)	12/21/22 16:58
Calibration Check	SB03942-CCV1	S2022-12-21B (3)	12/21/22 17:11
Calibration Blank	SB03942-CCB2	S2022-12-21B (4)	12/21/22 17:49
Calibration Check	SB03942-CCV2	S2022-12-21B (5)	12/21/22 19:31
Calibration Blank	SB03942-CCB3	S2022-12-21B (6)	12/21/22 19:44
Blank	BBL0372-BLK1	S2022-12-21B (7)	12/21/22 19:57
LCS	BBL0372-BS1	S2022-12-21B (8)	12/21/22 20:09
MRL Check	BBL0372-MRL1	S2022-12-21B (9)	12/21/22 20:22
ADIT6-IDW-SON01MI-22DEC	22L0023-01	S2022-12-21B (10)	12/21/22 20:35
ADIT6-IDW-SON01MI-22DEC	22L0023-01RE1	S2022-12-21B (11)	12/21/22 20:47
ADIT6-IDW-SOFD01MI-22DEC	22L0023-02	S2022-12-21B (12)	12/21/22 21:00
ADIT6-IDW-SOFD01MI-22DEC	22L0023-02RE1	S2022-12-21B (13)	12/21/22 21:13
ADIT6-IDW-SOFT01MI-22DEC	22L0023-03	S2022-12-21B (14)	12/21/22 21:25
ADIT6-IDW-SOFT01MI-22DEC	22L0023-03RE1	S2022-12-21B (15)	12/21/22 21:38
ADIT6-DU02-SON01MI-22DEC	22L0023-04	S2022-12-21B (16)	12/21/22 21:51
ADIT6-DU02-SON01MI-22DEC	22L0023-04RE1	S2022-12-21B (17)	12/21/22 22:03
ADIT6-DU02-SOFD01MI-22DEC	22L0023-05	S2022-12-21B (18)	12/21/22 22:16
ADIT6-DU02-SOFD01MI-22DEC	22L0023-05RE1	S2022-12-21B (19)	12/21/22 22:29
ADIT6-DU02-SOFT01MI-22DEC	22L0023-06	S2022-12-21B (20)	12/21/22 22:42
ADIT6-DU02-SOFT01MI-22DEC	22L0023-06RE1	S2022-12-21B (21)	12/21/22 22:54
ADIT6-DU04A-SON01MI-22DEC	22L0023-07	S2022-12-21B (22)	12/21/22 23:07
ADIT6-DU01-SON01MI-22DEC	22L0023-08	S2022-12-21B (24)	12/21/22 23:32
ADIT6-DU04B-SON01MI-22DEC	22L0023-09	S2022-12-21B (26)	12/21/22 23:58
Calibration Check	SB03942-CCV3	S2022-12-21B (30)	12/22/22 00:49
Calibration Blank	SB03942-CCB4	S2022-12-21B (31)	12/22/22 01:01
Calibration Check	SB03942-CCV4	S2022-12-21B (40)	12/22/22 03:21
Calibration Blank	SB03942-CCB5	S2022-12-21B (41)	12/22/22 03:34

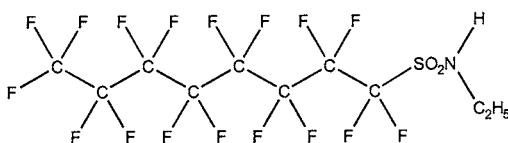


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** N-EtFOSA-M **LOT NUMBER:** NEtFOSA0821M  
**COMPOUND:** N-ethylperfluoro-1-octanesulfonamide

**STRUCTURE:** **CAS #:** 4151-50-2



**MOLECULAR FORMULA:**  $C_{10}H_6F_{17}NO_2S$  **MOLECULAR WEIGHT:** 527.20  
**CONCENTRATION:**  $50.0 \pm 2.5 \mu\text{g/mL}$  **SOLVENT(S):** Methanol  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 08/12/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 08/12/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**   
 B.G. Chittim, General Manager

**Date:** 08/16/2021  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters

$x_1, x_2, \dots, x_n$  on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where  $x$  is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of  $\pm 5\%$  (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

**TRACEABILITY:**

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

**EXPIRY DATE / PERIOD OF VALIDITY:**

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

**LIMITED WARRANTY:**

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

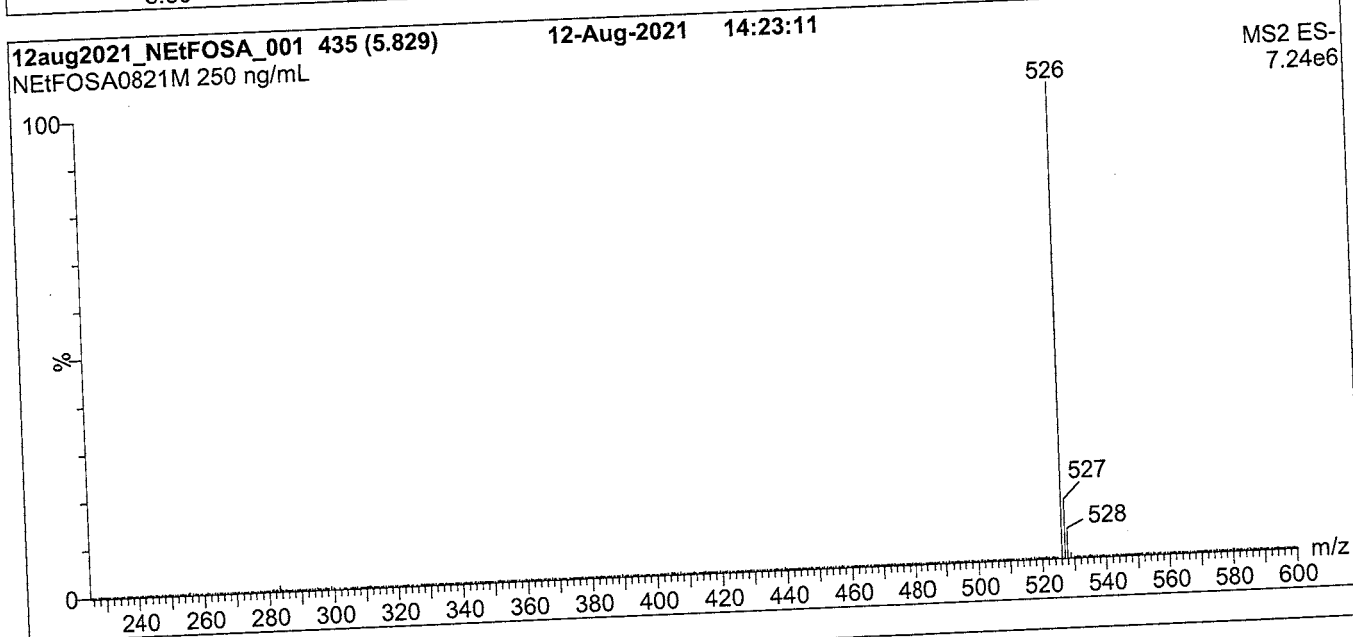
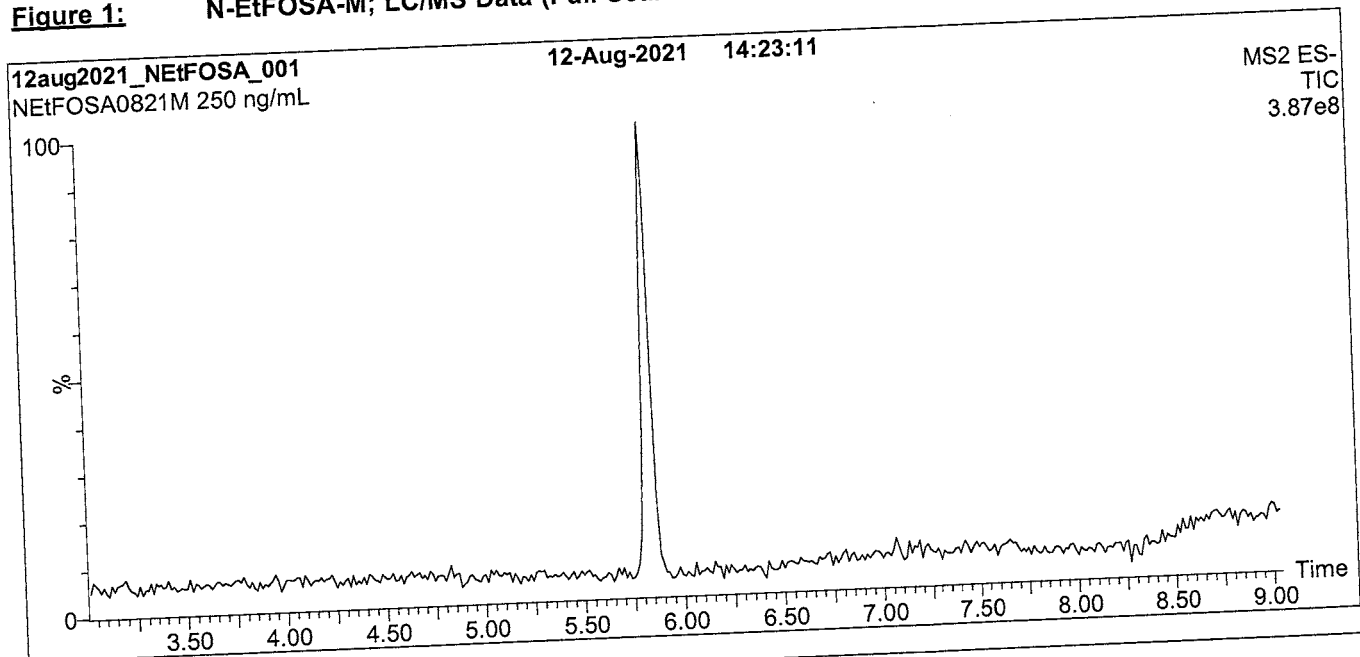
**QUALITY MANAGEMENT:**

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).



\*\*For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at [www.well-labs.com](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

**Figure 1: N-EtFOSA-M; LC/MS Data (Full Scan and Mass Spectrum)**



**Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient  
Start: 30% H<sub>2</sub>O / 70% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for  
2 min before returning to initial conditions in 0.75 min.  
Time: 12 min

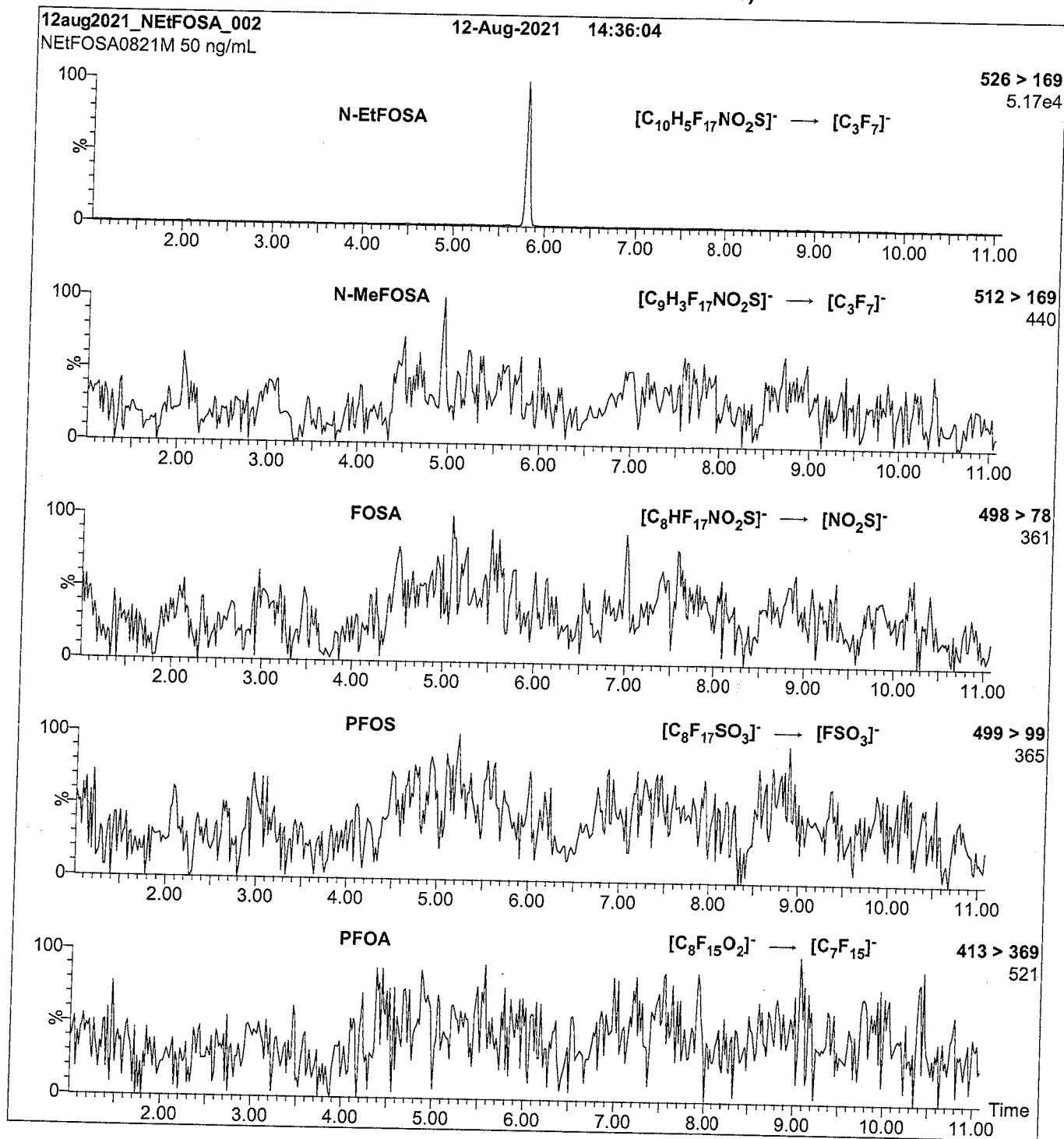
Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (225 - 850 amu)  
Source: Electrospray (negative)  
Capillary Voltage (kV) = 1.00  
Cone Voltage (V) = 44.00  
Desolvation Temperature (°C) = 500  
Desolvation Gas Flow (L/hr) = 1000

NEtFOSA0821M (3 of 4)  
rev0



**Figure 2: N-EtFOSA-M; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (N-EtFOSA-M)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.29e-3

Collision Energy (eV) = 24

# Analytical Standard Record

**21J0007**

Description:	PFAS - SAS N-EtFOSA 50ug/mL	Expires:	08/12/2026
Standard Type:	Analyte Spike	Prepared:	08/12/2021
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#:
Final Volume (mls):	1	Department:	PFAS (Lot# OSA0821M)
Vials:	1	Last Edit:	12/07/2021 16:05 by HGH

Analyte	Parent	CAS Number	Concentration	Units
N-ETFOSA		4151-50-2	50	ug/mL

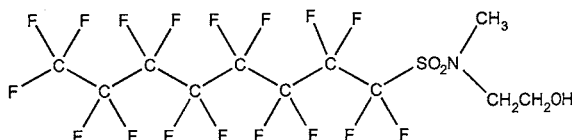


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** N-MeFOSE-M **LOT NUMBER:** NMeFOSE0921M  
**COMPOUND:** 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol

**STRUCTURE:** **CAS #:** 24448-09-7



**MOLECULAR FORMULA:** C<sub>11</sub>H<sub>8</sub>F<sub>17</sub>NO<sub>3</sub>S **MOLECULAR WEIGHT:** 557.22  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 09/22/2021 (HRGC/LRMS)  
 09/23/2021 (LC/MS)  
**EXPIRY DATE:** (mm/dd/yyyy) 09/23/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 3: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By: \_\_\_\_\_

B.G. Chittim, General Manager

Date: 09/28/2021  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters

$x_1, x_2, \dots, x_n$  on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where  $x$  is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of  $\pm 5\%$  (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

**TRACEABILITY:**

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

**EXPIRY DATE / PERIOD OF VALIDITY:**

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

**LIMITED WARRANTY:**

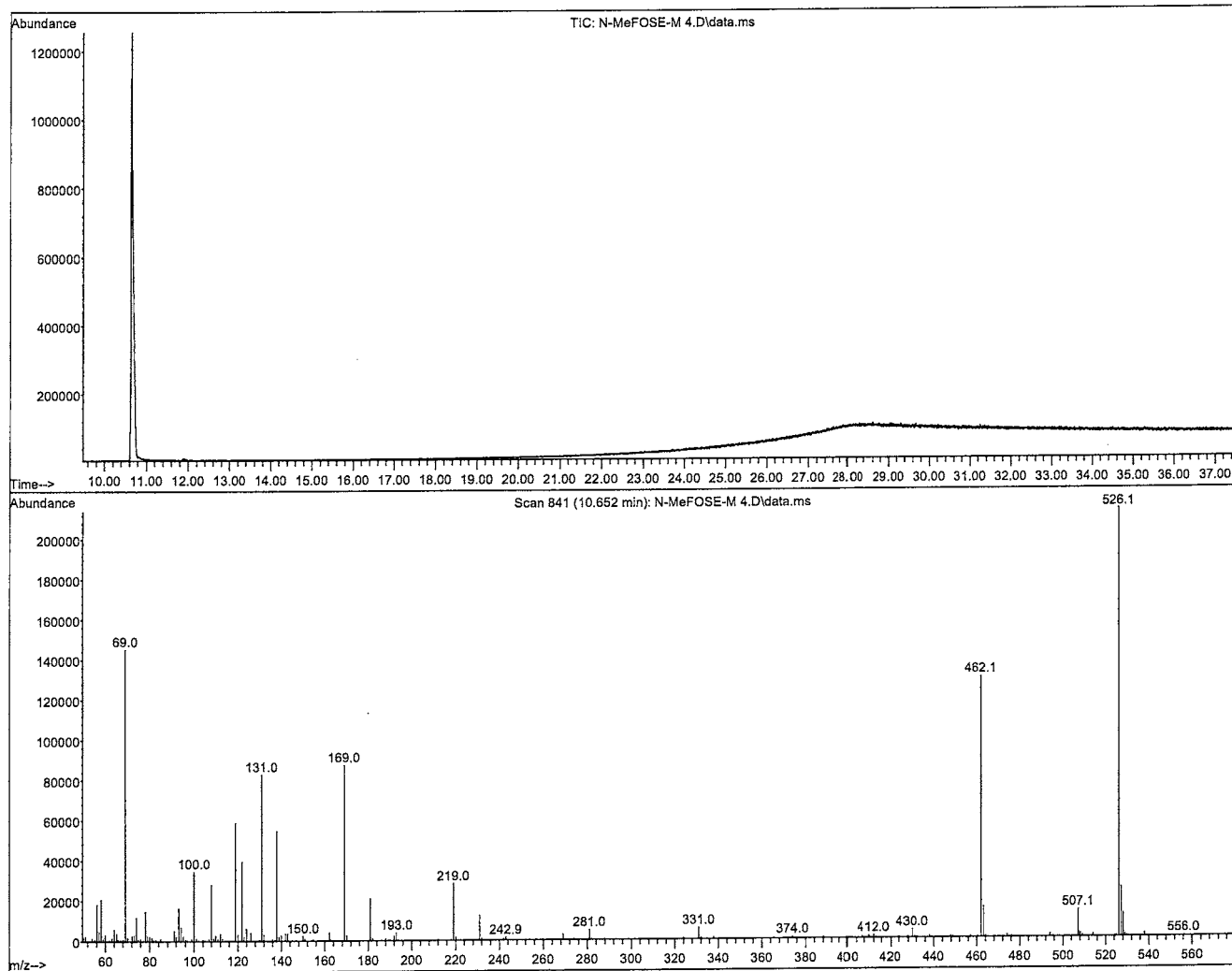
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**QUALITY MANAGEMENT:**

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).



\*\*For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at [www.well-labs.com](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

**Figure 1:** N-MeFOSE-M; HRGC/LRMS Data (Full Scan and Mass Spectrum)**Conditions for Figure 1:**

Agilent 7890A HRGC  
 Agilent 5975C MSD

**Chromatographic Conditions:**

Column: 30 m DB-5 (0.25 mm id, 0.25  $\mu$ m film thickness) Agilent J&W

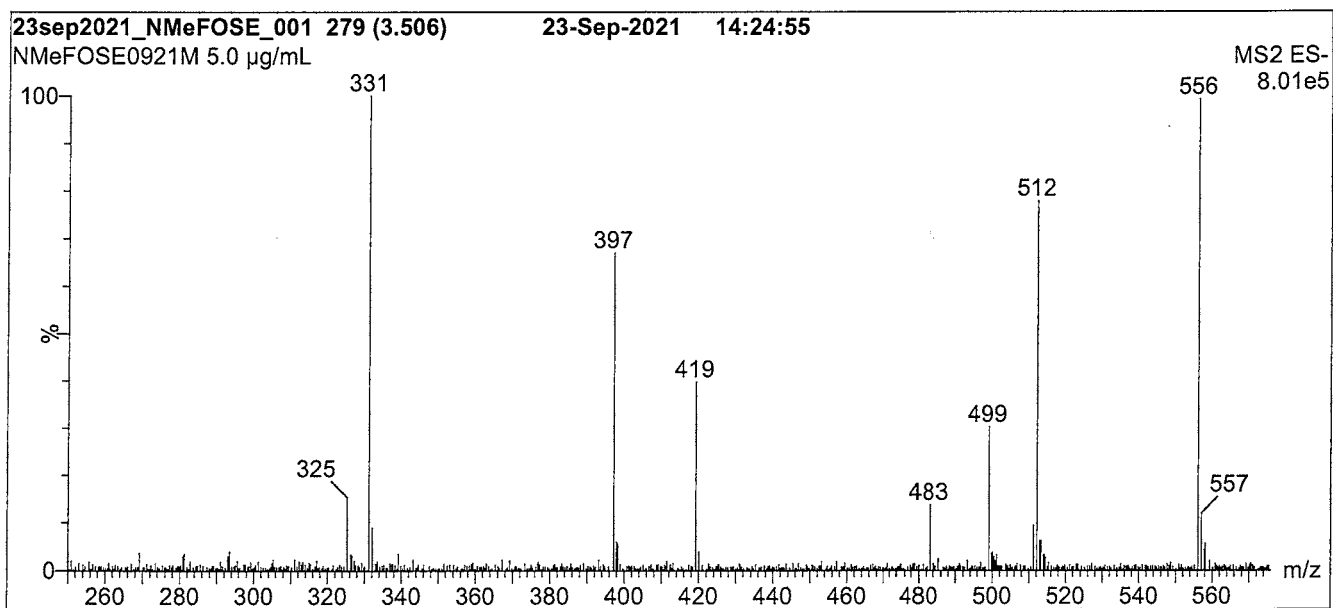
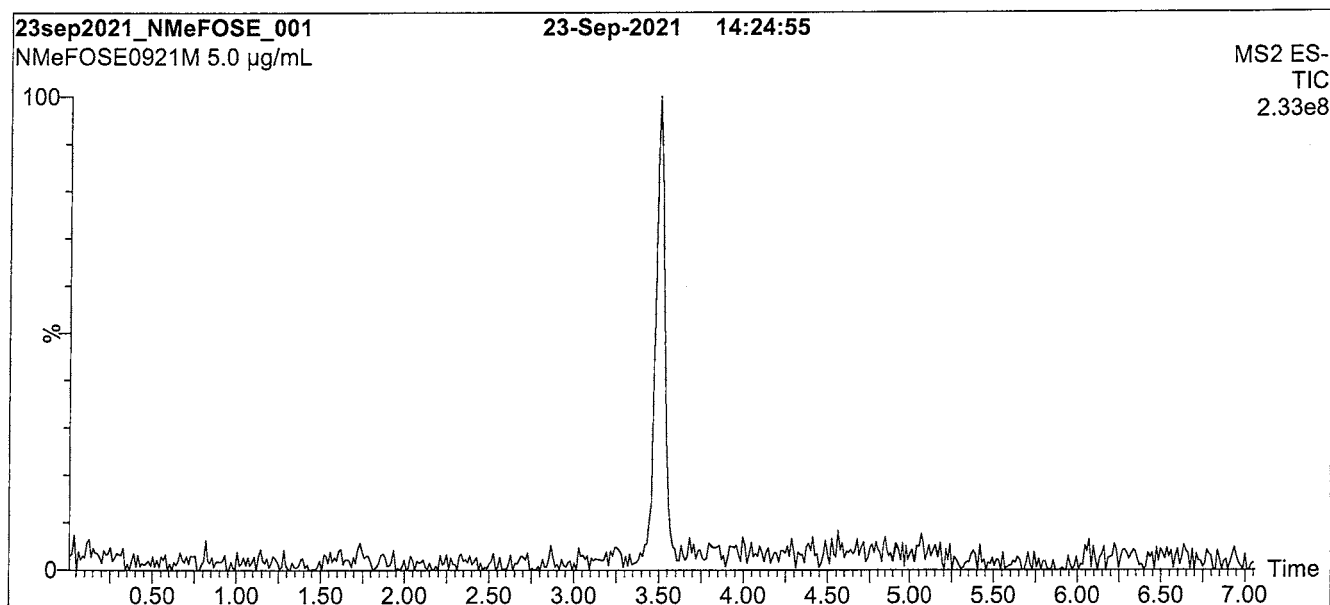
Flow: Constant at 1 mL/min

Injector: 250°C (Splitless Injection)

Oven: 100°C (5 min)  
 10°C/min to 310°C  
 310°C (10 min)

Ionization: EI+

Detector: 230°C  
 Full Scan (50-1000 amu)

**Figure 2:** N-MeFOSE-M; LC/MS Data (Full Scan and Mass Spectrum)**Conditions for Figure 2:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7 µm, 2.1 x 100 mm

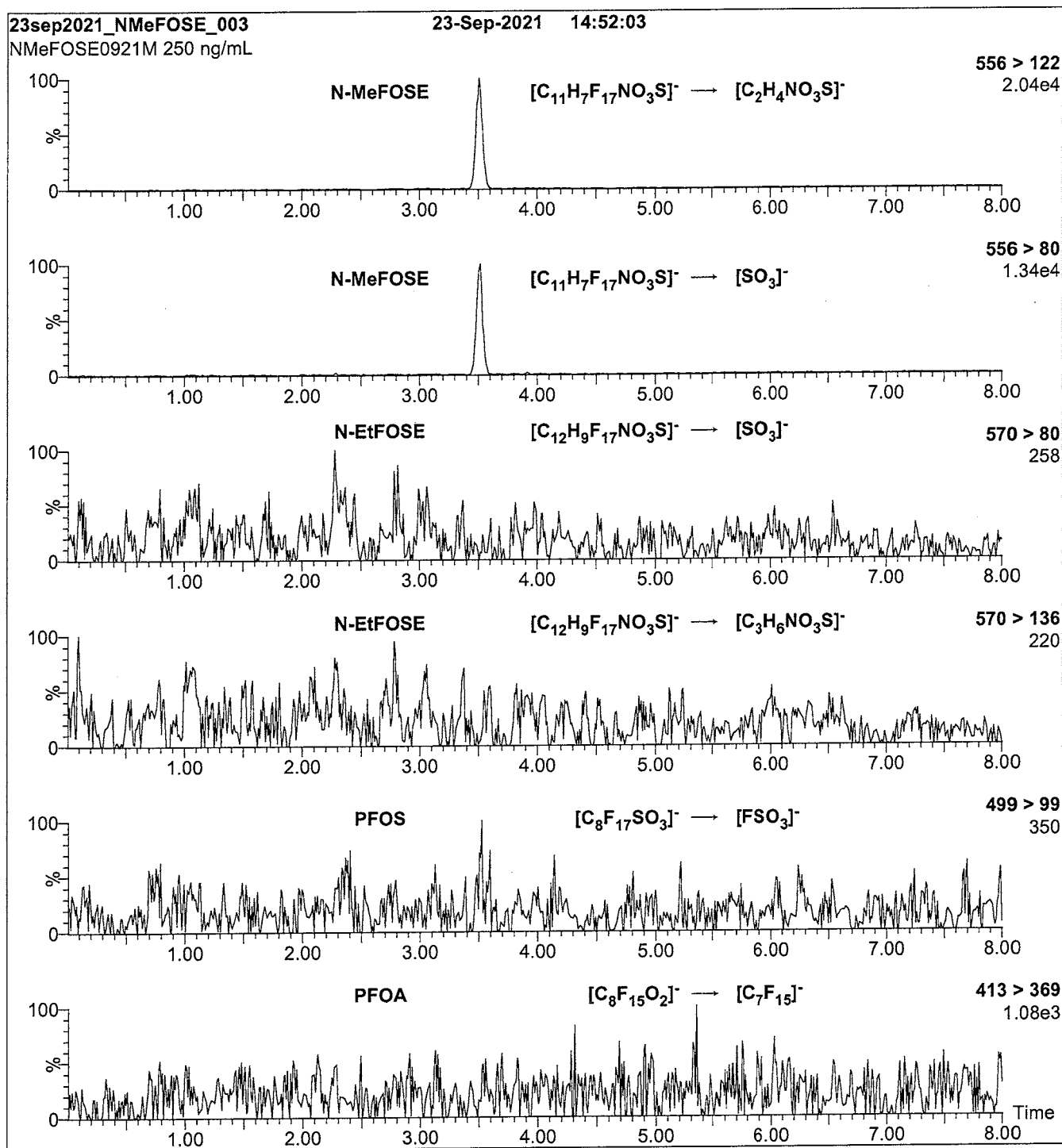
Mobile phase: Gradient  
Start: 30% H<sub>2</sub>O / 70% MeOH  
Ramp to 90% organic over 8 min and hold for  
1.5 min before returning to initial conditions in 1 min.  
Time: 12 min

Flow: 300 µL/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.00  
Cone Voltage (V) = 65.00  
Desolvation Temperature (°C) = 450  
Desolvation Gas Flow (L/hr) = 1000

**Figure 3: N-MeFOSE-M; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 3:**

Injection: On-column (N-MeFOSE-M)

Mobile phase: Same as Figure 2

Flow: 300  $\mu$ L/min**MS Parameters:**Collision Gas (mbar) = 3.14e-3  
Collision Energy (eV) = 36

2  
4  
#



# Analytical Standard Record

**21J0014**

Description:	PFAS - SAS N-MeFOSE 50ug/mL	Expires:	09/23/2026
Standard Type:	Analyte Spike	Prepared:	09/22/2021
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#:
Final Volume (mls):	1.2	Department:	PFAS N-MEFOSE0921M)
Vials:	1	Last Edit:	12/07/2021 16:06 by HGH

Analyte	Parent	CAS Number	Concentration	Units
N-MEFOSE		24448-09-7	50	ug/mL

# Analytical Standard Record

**21J0014**

Description:	PFAS - SAS N-MeFOSE 50ug/mL	Expires:	09/23/2026
Standard Type:	Analyte Spike	Prepared:	09/22/2021
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#:
Final Volume (mls):	1.2	Department:	PFAS N-MEFOSE0921M)
Vials:	1	Last Edit:	12/07/2021 16:06 by HGH

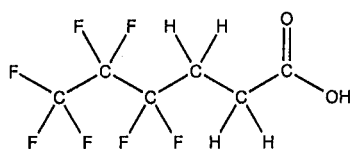
Analyte	Parent	CAS Number	Concentration	Units
N-MEFOSE		24448-09-7	50	ug/mL



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** FPrPA **LOT NUMBER:** FPrPA1020  
**COMPOUND:** 3-Perfluoropropyl propanoic acid  
**STRUCTURE:** **CAS #:** 356-02-5



**MOLECULAR FORMULA:**  $C_6H_5F_7O_2$  **MOLECULAR WEIGHT:** 242.09  
**CONCENTRATION:**  $50.0 \pm 2.5 \mu\text{g/mL}$  **SOLVENT(S):** Methanol  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 11/12/2020  
**EXPIRY DATE:** (mm/dd/yyyy) 11/12/2025  
**RECOMMENDED STORAGE:** Refrigerate ampoule

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains <1% of the unsaturated 3:3 telomer acid ( $C_6H_3F_7O_2$ ) as an impurity determined by  $^{19}\text{F}$  NMR.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**   
 B.G. Chittim, General Manager **Date:** 11/27/2020  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters

$x_1, x_2, \dots, x_n$  on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where  $x$  is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of  $\pm 5\%$  (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

**TRACEABILITY:**

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

**EXPIRY DATE / PERIOD OF VALIDITY:**

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

**LIMITED WARRANTY:**

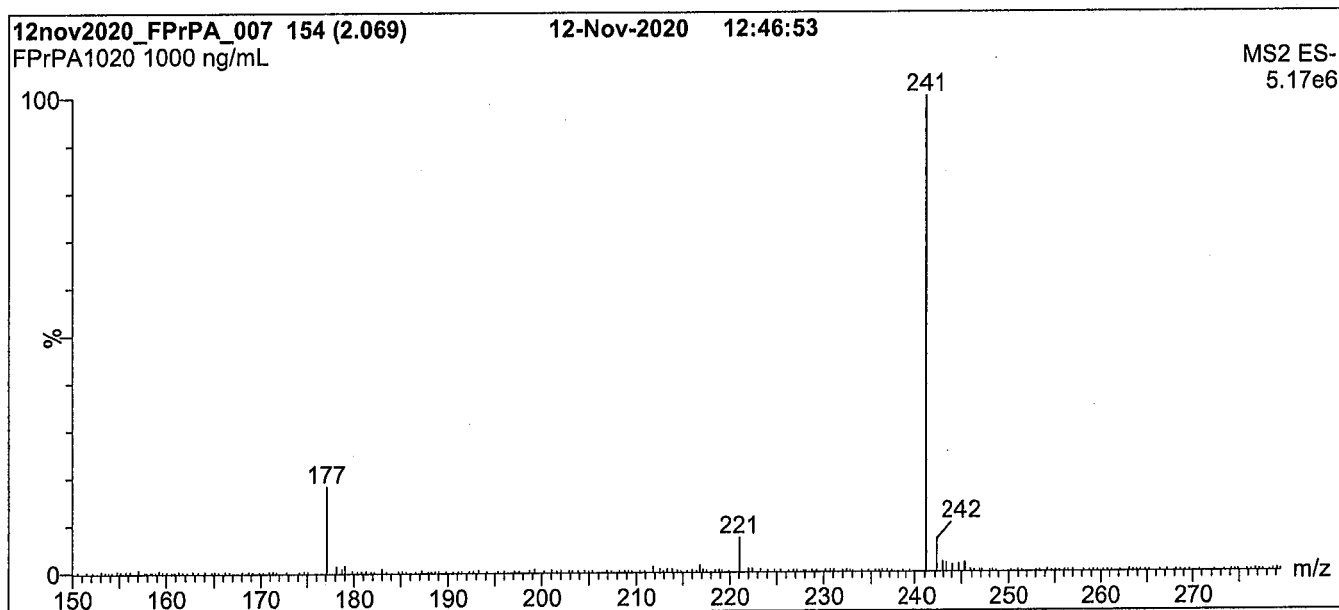
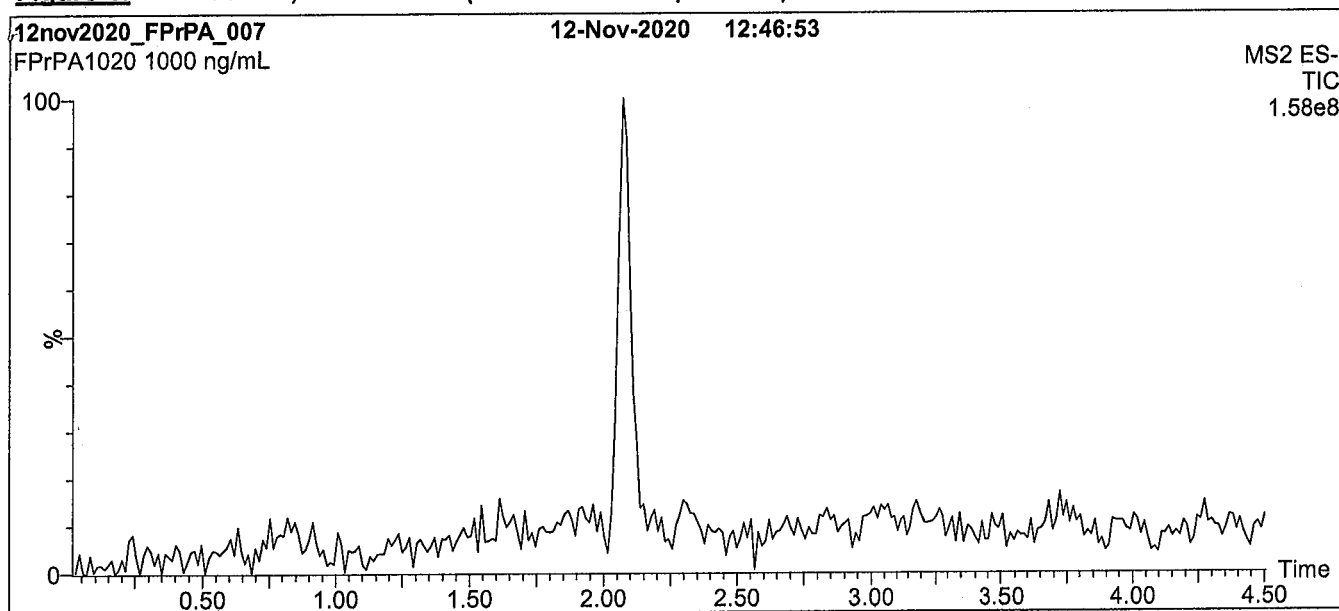
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**QUALITY MANAGEMENT:**

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).



\*\*For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at [www.well-labs.com](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

**Figure 1: FPrPA; LC/MS Data (TIC and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

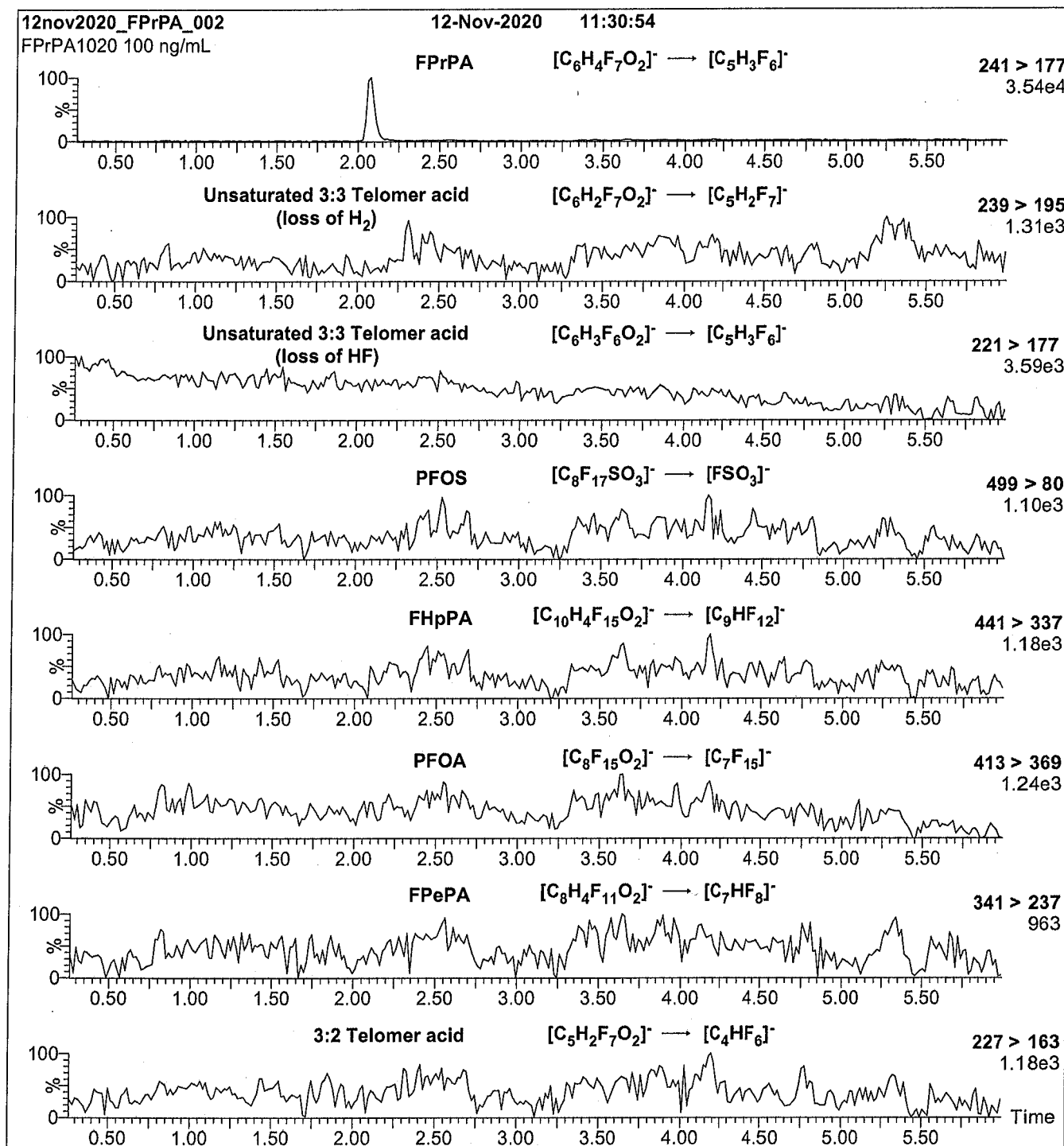
Mobile phase: Gradient  
Start: 60% H<sub>2</sub>O / 40% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for 2 min  
before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 0.50  
Cone Voltage (V) = 18.50  
Desolvation Temperature ( $^{\circ}$ C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: FPrPA; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (FPrPA)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.49e-3

Collision Energy (eV) = 10

# Analytical Standard Record

**21L0004**

Description:	PFAS - SAS 3:3FTA 50ug/mL	Expires:	06/05/2022
Standard Type:	Analyte Spike	Prepared:	12/07/2021
Solvent:	MeOH	Prepared By:	Hart Hedgpeth
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	12/07/2021 16:03 by HGH
Comments:	3:3 FTCA 50.0ug/mL		

<b>Analyte</b>	<b>Parent</b>	<b>CAS Number</b>	<b>Concentration</b>	<b>Units</b>
3:3 FTA		113507-82-7	50	ug/mL

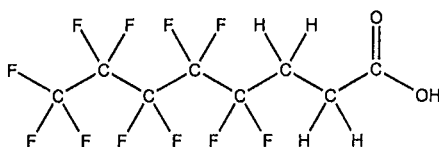


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** FPePA **LOT NUMBER:** FPePA1120  
**COMPOUND:** 3-Perfluoropentyl propanoic acid

**STRUCTURE:** **CAS #:** 914637-49-3



**MOLECULAR FORMULA:**  $C_8H_5F_{11}O_2$  **MOLECULAR WEIGHT:** 342.11  
**CONCENTRATION:**  $50.0 \pm 2.5 \mu\text{g/mL}$  **SOLVENT(S):** Methanol  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 11/11/2020  
**EXPIRY DATE:** (mm/dd/yyyy) 11/11/2025  
**RECOMMENDED STORAGE:** Refrigerate ampoule

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains <1% of the unsaturated 5:3 telomer acid ( $C_8H_3F_{11}O_2$ ) as an impurity determined by  $^{19}\text{F}$  NMR.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**   
 B.G. Chittim, General Manager **Date:** 11/27/2020  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com



**INTENDED USE:**

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**HANDLING:**

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**SYNTHESIS / CHARACTERIZATION:**

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

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**TRACEABILITY:**

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

**EXPIRY DATE / PERIOD OF VALIDITY:**

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

**LIMITED WARRANTY:**

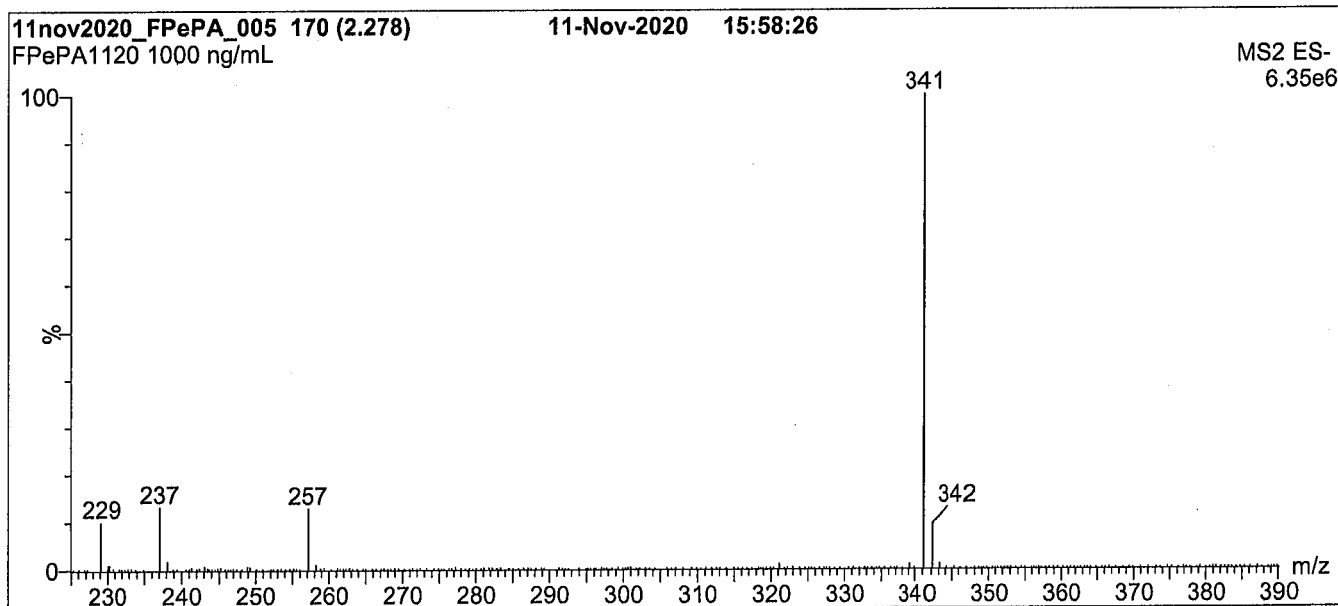
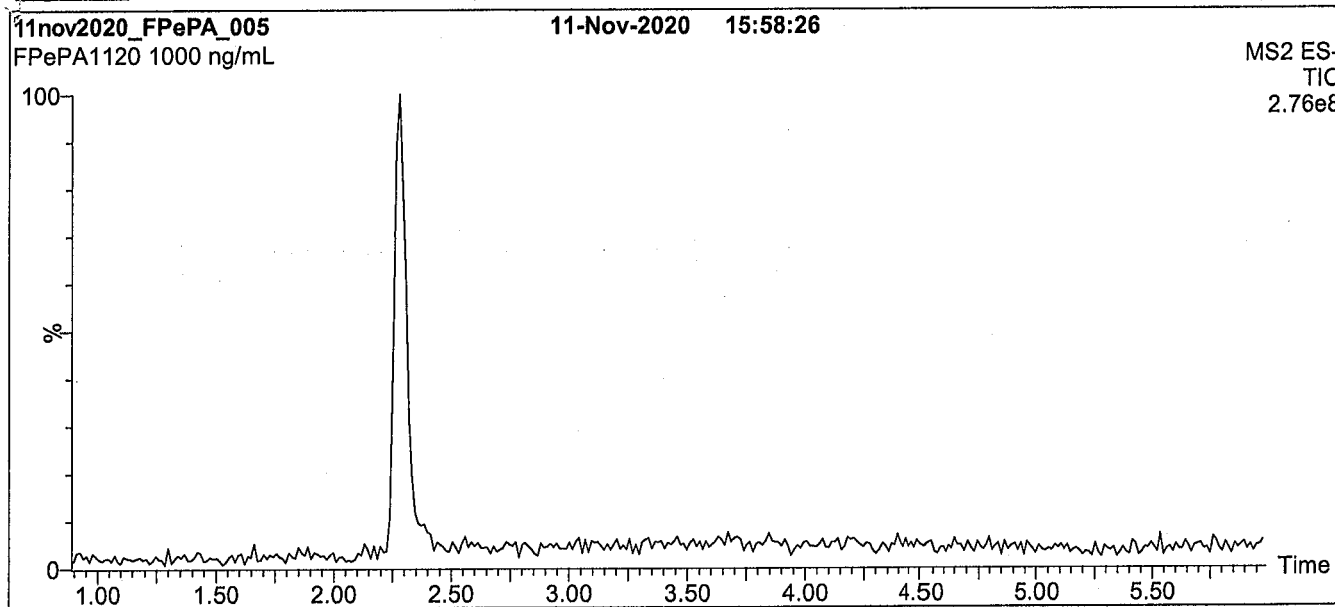
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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**Figure 1: FPePA; LC/MS Data (TIC and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

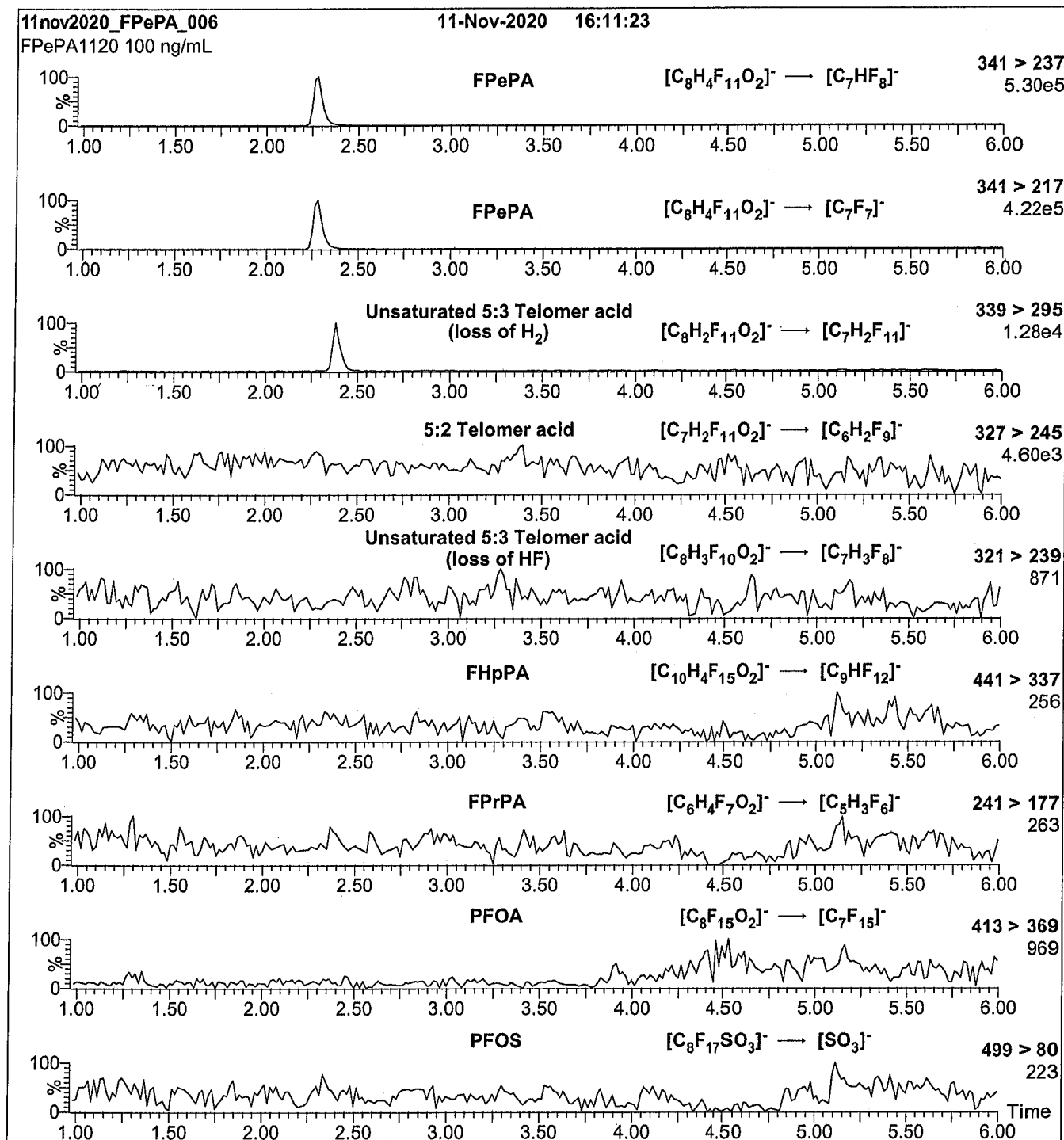
Mobile phase: Gradient  
Start: 45% H<sub>2</sub>O / 55% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for  
2 min before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 0.50  
Cone Voltage (V) = 18.50  
Desolvation Temperature (°C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: FPePA; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (FPePA)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.24e-3

Collision Energy (eV) = 10

# Analytical Standard Record

**21L0005**

Description:	PFAS - SAS 5:3FTA 50ug/mL	Expires:	06/05/2022
Standard Type:	Analyte Spike	Prepared:	12/07/2021
Solvent:	MeOH	Prepared By:	Hart Hedgpeth
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	12/07/2021 16:03 by HGH
Comments:	5:3 FTCA 50.0ug/mL		

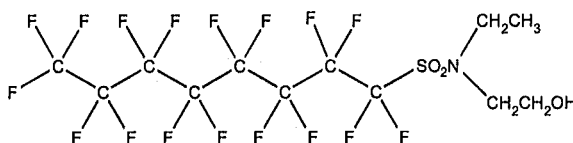
<b>Analyte</b>	<b>Parent</b>	<b>CAS Number</b>	<b>Concentration</b>	<b>Units</b>
5:3 FTA		914637-49-3	50	ug/mL



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** N-EtFOSE-M **LOT NUMBER:** NEtFOSE0921M  
**COMPOUND:** 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol  
**STRUCTURE:** **CAS #:** 1691-99-2



**MOLECULAR FORMULA:** C<sub>12</sub>H<sub>10</sub>F<sub>17</sub>NO<sub>3</sub>S **MOLECULAR WEIGHT:** 571.25  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 09/22/2021 (HRGC/LRMS)  
 09/23/2021 (LC/MS)  
**EXPIRY DATE:** (mm/dd/yyyy) 09/23/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

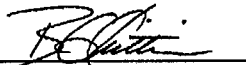
### DOCUMENTATION/ DATA ATTACHED:

Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 3: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**   
 B.G. Chittim, General Manager **Date:** 10/20/2021  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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**SYNTHESIS / CHARACTERIZATION:**

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**UNCERTAINTY:**

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The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters  $x_1, x_2, \dots, x_n$  on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where  $x$  is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of  $\pm 5\%$  (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

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**EXPIRY DATE / PERIOD OF VALIDITY:**

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

**LIMITED WARRANTY:**

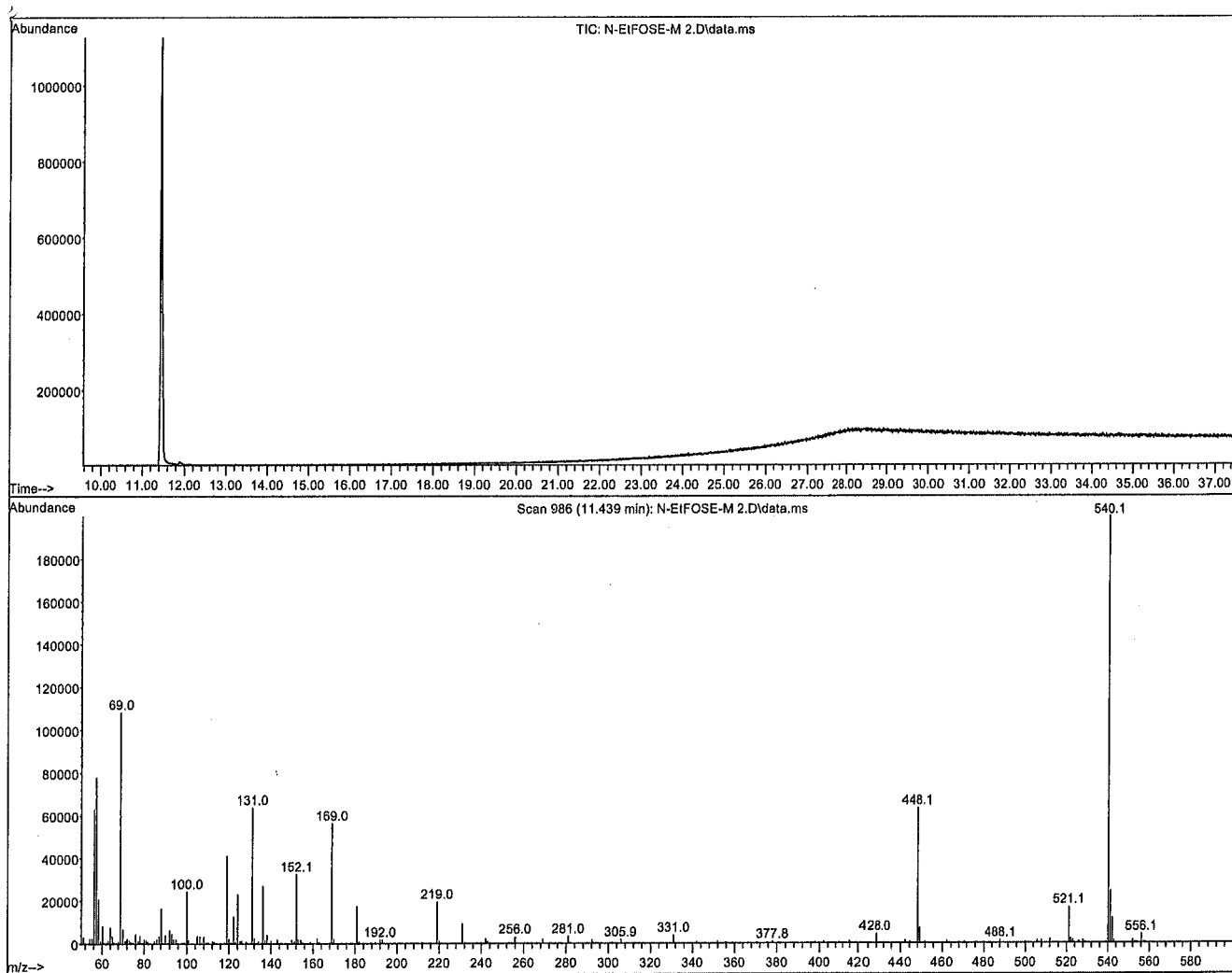
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**Figure 1: N-EtFOSE-M; HRGC/LRMS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Agilent 7890A HRGC  
 Agilent 5975C MSD

**Chromatographic Conditions:**

Column: 30 m DB-5 (0.25 mm id, 0.25  $\mu$ m film thickness) Agilent J&W

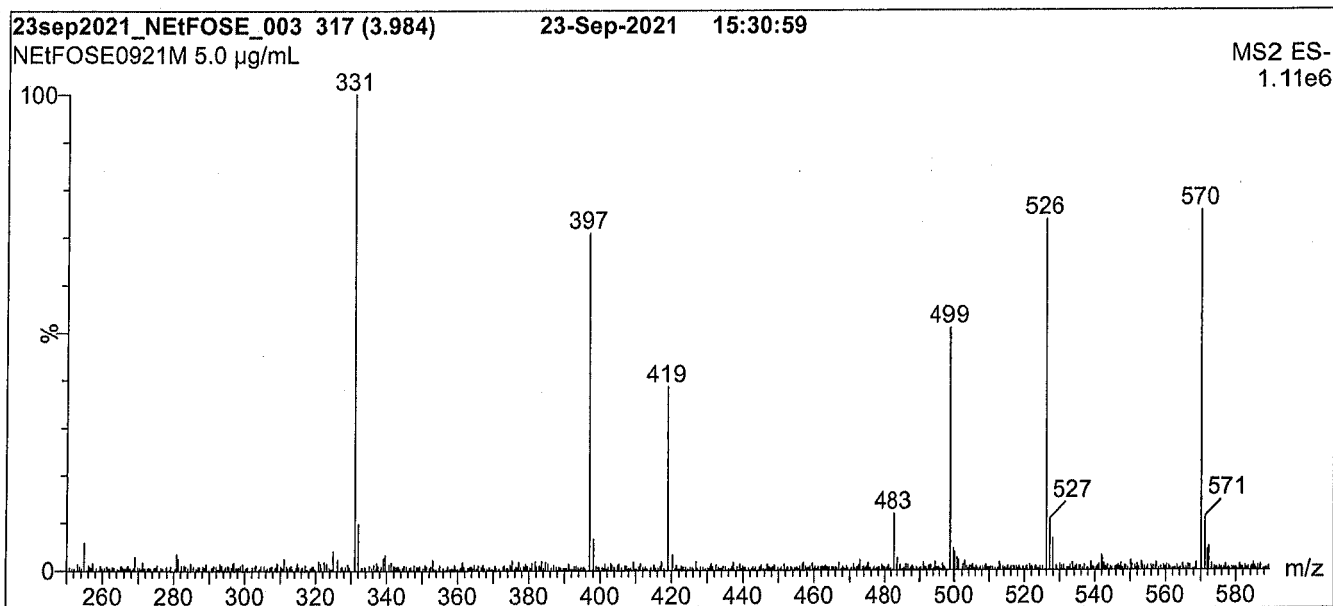
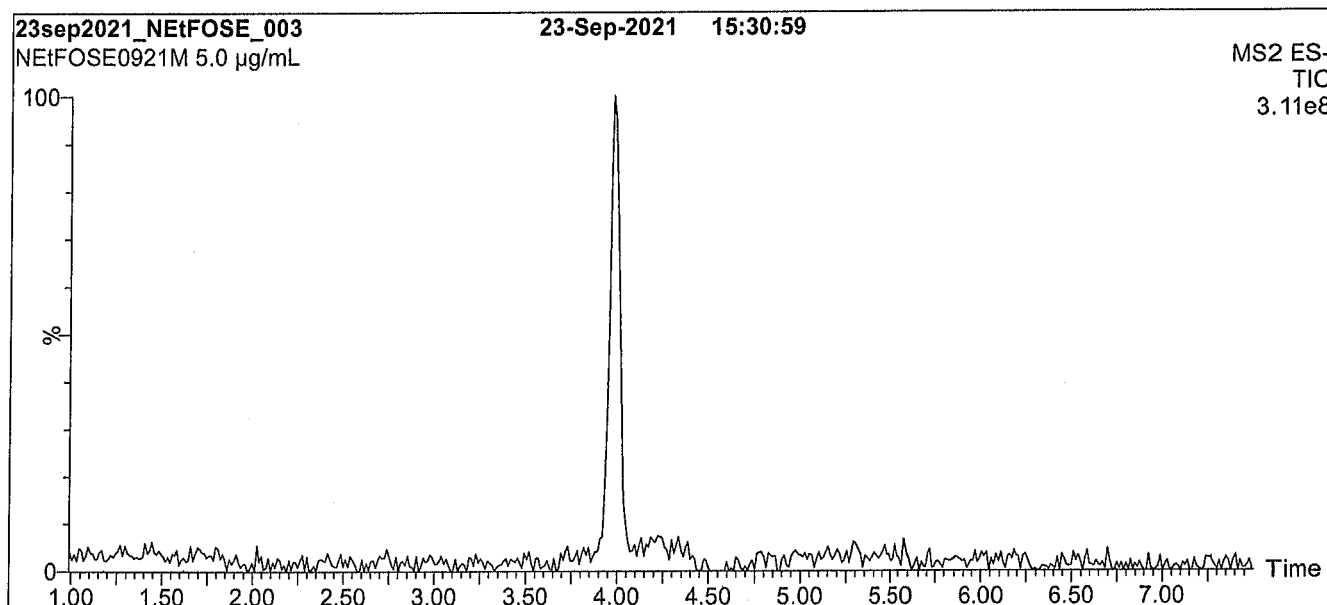
Flow: Constant at 1 mL/min

Injector: 250°C (Splitless Injection)

Oven: 100°C (5 min)  
 10°C/min to 325°C  
 325°C (10 min)

Ionization: EI+

Detector: 230°C  
 Full Scan (50-1000 amu)

**Figure 2: N-EtFOSE-M; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 2:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient

Start: 30% H<sub>2</sub>O / 70% MeOH

Ramp to 90% organic over 8 min and hold for  
1.5 min before returning to initial conditions in 1 min.

Time: 12 min

Flow: 300 µL/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)

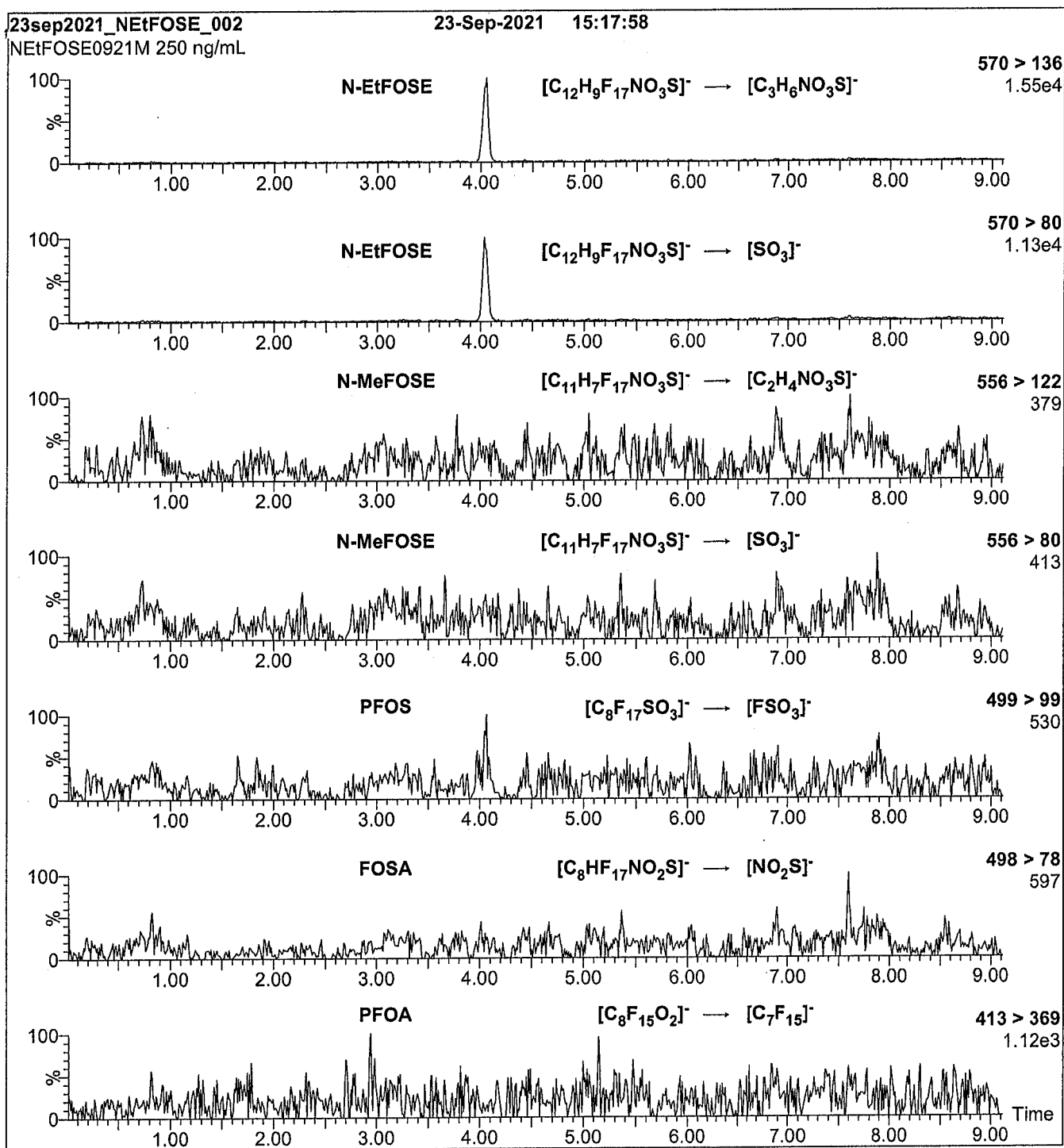
Capillary Voltage (kV) = 2.00

Cone Voltage (V) = 65.00

Desolvation Temperature (°C) = 450

Desolvation Gas Flow (L/hr) = 1000



**Figure 3:** N-EtFOSE-M; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 3:**

Injection: On-column (N-EtFOSE-M)

Mobile phase: Same as Figure 2

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.14e-3

Collision Energy (eV) = 32

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# Analytical Standard Record

**21L0006**

Description:	PFAS - SAS EtFOSE 50ug/mL	Expires:	06/05/2022
Standard Type:	Analyte Spike	Prepared:	12/07/2021
Solvent:	MeOH	Prepared By:	Hart Hedgpeth
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	12/07/2021 17:22 by HGH
Comments:	5:3 FTCA 50.0ug/mL		

<b>Analyte</b>	<b>Parent</b>	<b>CAS Number</b>	<b>Concentration</b>	<b>Units</b>
N-ETFOSE		1691-99-2	50	ug/mL

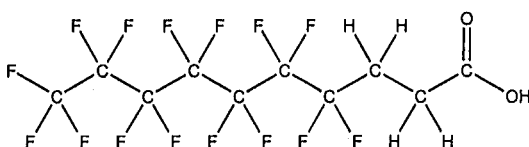


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** FHpPA **LOT NUMBER:** FHpPA1020  
**COMPOUND:** 3-Perfluoroheptyl propanoic acid

**STRUCTURE:** **CAS #:** 812-70-4



**MOLECULAR FORMULA:**  $C_{10}H_6F_{16}O_2$  **MOLECULAR WEIGHT:** 442.12  
**CONCENTRATION:**  $50.0 \pm 2.5 \mu\text{g/mL}$  **SOLVENT(S):** Methanol  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 11/12/2020  
**EXPIRY DATE:** (mm/dd/yyyy) 11/12/2025  
**RECOMMENDED STORAGE:** Refrigerate ampoule

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:   
 B.G. Chittim, General Manager

Date: 11/27/2020  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters

$x_1, x_2, \dots, x_n$  on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where  $x$  is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of  $\pm 5\%$  (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

**TRACEABILITY:**

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

**EXPIRY DATE / PERIOD OF VALIDITY:**

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

**LIMITED WARRANTY:**

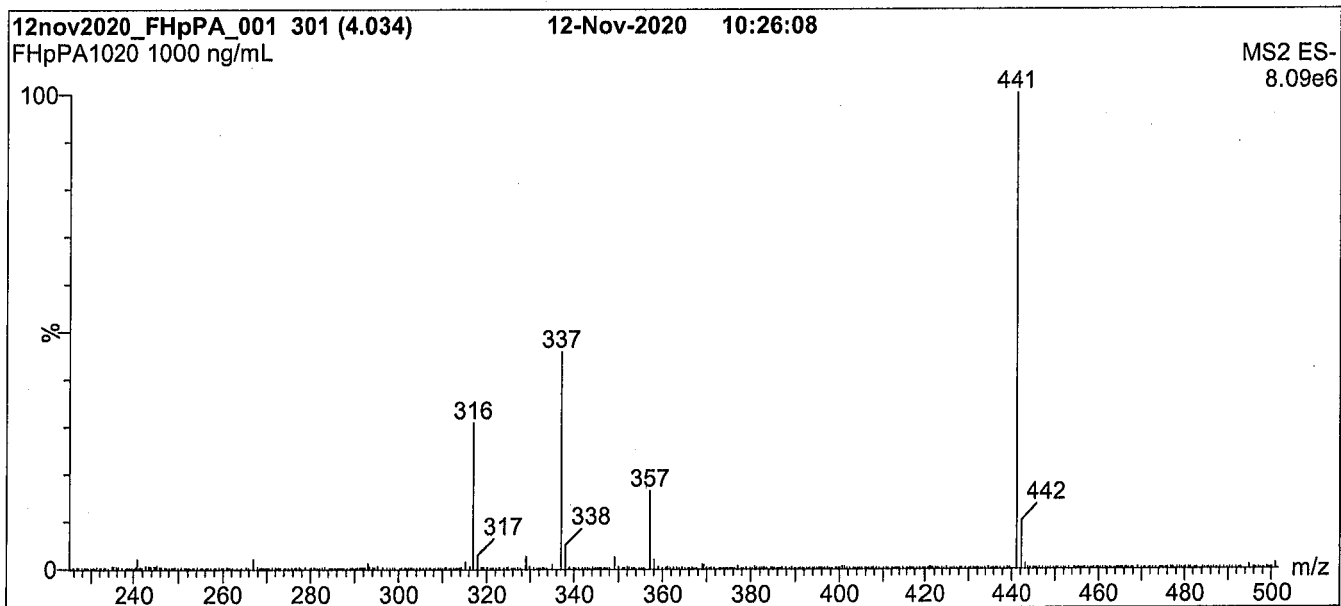
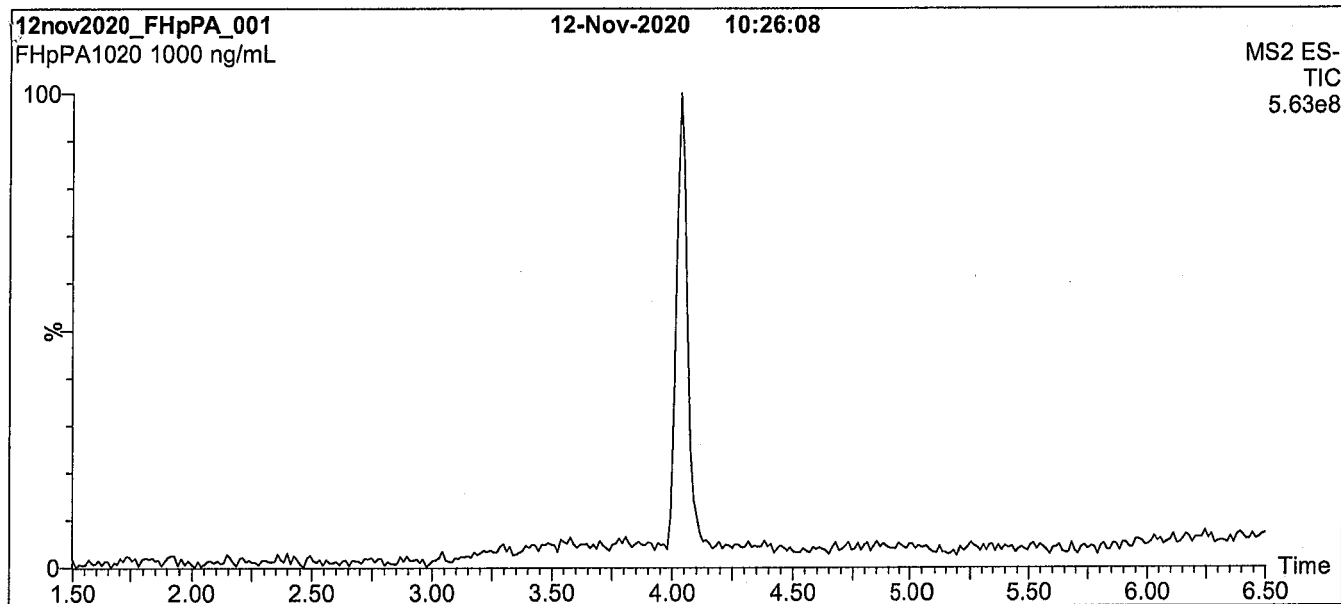
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**QUALITY MANAGEMENT:**

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).



\*\*For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at [www.well-labs.com](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

**Figure 1: FHpPA; LC/MS Data (TIC and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

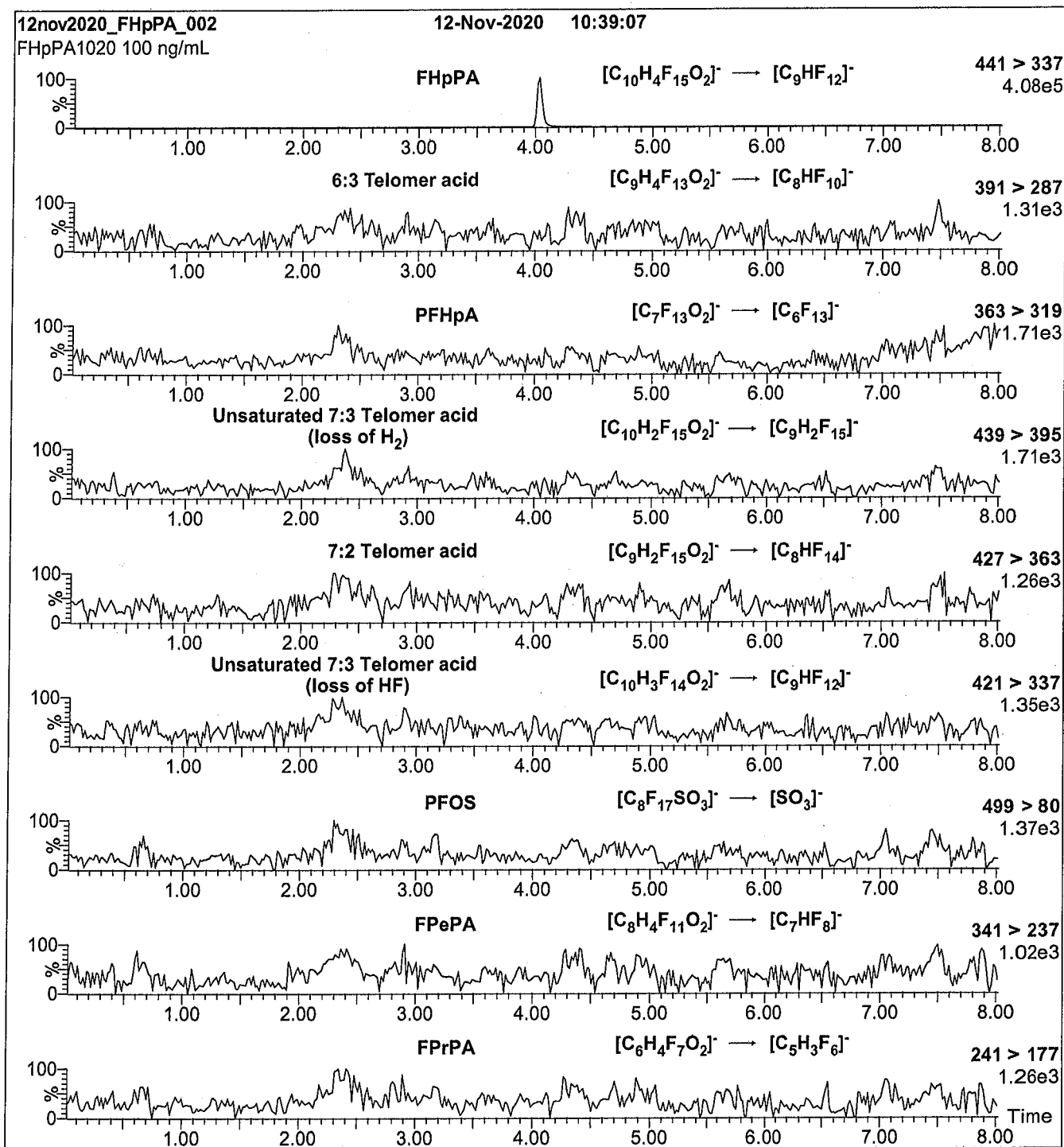
Mobile phase: Gradient  
Start: 45% H<sub>2</sub>O / 55% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for  
2 min before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 0.50  
Cone Voltage (V) = 28.50  
Desolvation Temperature (°C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: FHpPA; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (FHpPA)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.41e-3

Collision Energy (eV) = 8

# Analytical Standard Record

**21L0007**

Description:	PFAS - SAS 7:3FTA 50ug/mL	Expires:	06/05/2022
Standard Type:	Analyte Spike	Prepared:	12/07/2021
Solvent:	MeOH	Prepared By:	Hart Hedgpeth
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	12/07/2021 16:16 by HGH
Comments:	7:3 FTCA 50.0ug/mL		

<b>Analyte</b>	<b>Parent</b>	<b>CAS Number</b>	<b>Concentration</b>	<b>Units</b>
7:3 FTA		812-70-4	50	ug/mL





# WELLINGTON LABORATORIES

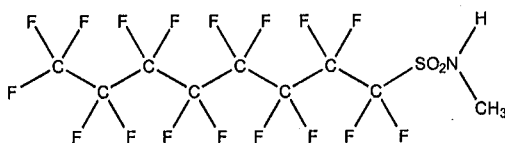
## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** N-MeFOSA-M  
**COMPOUND:** N-methylperfluoro-1-octanesulfonamide

**LOT NUMBER:** NMeFOSA0721M

**STRUCTURE:**

**CAS #:** 31506-32-8



**MOLECULAR FORMULA:** C<sub>9</sub>H<sub>4</sub>F<sub>17</sub>NO<sub>2</sub>S  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 08/03/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 08/03/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

**MOLECULAR WEIGHT:** 513.17  
**SOLVENT(S):** Methanol

**DOCUMENTATION/ DATA ATTACHED:**

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)  
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

**ADDITIONAL INFORMATION:**

- See page 2 for further details.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**   
B.G. Chittim, General Manager

**Date:** 08/04/2021  
(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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**SYNTHESIS / CHARACTERIZATION:**

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**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

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The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters  $x_1, x_2, \dots, x_n$  on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where  $x$  is expressed as a relative standard uncertainty of the individual parameter.

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**EXPIRY DATE / PERIOD OF VALIDITY:**

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

**LIMITED WARRANTY:**

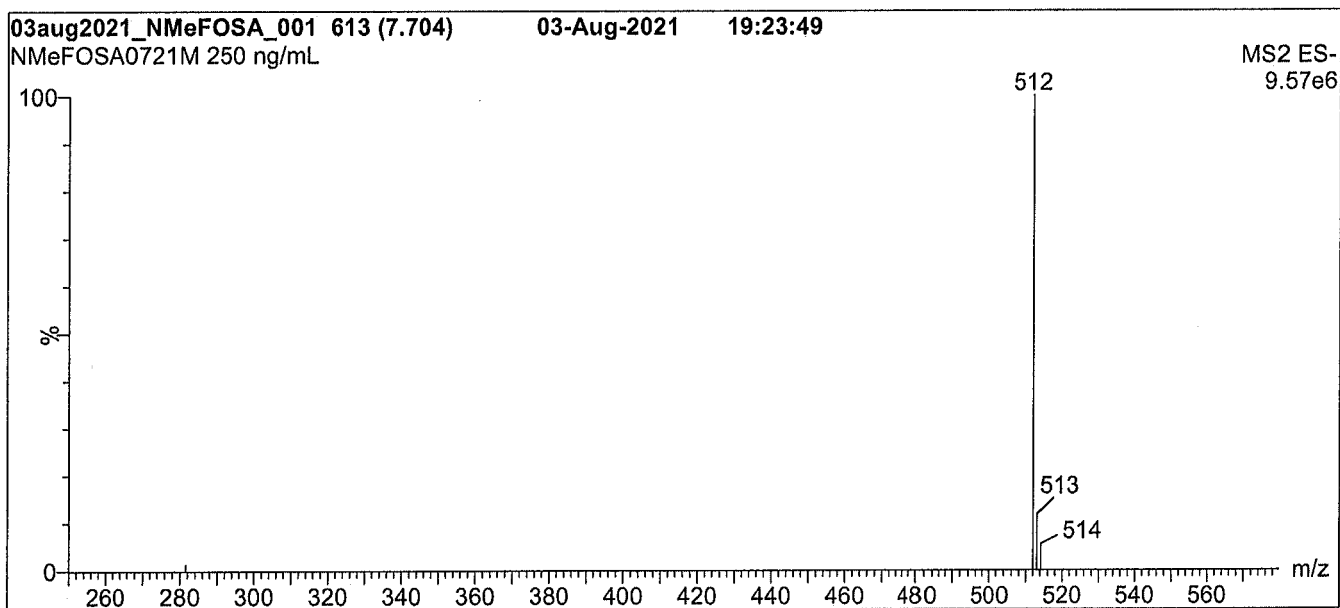
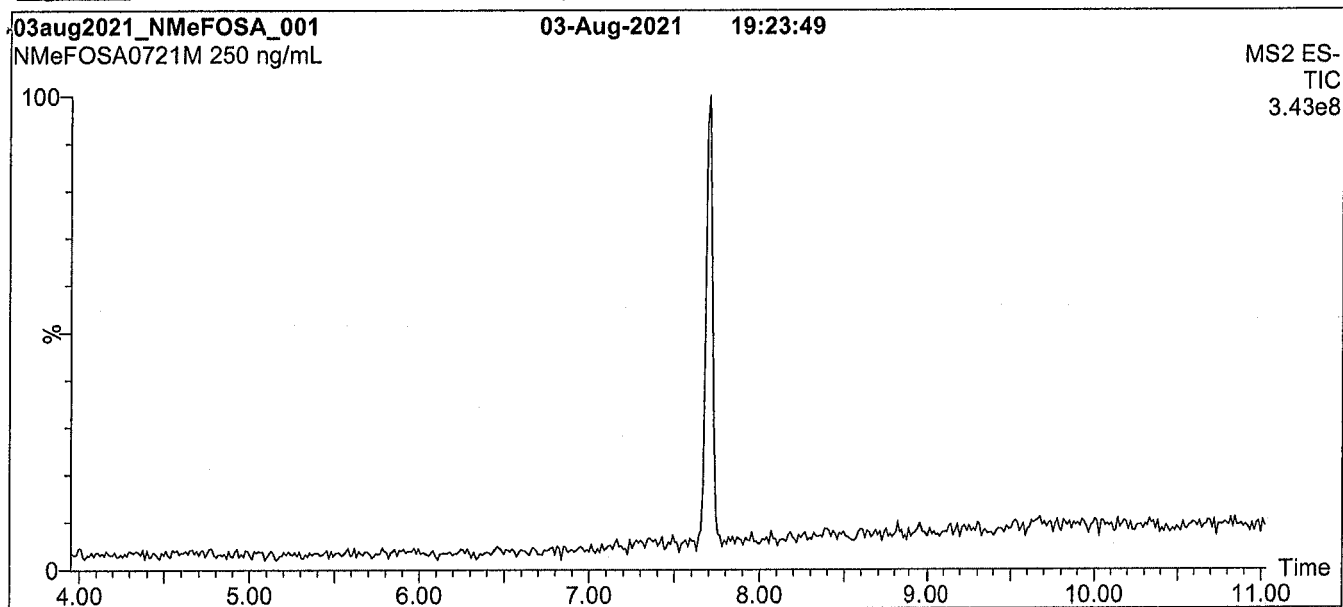
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**QUALITY MANAGEMENT:**

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**Figure 1: N-MeFOSA-M; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

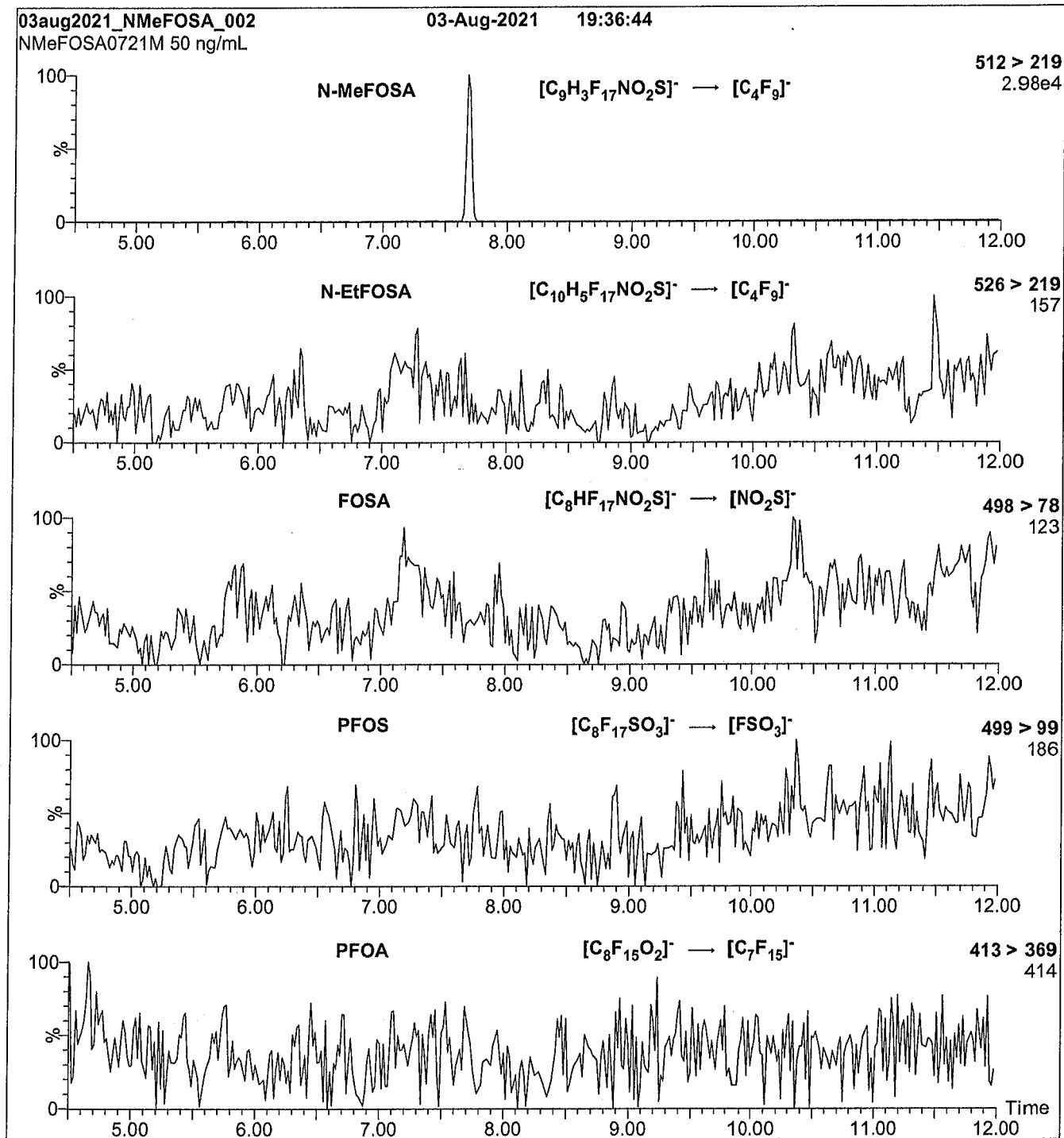
Mobile phase: Gradient  
Start: 40% H<sub>2</sub>O / 60% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for  
2 min before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 1.00  
Cone Voltage (V) = 44.00  
Desolvation Temperature (°C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: N-MeFOSA-M; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (N-MeFOSA-M)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.41e-3

Collision Energy (eV) = 24

# Analytical Standard Record

**21L0008**

Description:	PFAS - SAS N-MeFOSA 50ug/mL	Expires:	06/05/2022
Standard Type:	Analyte Spike	Prepared:	12/07/2021
Solvent:	MeOH	Prepared By:	Hart Hedgpeth
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	12/07/2021 16:18 by HGH

<b>Analyte</b>	<b>Parent</b>	<b>CAS Number</b>	<b>Concentration</b>	<b>Units</b>
N-MEFOSA		31506-32-8	50	ug/mL

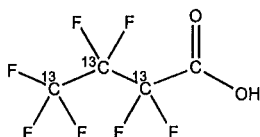


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** M3PFBA **LOT NUMBER:** M3PFBA0721  
**COMPOUND:** Perfluoro-n-(2,3,4-<sup>13</sup>C<sub>3</sub>)butanoic acid

**STRUCTURE:** **CAS #:** Not available



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>3</sub><sup>12</sup>CHF<sub>7</sub>O<sub>2</sub> **MOLECULAR WEIGHT:** 217.02  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol  
 Water (<1%)  
**CHEMICAL PURITY:** >98% **ISOTOPIC PURITY:** ≥99%<sup>13</sup>C  
 (2,3,4-<sup>13</sup>C<sub>3</sub>)  
**LAST TESTED:** (mm/dd/yyyy) 08/19/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 08/19/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~0.2% of perfluoro-n-(<sup>13</sup>C<sub>3</sub>)propanoic acid and also contains ~1.0% of perfluoro-n-(1,2,3,4-<sup>13</sup>C<sub>4</sub>)butanoic acid due to the naturally occurring isotopic abundance of <sup>13</sup>C in the unlabelled carbon atom.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**   
 B.G. Chittim, General Manager

**Date:** 08/25/2021  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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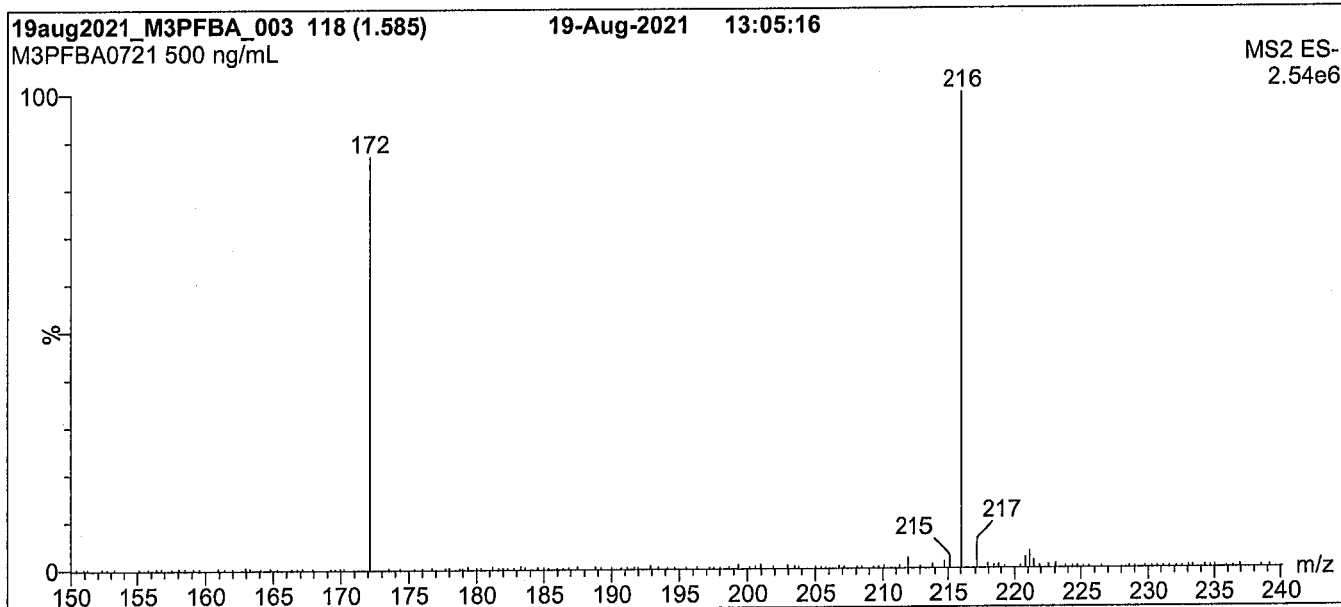
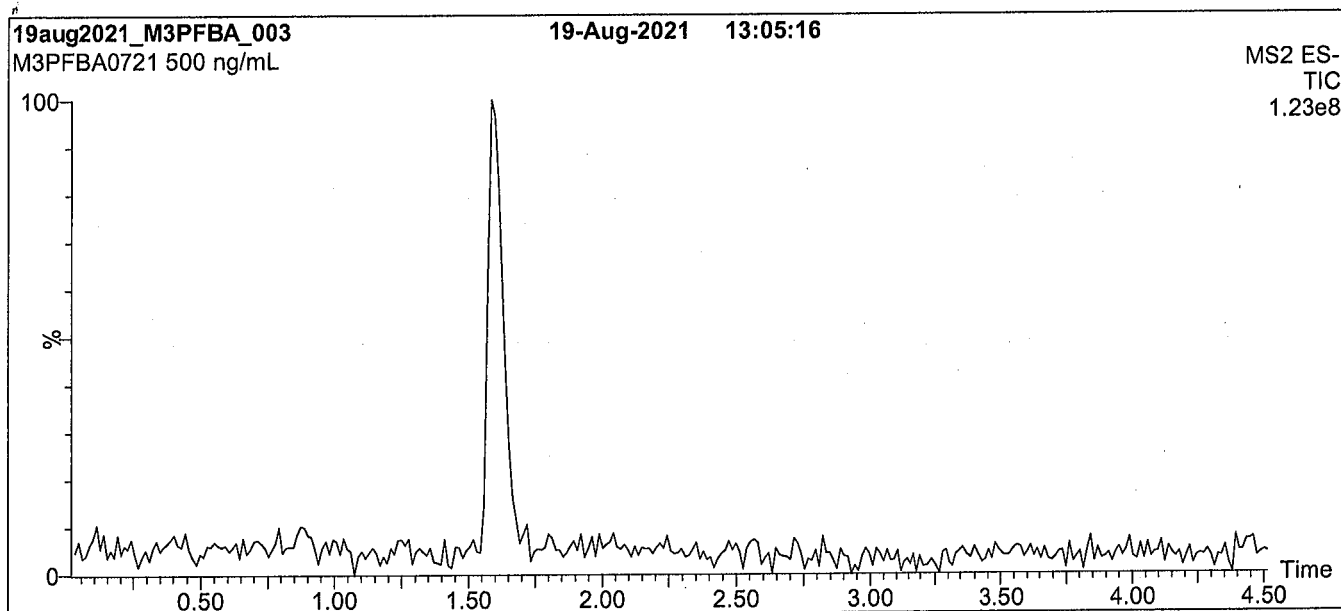
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**Figure 1: M3PFBA; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient  
Start: 60% H<sub>2</sub>O / 40% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for  
2 min before returning to initial conditions in 0.5 min.  
Time: 12 min

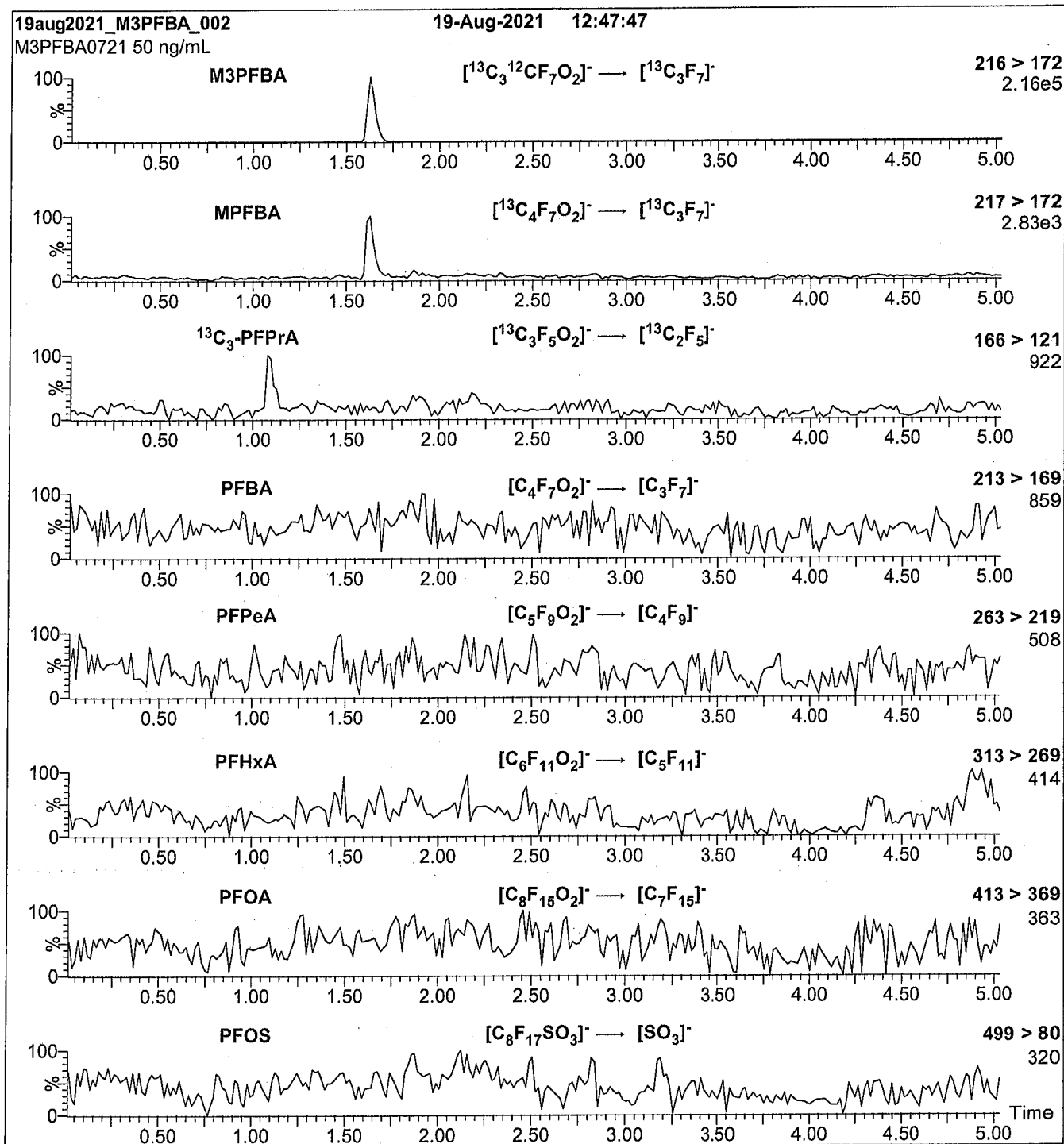
Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.00  
Cone Voltage (V) = 10.00  
Desolvation Temperature ( $^{\circ}$ C) = 500  
Desolvation Gas Flow (L/hr) = 1000



**Figure 2: M3PFBA; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (M3PFBA)

Mobile phase: Same as Figure 1

Flow: 300  $\mu\text{L}/\text{min}$ **MS Parameters:**

Collision Gas (mbar) = 3.45e-3

Collision Energy (eV) = 8

# Analytical Standard Record

**22A0116**

Description:	PFAS - IIS M3PFBA 50ug/mL	Expires:	08/19/2026
Standard Type:	Analyte Spike	Prepared:	08/19/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:48 by HGH

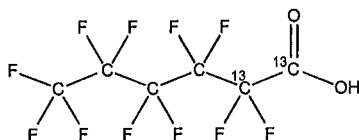
<b>Analyte</b>	<b>Parent</b>	<b>CAS Number</b>	<b>Concentration</b>	<b>Units</b>
13C3-PFBA		13C3-PFBA	50	ug/mL



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** MPFHxA **LOT NUMBER:** MPFHxA0921  
**COMPOUND:** Perfluoro-n-(1,2-<sup>13</sup>C<sub>2</sub>)hexanoic acid  
**STRUCTURE:** **CAS #:** 960315-47-3



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>2</sub><sup>12</sup>C<sub>4</sub>HF<sub>11</sub>O<sub>2</sub> **MOLECULAR WEIGHT:** 316.04  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol  
 Water (<1%)  
**CHEMICAL PURITY:** >98% **ISOTOPIC PURITY:** ≥99% <sup>13</sup>C  
 (1,2-<sup>13</sup>C<sub>2</sub>)  
**LAST TESTED:** (mm/dd/yyyy) 10/04/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 10/04/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

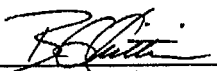
### DOCUMENTATION/ DATA ATTACHED:

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### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**   
 B.G. Chittim, General Manager **Date:** 10/22/2021  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

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Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters  $x_1, x_2, \dots, x_n$  on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where  $x$  is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of  $\pm 5\%$  (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

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Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

**LIMITED WARRANTY:**

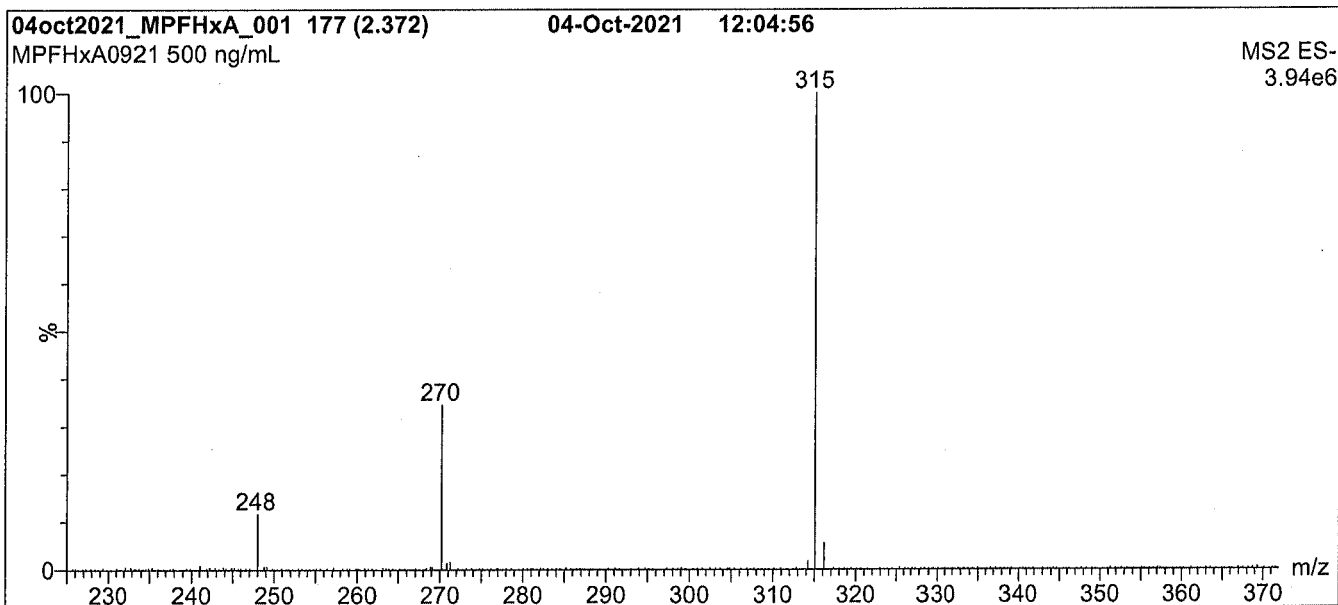
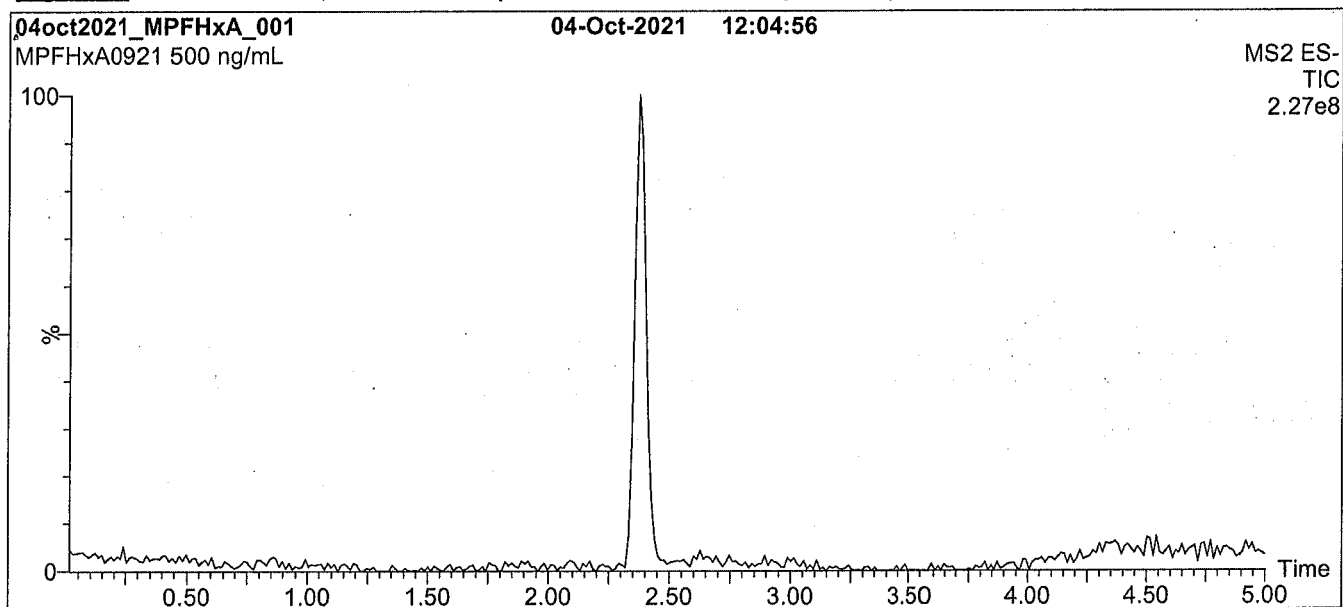
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**Figure 1: MPFHxA; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

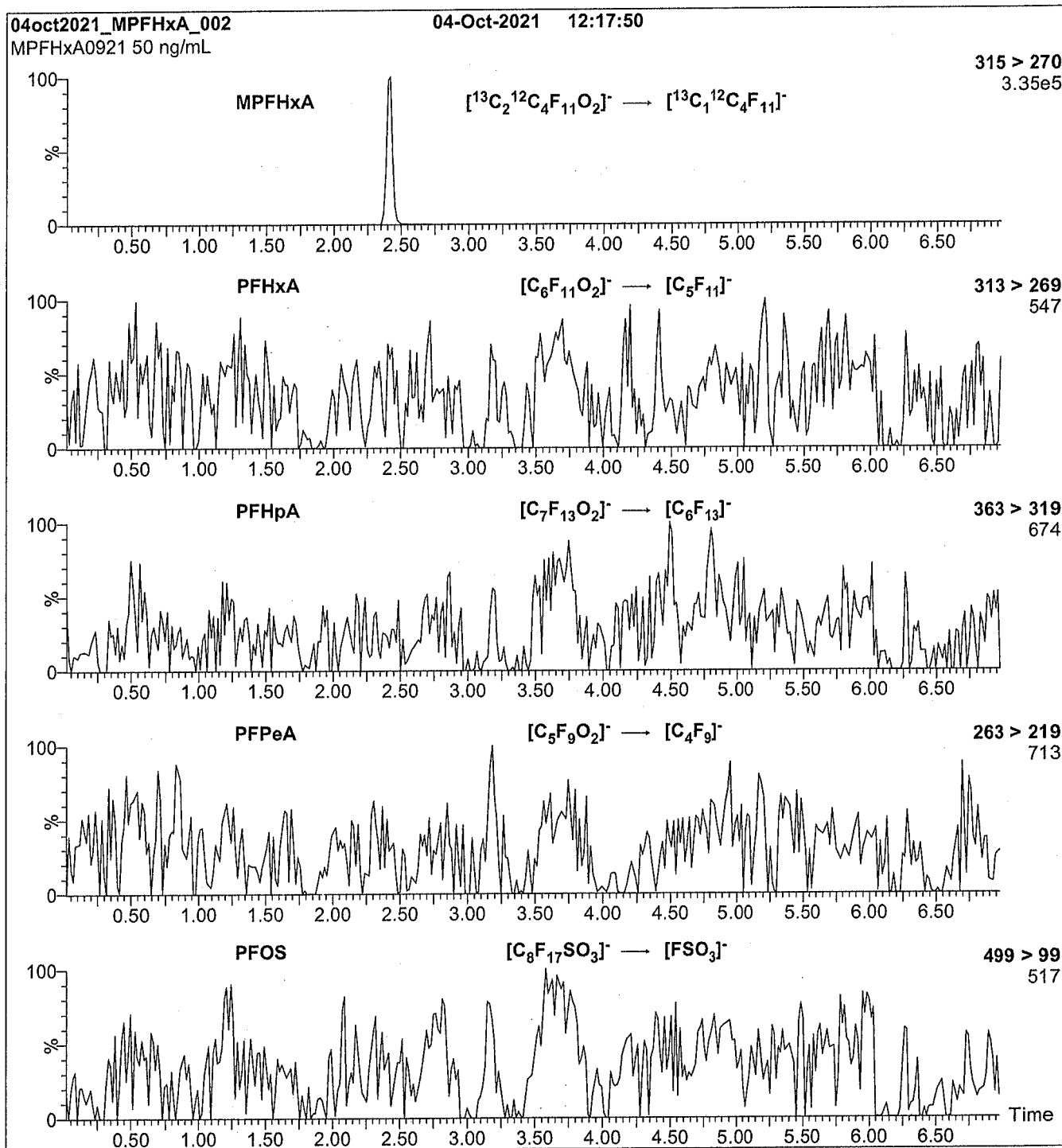
Mobile phase: Gradient  
Start: 50% H<sub>2</sub>O / 50% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 7 min and hold for  
2 min before returning to initial conditions in 1 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.00  
Cone Voltage (V) = 10.00  
Desolvation Temperature ( $^{\circ}$ C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: MPFHxA; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (MPFHxA)

Mobile phase: Same as Figure 1

Flow: 300  $\mu\text{L}/\text{min}$ **MS Parameters:**

Collision Gas (mbar) = 3.31e-3

Collision Energy (eV) = 8

# Analytical Standard Record

**22A0117**

Description:	PFAS - IIS MPFHxA 50ug/mL	Expires:	10/04/2026
Standard Type:	Analyte Spike	Prepared:	10/04/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:48 by HGH

Analyte	Parent	CAS Number	Concentration	Units
13C2-PFHxA		13C2-PFHxA	50	ug/mL

# Analytical Standard Record

**22A0117**

Description:	PFAS - IIS MPFHxA 50ug/mL	Expires:	10/04/2026
Standard Type:	Analyte Spike	Prepared:	10/04/2021
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Final Volume (mls):	1.2	Department:	PFAS
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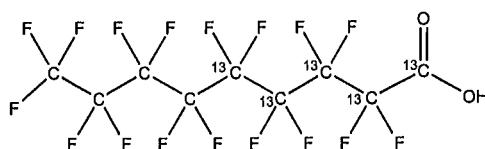




# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** MPFNA **LOT NUMBER:** MPFNA1021  
**COMPOUND:** Perfluoro-n-(1,2,3,4,5-<sup>13</sup>C<sub>5</sub>)nonanoic acid  
**STRUCTURE:** **CAS #:** 960315-49-5



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>5</sub><sup>12</sup>C<sub>4</sub>HF<sub>17</sub>O<sub>2</sub> **MOLECULAR WEIGHT:** 469.04  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol  
 Water (<1%)  
**CHEMICAL PURITY:** >98% **ISOTOPIC PURITY:** ≥99% <sup>13</sup>C  
 (1,2,3,4,5-<sup>13</sup>C<sub>5</sub>)  
**LAST TESTED:** (mm/dd/yyyy) 10/29/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 10/29/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:   
 B.G. Chittim, General Manager

Date: 11/01/2021  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
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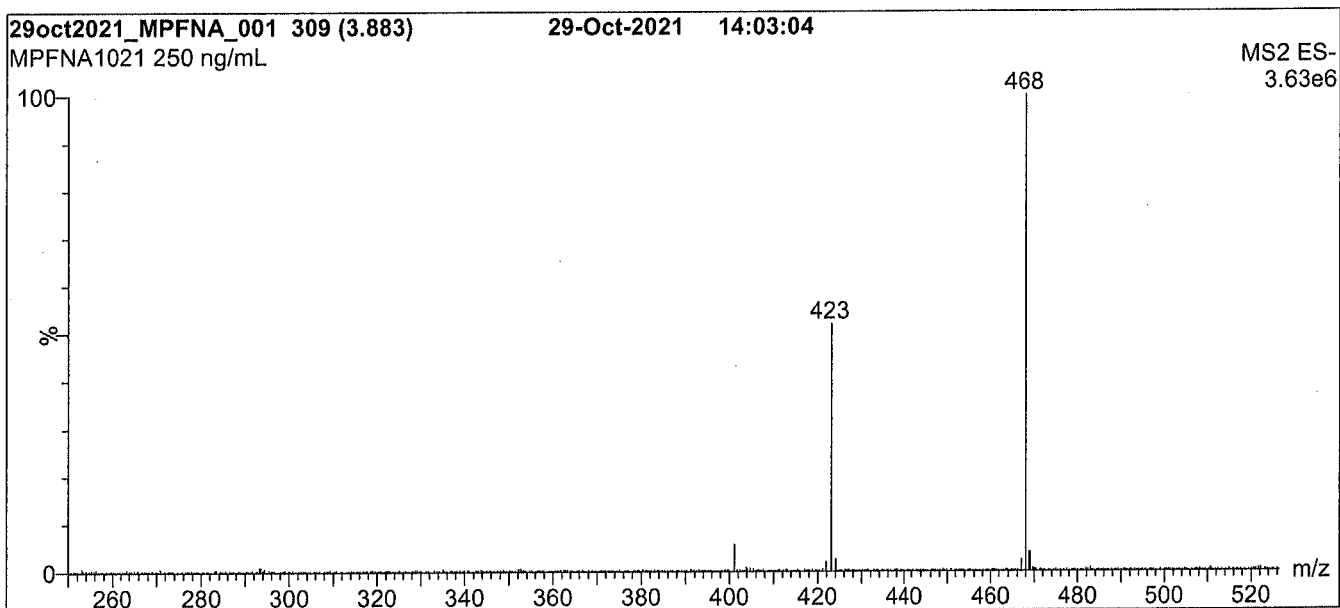
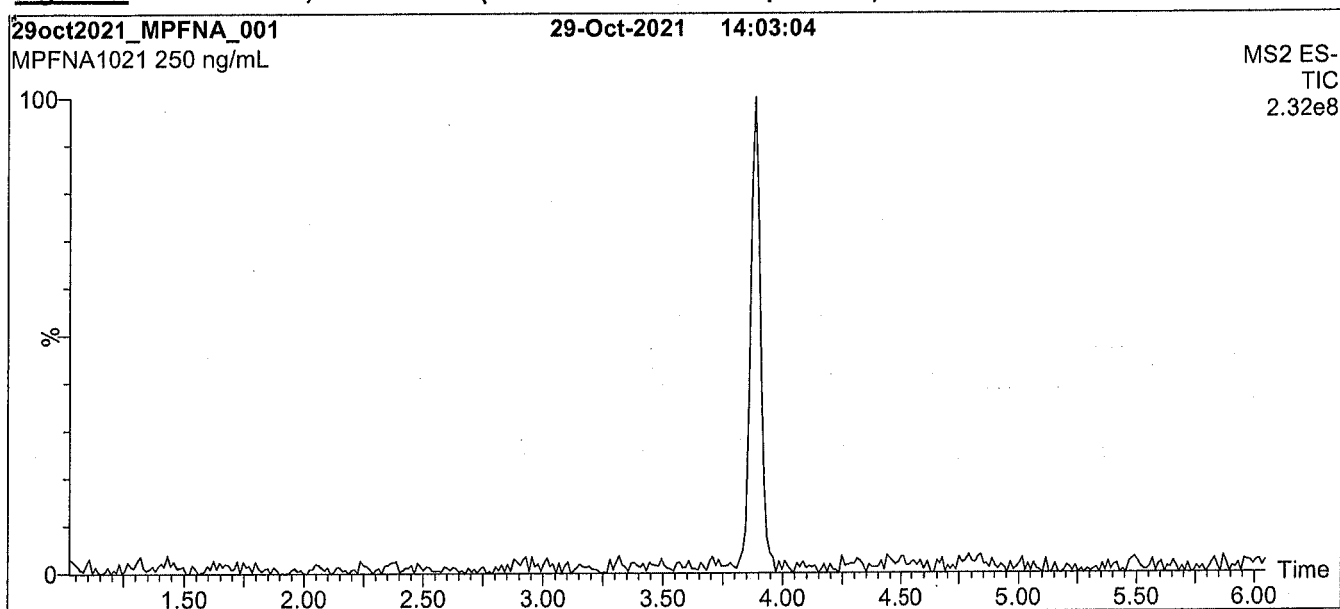
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**Figure 1: MPFNA; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

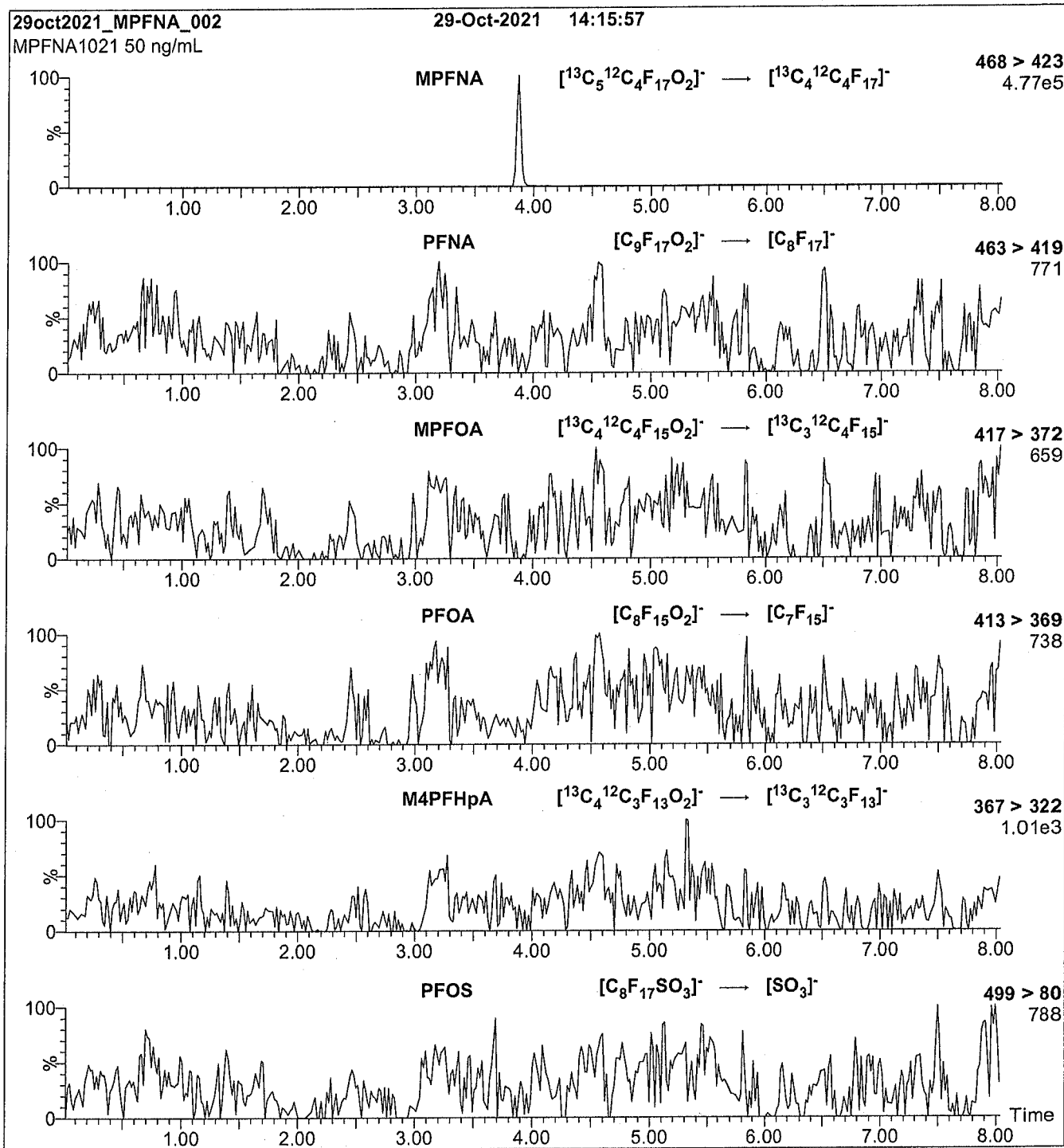
Mobile phase: Gradient  
Start: 40% H<sub>2</sub>O / 60% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for  
2 min before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.00  
Cone Voltage (V) = 10.00  
Desolvation Temperature (°C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: MPFNA; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (MPFNA)

Mobile phase: Same as Figure 1

Flow: 300  $\mu\text{L}/\text{min}$ **MS Parameters:**

Collision Gas (mbar) = 3.16e-3

Collision Energy (eV) = 10

# Analytical Standard Record

**22A0118**

Description:	PFAS - IIS MPFNA 50ug/mL	Expires:	10/29/2026
Standard Type:	Analyte Spike	Prepared:	10/29/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:48 by HGH

Analyte	Parent	CAS Number	Concentration	Units
13C5-PFNA		13C5-PFNA	50	ug/mL

# Analytical Standard Record

**22A0118**

Description:	PFAS - IIS MPFNA 50ug/mL	Expires:	10/29/2026
Standard Type:	Analyte Spike	Prepared:	10/29/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:48 by HGH

Analyte	Parent	CAS Number	Concentration	Units
13C5-PFNA		13C5-PFNA	50	ug/mL



# WELLINGTON LABORATORIES

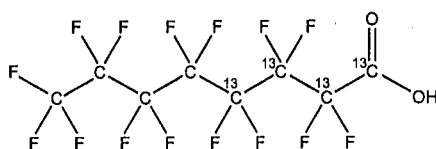
## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** MPFOA  
**COMPOUND:** Perfluoro-n-(1,2,3,4-<sup>13</sup>C<sub>4</sub>)octanoic acid

**LOT NUMBER:** MPFOA1121

**STRUCTURE:**

**CAS #:** 960315-48-4



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>4</sub><sup>12</sup>C<sub>4</sub>HF<sub>15</sub>O<sub>2</sub>  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL

**MOLECULAR WEIGHT:** 418.04  
**SOLVENT(S):** Methanol  
Water (<1%)

**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 12/07/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 12/07/2026

**ISOTOPIC PURITY:** ≥99% <sup>13</sup>C  
(1,2,3,4-<sup>13</sup>C<sub>4</sub>)

**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

**DOCUMENTATION/ DATA ATTACHED:**

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)  
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

**ADDITIONAL INFORMATION:**

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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**Certified By:**   
B.G. Chittim, General Manager

**Date:** 12/20/2021  
(mm/dd/yyyy)

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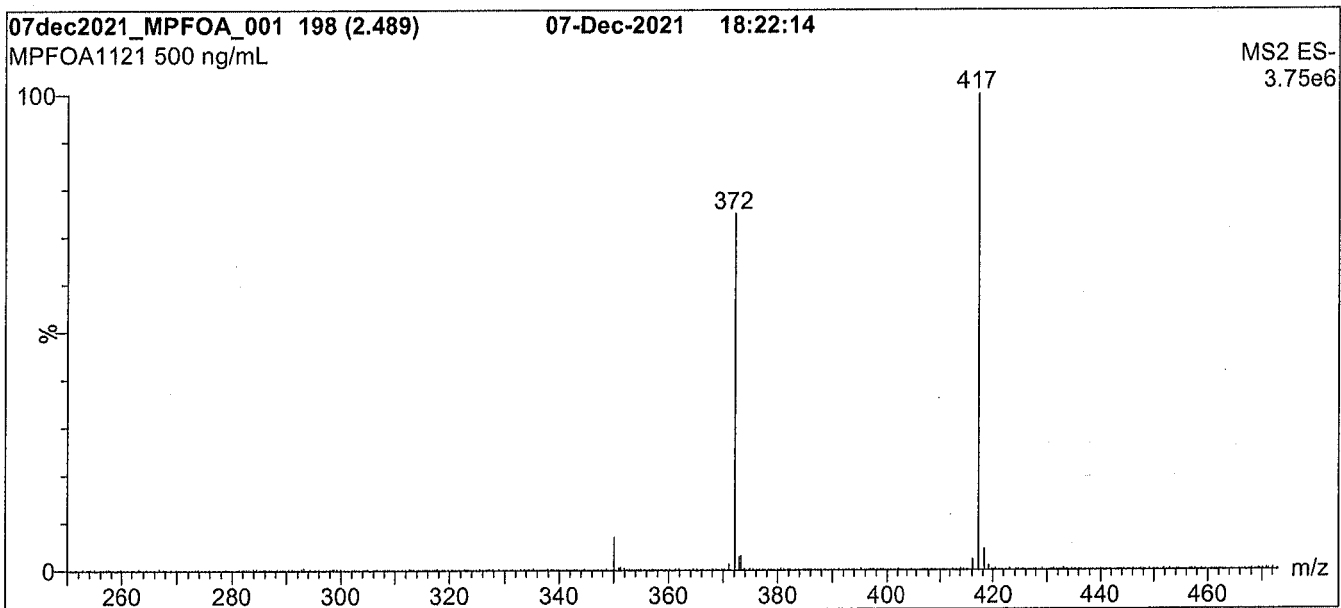
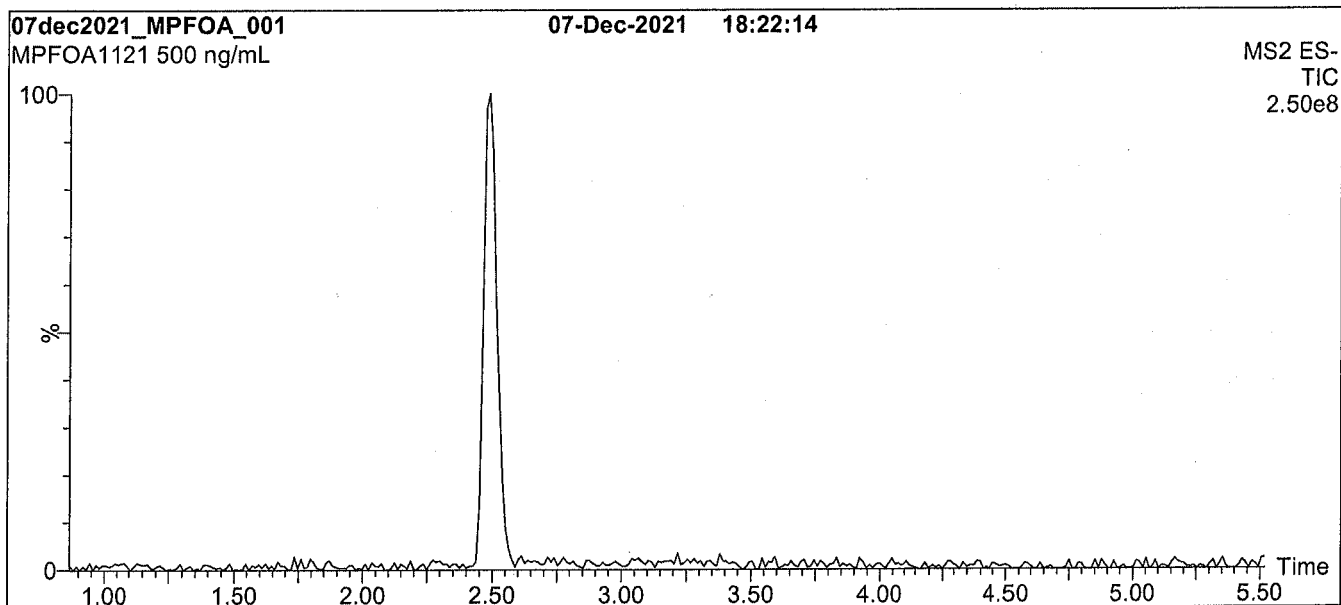
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Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

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Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

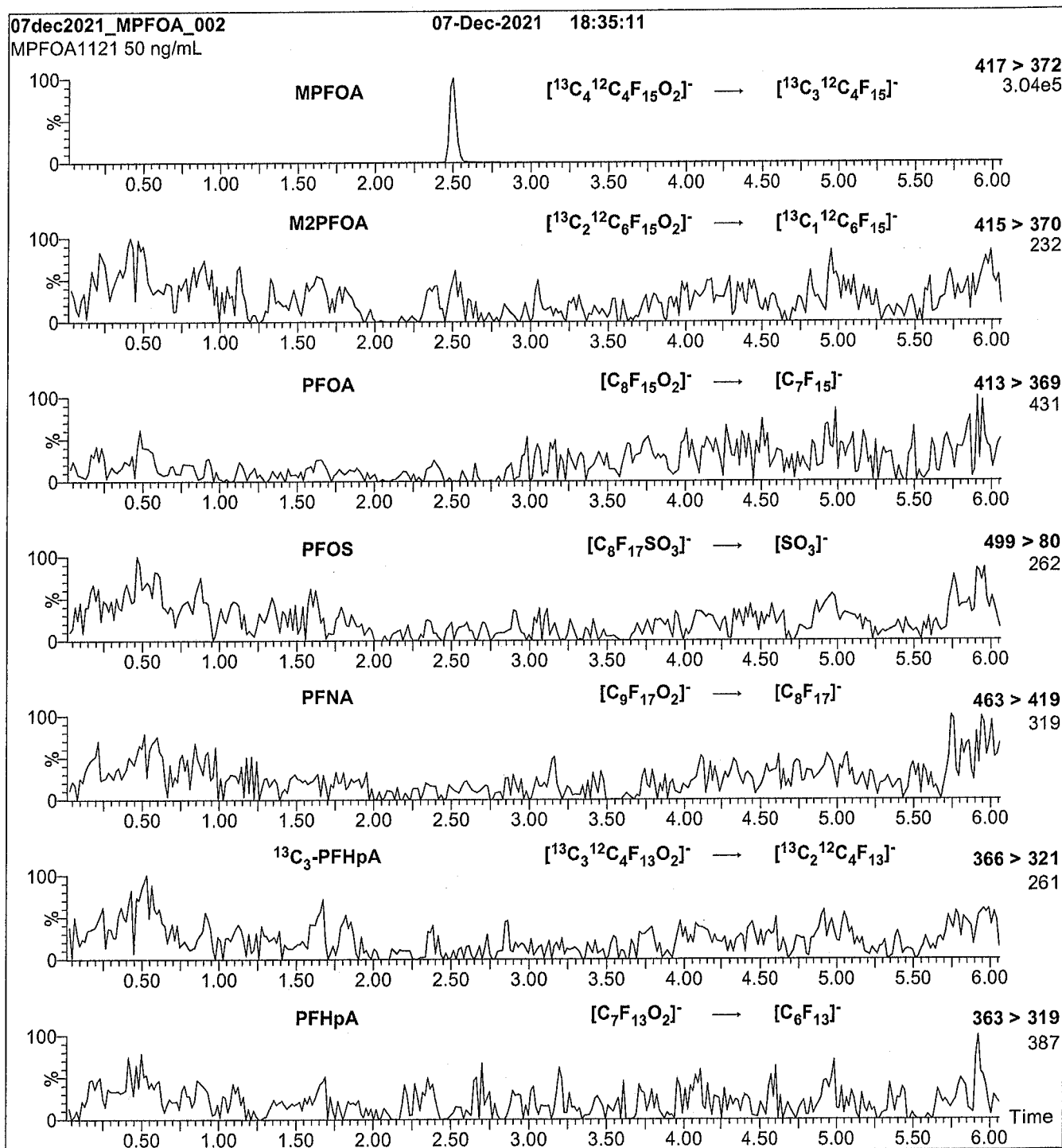
Mobile phase: Gradient  
Start: 40% H<sub>2</sub>O / 60% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for 2 min  
before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.00  
Cone Voltage (V) = 10.00  
Desolvation Temperature (°C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: MPFOA; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (MPFOA)

Mobile phase: Same as Figure 1

Flow: 300  $\mu\text{L}/\text{min}$ **MS Parameters:**

Collision Gas (mbar) = 3.39e-3

Collision Energy (eV) = 8

# Analytical Standard Record

**22A0119**

Description:	PFAS - IIS MPFOA 50ug/mL	Expires:	12/07/2026
Standard Type:	Analyte Spike	Prepared:	12/07/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:48 by HGH

<b>Analyte</b>	<b>Parent</b>	<b>CAS Number</b>	<b>Concentration</b>	<b>Units</b>
13C4-PFOA		13C4-PFOA	50	ug/mL

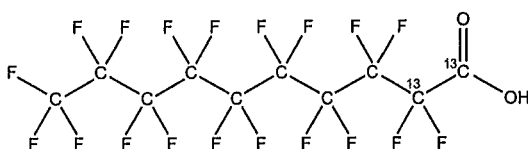


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** MPFDA      **LOT NUMBER:** MPFDA1221  
**COMPOUND:** Perfluoro-n-(1,2-<sup>13</sup>C<sub>2</sub>)decanoic acid

**STRUCTURE:**      **CAS #:** 960315-50-8



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>2</sub><sup>12</sup>C<sub>8</sub>HF<sub>19</sub>O<sub>2</sub>      **MOLECULAR WEIGHT:** 516.07  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL      **SOLVENT(S):** Methanol  
 Water (<1%)  
**CHEMICAL PURITY:** >98%      **ISOTOPIC PURITY:** ≥99% <sup>13</sup>C  
 (1,2-<sup>13</sup>C<sub>2</sub>)  
**LAST TESTED:** (mm/dd/yyyy) 12/08/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 12/08/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)  
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Certified By: \_\_\_\_\_

B.G. Chittim, General Manager

Date: 12/13/2021  
 (mm/dd/yyyy)

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**HOMOGENEITY:**

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The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters  $x_1, x_2, \dots, x_n$  on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where  $x$  is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of  $\pm 5\%$  (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

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**EXPIRY DATE / PERIOD OF VALIDITY:**

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**LIMITED WARRANTY:**

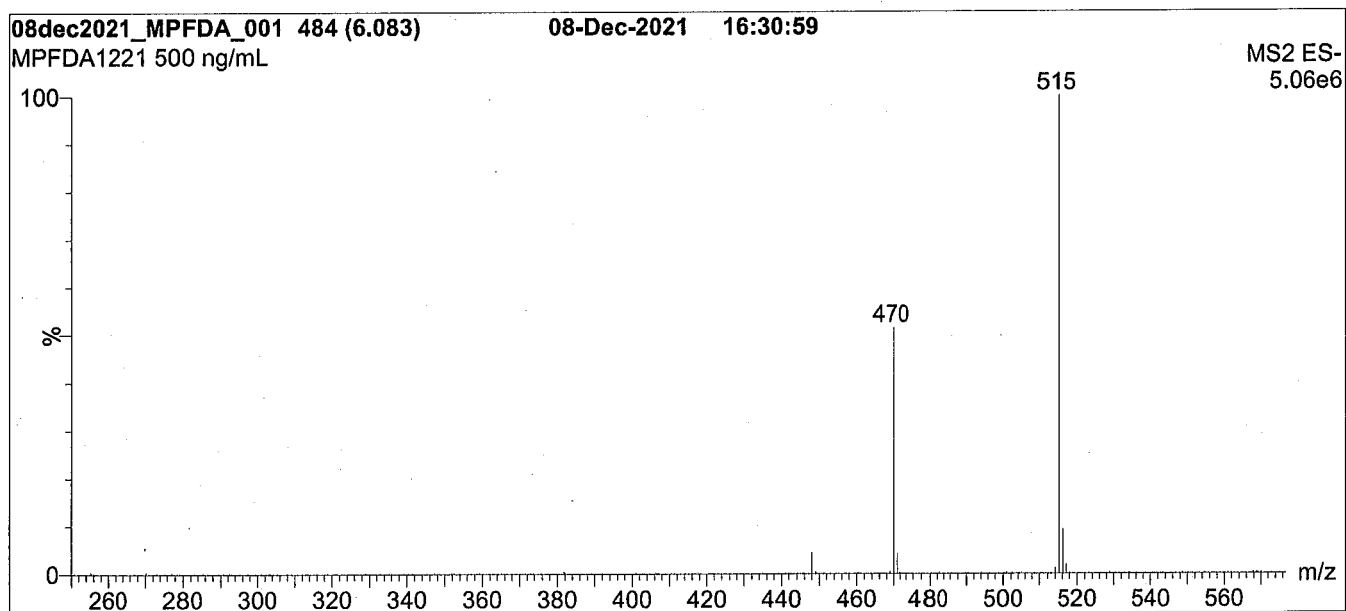
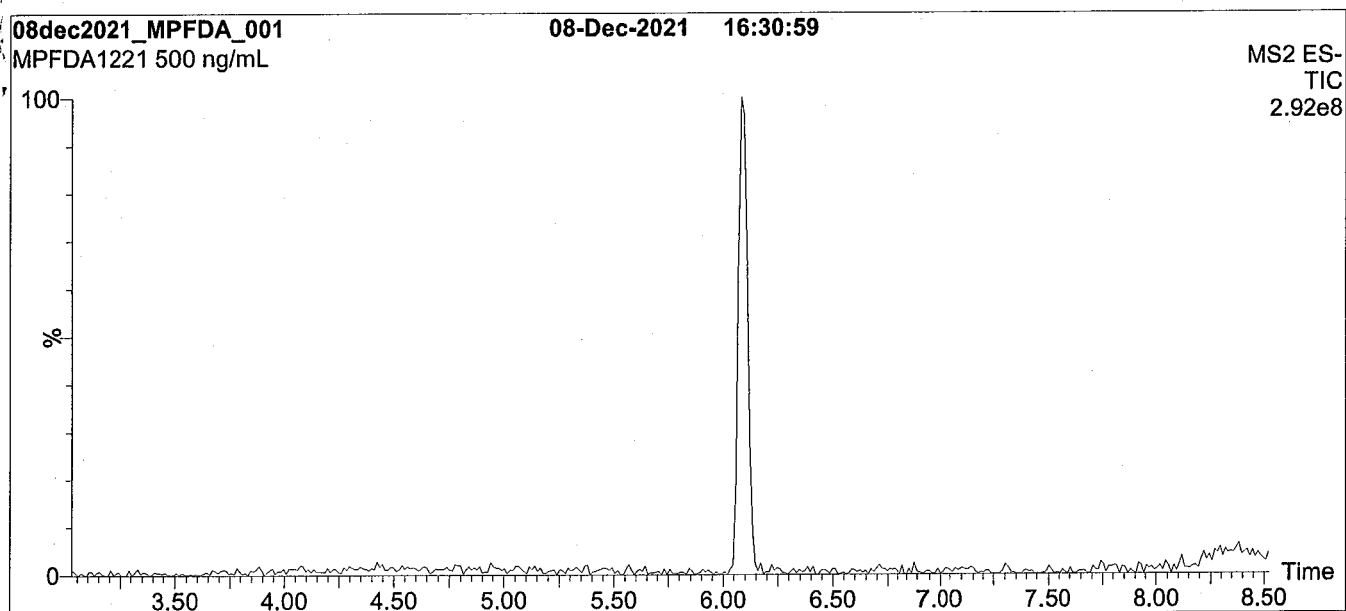
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**QUALITY MANAGEMENT:**

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).



\*\*For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at [www.well-labs.com](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

**Figure 1: MPFDA; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient

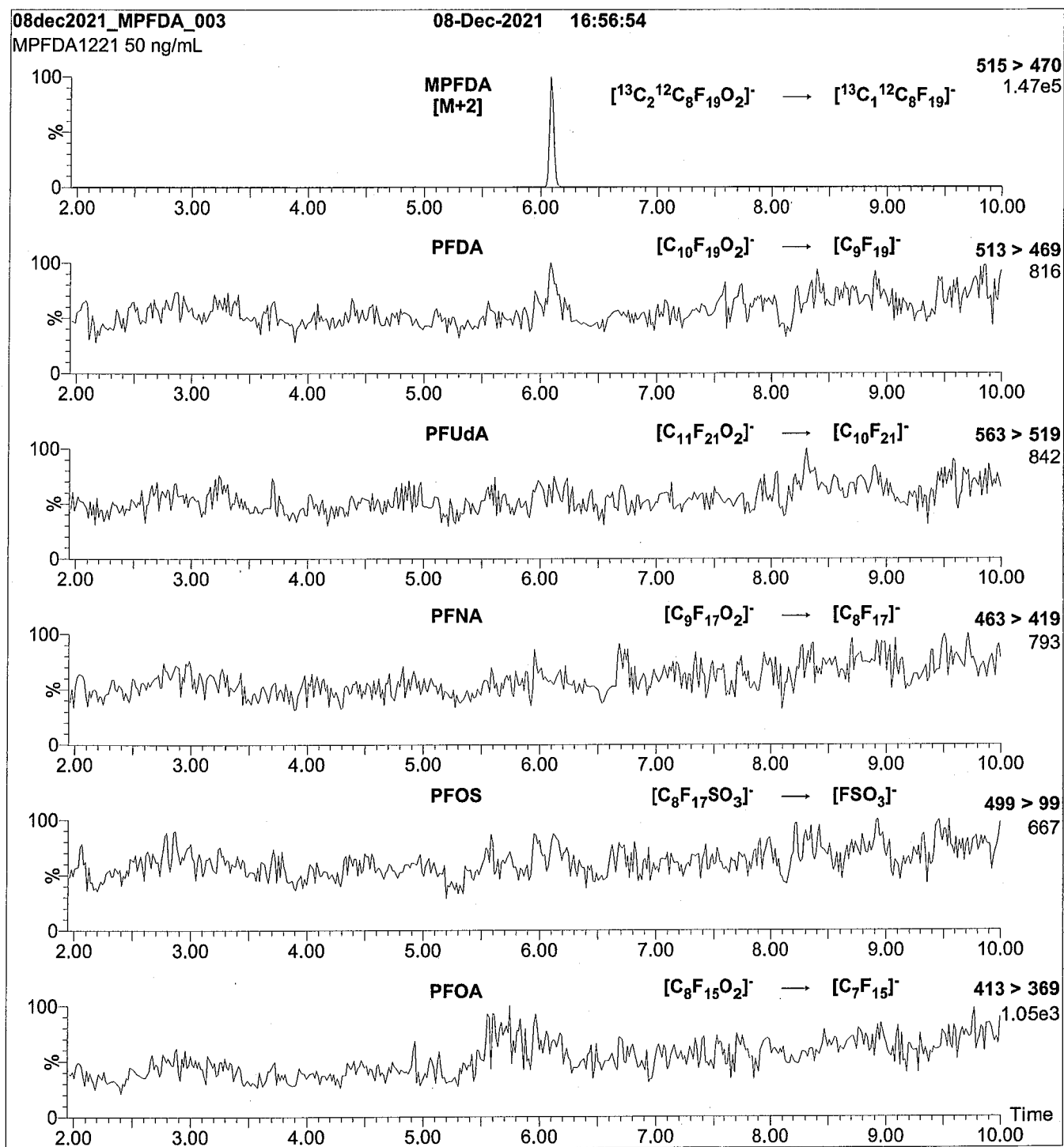
Start: 50% H<sub>2</sub>O / 50% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 9 min and hold for  
1 min before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.00  
Cone Voltage (V) = 10.00  
Desolvation Temperature ( $^{\circ}$ C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: MPFDA; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (MPFDA)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.39e-3

Collision Energy (eV) = 10

# Analytical Standard Record

**22A0120**

Description:	PFAS - IIS MPFDA 50ug/mL	Expires:	12/08/2026
Standard Type:	Analyte Spike	Prepared:	12/08/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:49 by HGH

Analyte	Parent	CAS Number	Concentration	Units
13C2-PFDA		13C2-PFDA	50	ug/mL



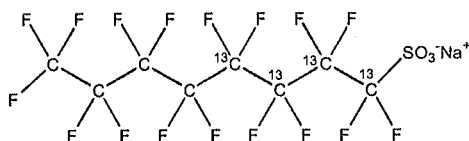


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** MPFOS **LOT NUMBER:** MPFOS0821  
**COMPOUND:** Sodium perfluoro-1-(1,2,3,4-<sup>13</sup>C<sub>4</sub>)octanesulfonate

**STRUCTURE:** **CAS #:** 960315-53-1



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>4</sub><sup>12</sup>C<sub>4</sub>F<sub>17</sub>SO<sub>3</sub>Na **MOLECULAR WEIGHT:** 526.08  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL (Na salt) **SOLVENT(S):** Methanol  
 47.9 ± 2.4 µg/mL (MPFOS acid)  
 47.8 ± 2.4 µg/mL (MPFOS anion)  
**CHEMICAL PURITY:** >98% **ISOTOPIC PURITY:** ≥99% <sup>13</sup>C  
**LAST TESTED:** (mm/dd/yyyy) 08/18/2021 (1,2,3,4-<sup>13</sup>C<sub>4</sub>)  
**EXPIRY DATE:** (mm/dd/yyyy) 08/18/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

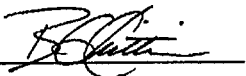
### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~0.4% sodium perfluoro-1-(<sup>13</sup>C<sub>3</sub>)heptanesulfonate.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**   
 B.G. Chittim, General Manager **Date:** 08/19/2021  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

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**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

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The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters  $x_1, x_2, \dots, x_n$  on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where  $x$  is expressed as a relative standard uncertainty of the individual parameter.

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**EXPIRY DATE / PERIOD OF VALIDITY:**

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**LIMITED WARRANTY:**

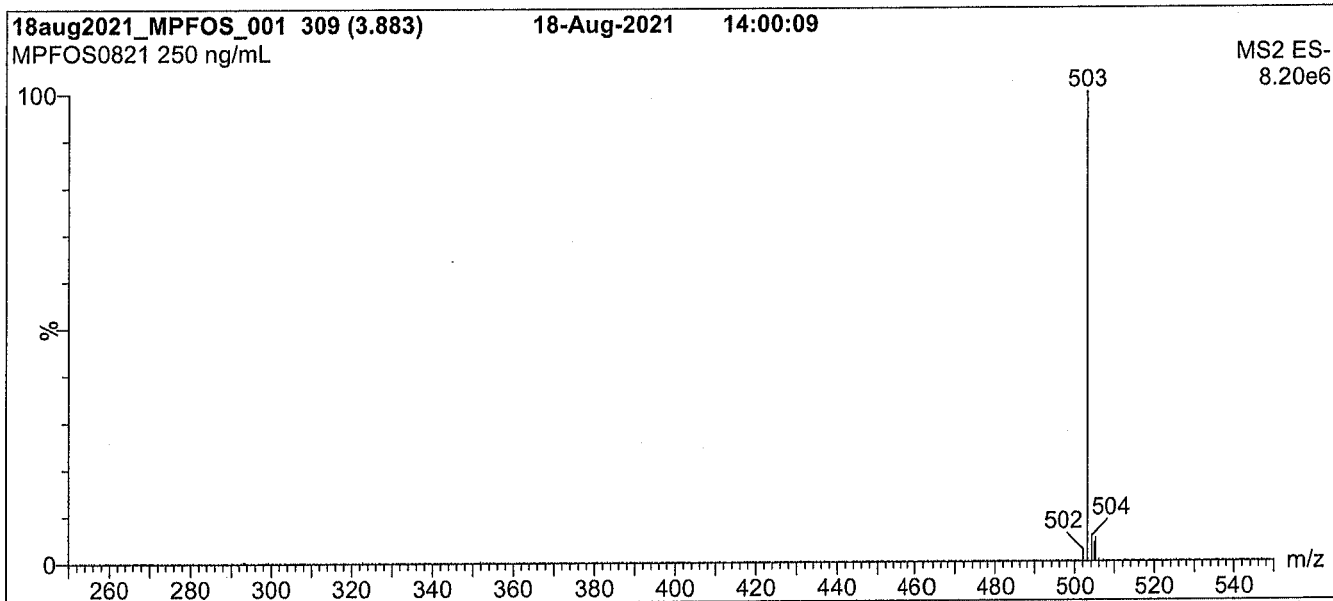
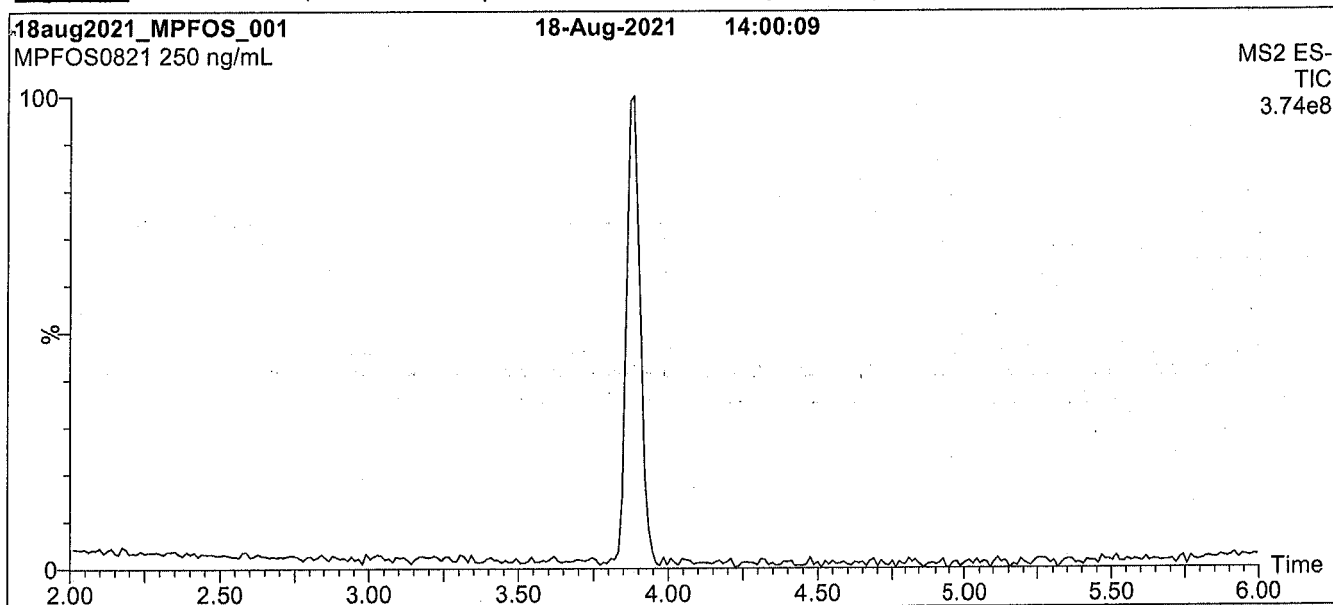
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**QUALITY MANAGEMENT:**

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**Figure 1: MPFOS; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

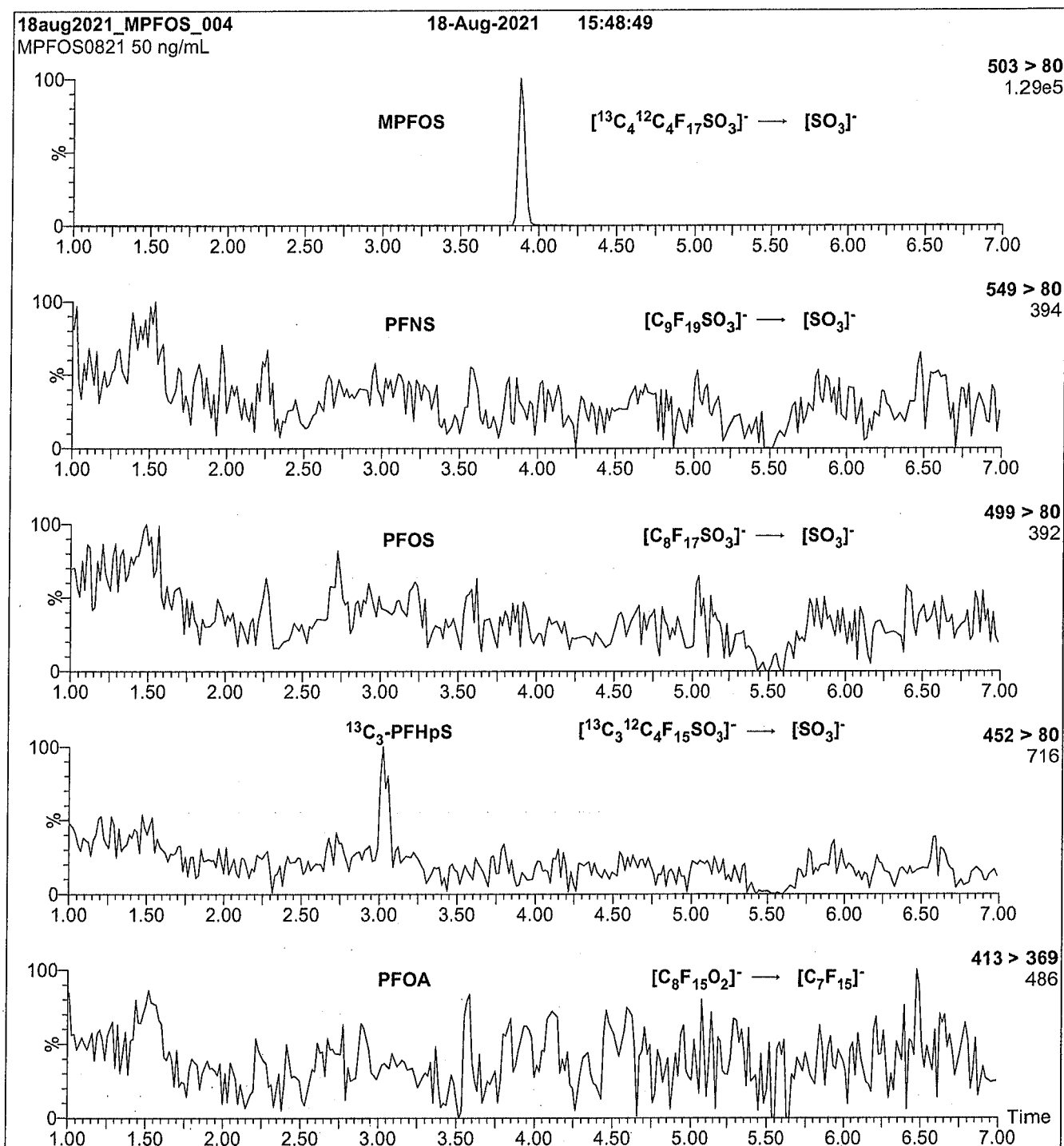
Mobile phase: Gradient  
Start: 40% H<sub>2</sub>O / 60% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for  
2 min before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.00  
Cone Voltage (V) = 10.00  
Desolvation Temperature ( $^{\circ}$ C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: MPFOS; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (MPFOS)

Mobile phase: Same as Figure 1

Flow: 300  $\mu\text{L}/\text{min}$ **MS Parameters:**

Collision Gas (mbar) = 3.39e-3

Collision Energy (eV) = 42

# Analytical Standard Record

**22A0121**

Description:	PFAS - IIS MPFOS 50ug/mL	Expires:	08/18/2026
Standard Type:	Analyte Spike	Prepared:	08/18/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:49 by HGH

Analyte	Parent	CAS Number	Concentration	Units
13C4-PFOS		13C4-PFOS	50	ug/mL

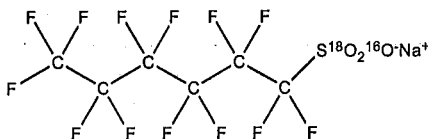


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** MPFHxS **LOT NUMBER:** MPFHxS1021  
**COMPOUND:** Sodium perfluoro-1-hexane(<sup>18</sup>O<sub>2</sub>)sulfonate

**STRUCTURE:** **CAS #:** 1585941-14-5



**MOLECULAR FORMULA:** C<sub>6</sub>F<sub>13</sub>S<sup>18</sup>O<sub>2</sub><sup>16</sup>ONa **MOLECULAR WEIGHT:** 426.10  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL (Na salt) **SOLVENT(S):** Methanol  
 47.4 ± 2.4 µg/mL (MPFHxS acid)  
 47.3 ± 2.4 µg/mL (MPFHxS anion)  
**CHEMICAL PURITY:** >98% **ISOTOPIC PURITY:** >94% (<sup>18</sup>O<sub>2</sub>)  
**LAST TESTED:** (mm/dd/yyyy) 10/29/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 10/29/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:


Figure 1: LC/MS Data (Full Scan and Mass Spectrum)

Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- The response factor for MPFHxS (C<sub>6</sub>F<sub>13</sub>S<sup>18</sup>O<sub>2</sub><sup>16</sup>O) has been observed to be up to 10% lower than for PFHxS (C<sub>6</sub>F<sub>13</sub>S<sup>18</sup>O<sub>3</sub>) when both compounds are injected together. This difference may vary between instruments.
- Contains ~0.6% of sodium perfluoro-1-octane(<sup>18</sup>O<sub>2</sub>)sulfonate (<sup>18</sup>O<sub>2</sub>-PFOS) and ~0.3% of sodium perfluoro-1-heptane(<sup>18</sup>O<sub>2</sub>)sulfonate (<sup>18</sup>O<sub>2</sub>-PFHpS).
- Due to the isotopic purity of the starting material (<sup>18</sup>O<sub>2</sub> >94%), MPFHxS contains ~0.3% of PFHxS. This value agrees with the theoretical percent relative abundance that is expected based on the stated isotopic purity.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**   
 B.G. Chittim, General Manager **Date:** 11/05/2021  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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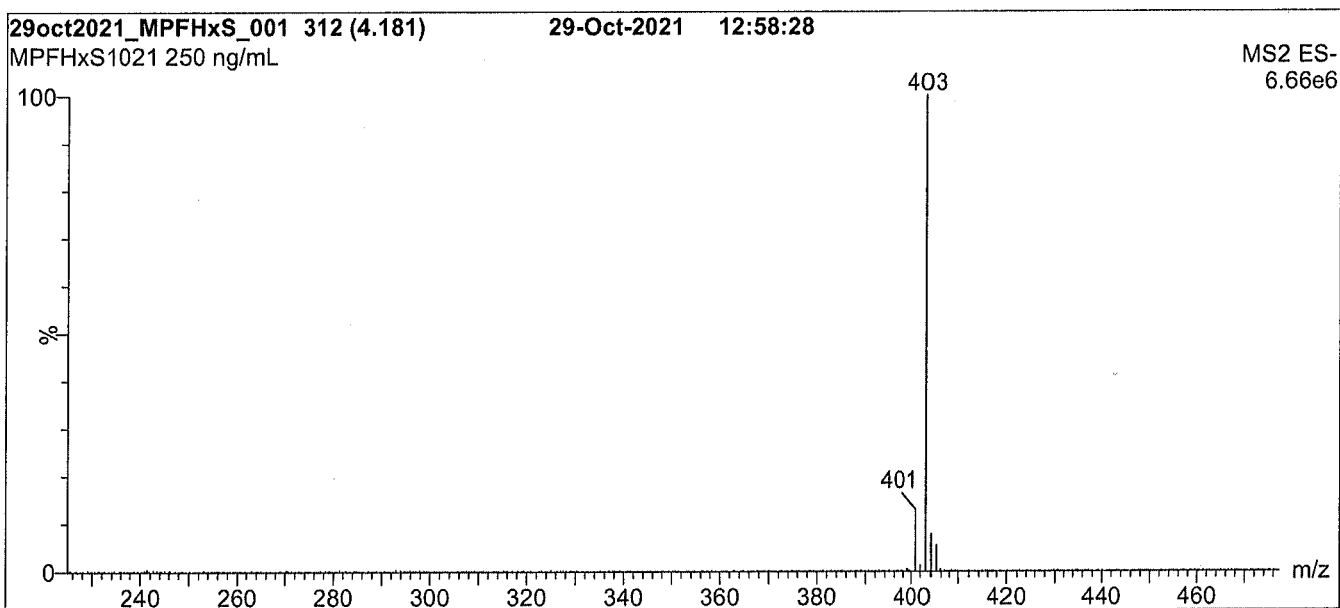
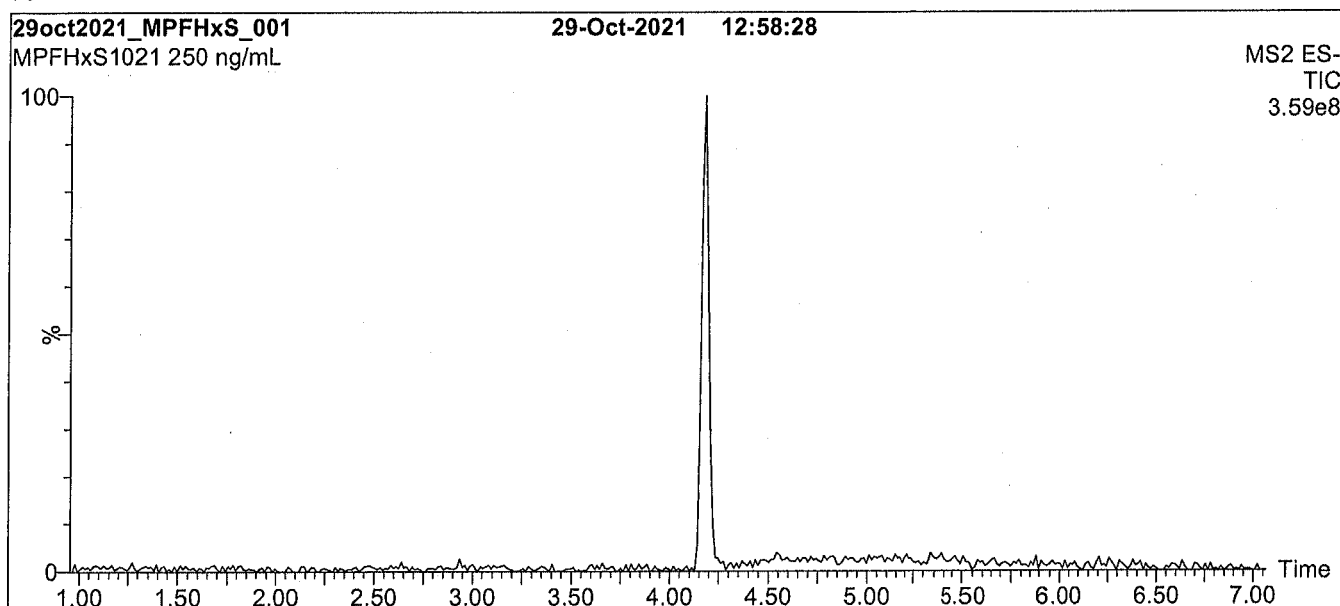
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**Figure 1: MPFHxS; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient  
Start: 50% H<sub>2</sub>O / 50% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 9 min and hold for  
1 min before returning to initial conditions in 0.75 min.  
Time: 12 min

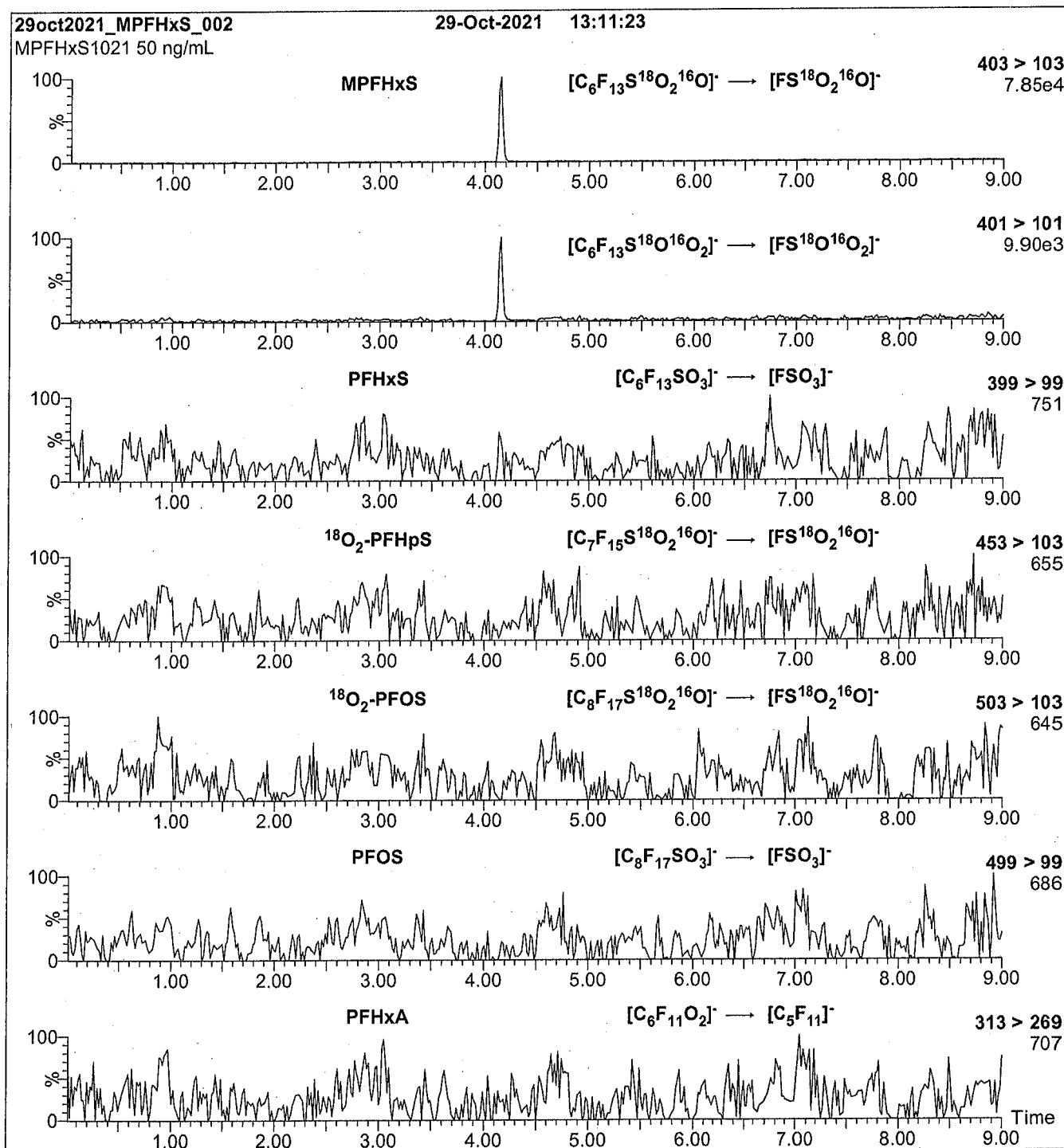
Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.00  
Cone Voltage (V) = 10.00  
Desolvation Temperature (°C) = 500  
Desolvation Gas Flow (L/hr) = 1000



**Figure 2: MPFHxS; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (MPFHxS)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.16e-3

Collision Energy (eV) = 32

# Analytical Standard Record

**22A0122**

Description:	PFAS - IIS MPFHxS 50ug/mL	Expires:	10/29/2026
Standard Type:	Analyte Spike	Prepared:	10/29/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:49 by HGH

Analyte	Parent	CAS Number	Concentration	Units
1802-PFHXS		1802-PFHXS	50	ug/mL

# Analytical Standard Record

**22A0122**

Description:	PFAS - IIS MPFHxS 50ug/mL	Expires:	10/29/2026
Standard Type:	Analyte Spike	Prepared:	10/29/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:49 by HGH

Analyte	Parent	CAS Number	Concentration	Units
1802-PFHXS		1802-PFHXS	50	ug/mL

# Analytical Standard Record

**22A0234**

Description:	PFAS IIS 7C 5ug/mL	Expires:	01/20/2023
Standard Type:	Internal Standard	Prepared:	01/20/2022
Solvent:	MeOH/61252	Prepared By:	Dipti Gokal
Final Volume (mL):	12	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:49 by HGH
Comments:	mpfna had more left over than others.		

Analyte	Parent	CAS Number	Concentration	Units
13C3-PFBA	22A0116	13C3-PFBA	5	ug/mL
13C2-PFHxA	22A0117	13C2-PFHxA	5	ug/mL
13C5-PFNA	22A0118	13C5-PFNA	5	ug/mL
13C4-PFOA	22A0119	13C4-PFOA	5	ug/mL
13C2-PFDA	22A0120	13C2-PFDA	5	ug/mL
13C4-PFOS	22A0121	13C4-PFOS	5	ug/mL
18O2-PFHxS	22A0122	18O2-PFHxS	5	ug/mL

**Parent Standards used:**

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mL)
22A0116	PFAS - IIS M3PFBA 50ug/mL	08/19/2021	Wellington Laboratories	M3PFBA0721	08/19/2026	01/20/2022 15:48 by HGH	1.2
22A0117	PFAS - IIS MPFHxA 50ug/mL	10/04/2021	Wellington Laboratories	MPFHxA0921	10/04/2026	01/20/2022 15:48 by HGH	1.2
22A0118	PFAS - IIS MPFNA 50ug/mL	10/29/2021	Wellington Laboratories	MPFNA1021	10/29/2026	01/20/2022 15:48 by HGH	1.2
22A0119	PFAS - IIS MPFOA 50ug/mL	12/07/2021	Wellington Laboratories	MPFOA1121	12/07/2026	01/20/2022 15:48 by HGH	1.2
22A0120	PFAS - IIS MPFDA 50ug/mL	12/08/2021	Wellington Laboratories	MPFDA1221	12/08/2026	01/20/2022 15:49 by HGH	1.2
22A0121	PFAS - IIS MPFOS 50ug/mL	08/18/2021	Wellington Laboratories	MPFOS0821	08/18/2026	01/20/2022 15:49 by HGH	1.2
22A0122	PFAS - IIS MPFHxS 50ug/mL	10/29/2021	Wellington Laboratories	MPFHxS1021	10/29/2026	01/20/2022 15:49 by HGH	1.2

# Analytical Standard Record

**22A0234**

Description:	PFAS IIS 7C 5ug/mL	Expires:	01/20/2023
Standard Type:	Internal Standard	Prepared:	01/20/2022
Solvent:	MeOH/61252	Prepared By:	Dipti Gokal
Final Volume (mL):	12	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:49 by HGH
Comments:	mpfna had more left over than others.		

Analyte	Parent	CAS Number	Concentration	Units
13C3-PFBA	22A0116	13C3-PFBA	5	ug/mL
13C2-PFHxA	22A0117	13C2-PFHxA	5	ug/mL
13C5-PFNA	22A0118	13C5-PFNA	5	ug/mL
13C4-PFOA	22A0119	13C4-PFOA	5	ug/mL
13C2-PFDA	22A0120	13C2-PFDA	5	ug/mL
13C4-PFOS	22A0121	13C4-PFOS	5	ug/mL
18O2-PFHxS	22A0122	18O2-PFHxS	5	ug/mL

**Parent Standards used:**

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mL)
22A0116	PFAS - IIS M3PFBA 50ug/mL	08/19/2021	Wellington Laboratories	M3PFBA0721	08/19/2026	01/20/2022 15:48 by HGH	1.2
22A0117	PFAS - IIS MPFHxA 50ug/mL	10/04/2021	Wellington Laboratories	MPFHxA0921	10/04/2026	01/20/2022 15:48 by HGH	1.2
22A0118	PFAS - IIS MPFNA 50ug/mL	10/29/2021	Wellington Laboratories	MPFNA1021	10/29/2026	01/20/2022 15:48 by HGH	1.2
22A0119	PFAS - IIS MPFOA 50ug/mL	12/07/2021	Wellington Laboratories	MPFOA1121	12/07/2026	01/20/2022 15:48 by HGH	1.2
22A0120	PFAS - IIS MPFDA 50ug/mL	12/08/2021	Wellington Laboratories	MPFDA1221	12/08/2026	01/20/2022 15:49 by HGH	1.2
22A0121	PFAS - IIS MPFOS 50ug/mL	08/18/2021	Wellington Laboratories	MPFOS0821	08/18/2026	01/20/2022 15:49 by HGH	1.2
22A0122	PFAS - IIS MPFHxS 50ug/mL	10/29/2021	Wellington Laboratories	MPFHxS1021	10/29/2026	01/20/2022 15:49 by HGH	1.2

# Analytical Standard Record

**22A0234**

Description:	PFAS IIS 7C 5ug/mL	Expires:	01/20/2023
Standard Type:	Internal Standard	Prepared:	01/20/2022
Solvent:	MeOH/61252	Prepared By:	Dipti Gokal
Final Volume (mL):	12	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:49 by HGH
Comments:	mpfna had more left over than others.		

Analyte	Parent	CAS Number	Concentration	Units
13C3-PFBA	22A0116	13C3-PFBA	5	ug/mL
13C2-PFHxA	22A0117	13C2-PFHxA	5	ug/mL
13C5-PFNA	22A0118	13C5-PFNA	5	ug/mL
13C4-PFOA	22A0119	13C4-PFOA	5	ug/mL
13C2-PFDA	22A0120	13C2-PFDA	5	ug/mL
13C4-PFOS	22A0121	13C4-PFOS	5	ug/mL
18O2-PFHxS	22A0122	18O2-PFHxS	5	ug/mL

**Parent Standards used:**

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mL)
22A0116	PFAS - IIS M3PFBA 50ug/mL	08/19/2021	Wellington Laboratories	M3PFBA0721	08/19/2026	01/20/2022 15:48 by HGH	1.2
22A0117	PFAS - IIS MPFHxA 50ug/mL	10/04/2021	Wellington Laboratories	MPFHxA0921	10/04/2026	01/20/2022 15:48 by HGH	1.2
22A0118	PFAS - IIS MPFNA 50ug/mL	10/29/2021	Wellington Laboratories	MPFNA1021	10/29/2026	01/20/2022 15:48 by HGH	1.2
22A0119	PFAS - IIS MPFOA 50ug/mL	12/07/2021	Wellington Laboratories	MPFOA1121	12/07/2026	01/20/2022 15:48 by HGH	1.2
22A0120	PFAS - IIS MPFDA 50ug/mL	12/08/2021	Wellington Laboratories	MPFDA1221	12/08/2026	01/20/2022 15:49 by HGH	1.2
22A0121	PFAS - IIS MPFOS 50ug/mL	08/18/2021	Wellington Laboratories	MPFOS0821	08/18/2026	01/20/2022 15:49 by HGH	1.2
22A0122	PFAS - IIS MPFHxS 50ug/mL	10/29/2021	Wellington Laboratories	MPFHxS1021	10/29/2026	01/20/2022 15:49 by HGH	1.2

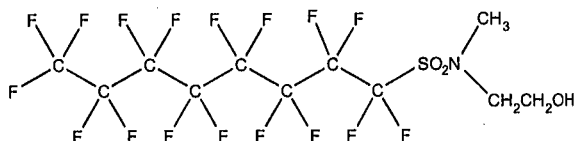


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** N-MeFOSE-M **LOT NUMBER:** NMeFOSE0921M  
**COMPOUND:** 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol **22C0307**

**STRUCTURE:** **CAS #:** 24448-09-7



**MOLECULAR FORMULA:** C<sub>11</sub>H<sub>8</sub>F<sub>17</sub>NO<sub>3</sub>S **MOLECULAR WEIGHT:** 557.22  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 09/22/2021 (HRGC/LRMS)  
 09/23/2021 (LC/MS)  
**EXPIRY DATE:** (mm/dd/yyyy) 09/23/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 3: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:   
 B.G. Chittim, General Manager

Date: 09/28/2021  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

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The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters

$x_1, x_2, \dots, x_n$  on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where  $x$  is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of  $\pm 5\%$  (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

**TRACEABILITY:**

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

**EXPIRY DATE / PERIOD OF VALIDITY:**

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

**LIMITED WARRANTY:**

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

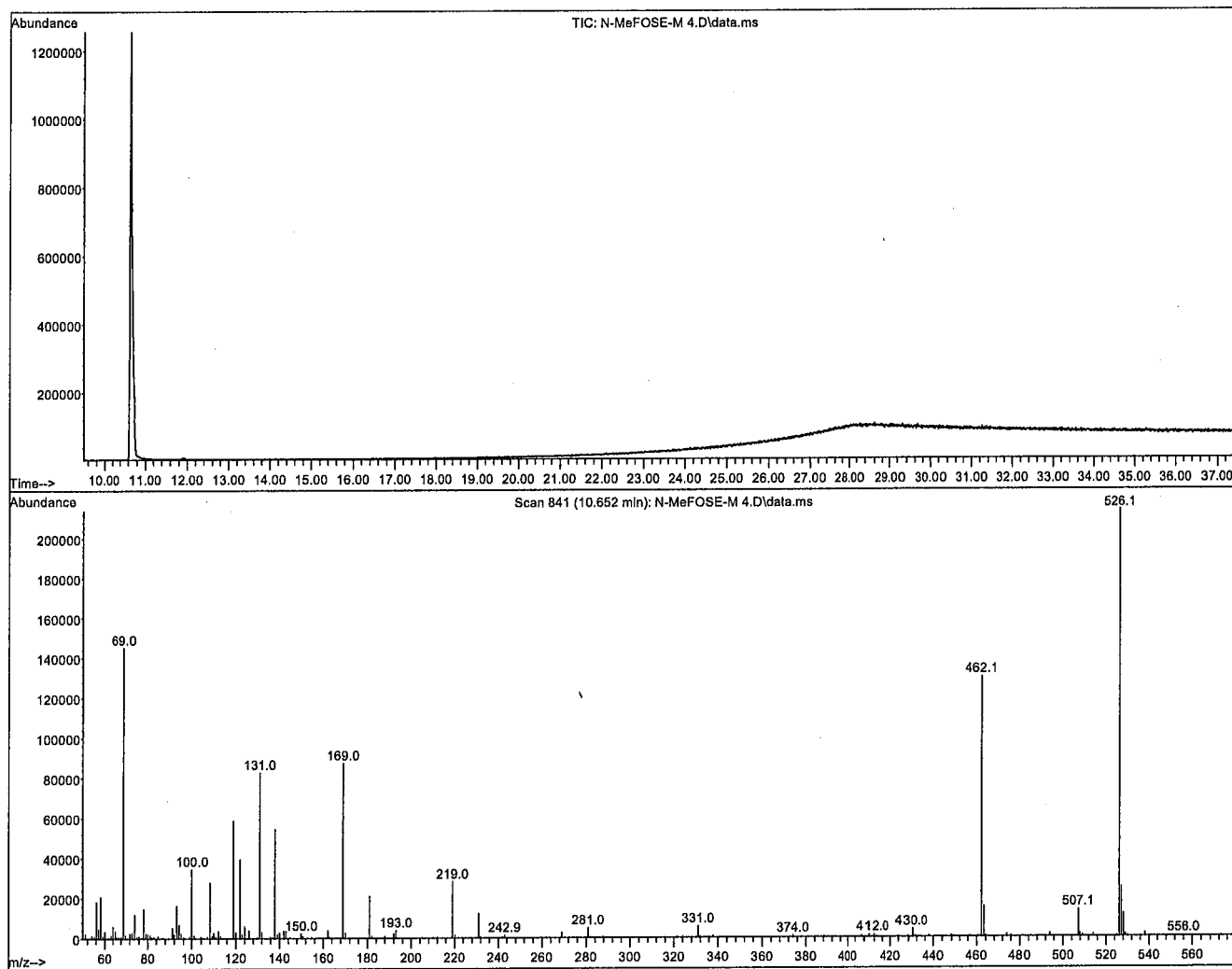
**QUALITY MANAGEMENT:**

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).



\*\*For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at [www.well-labs.com](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

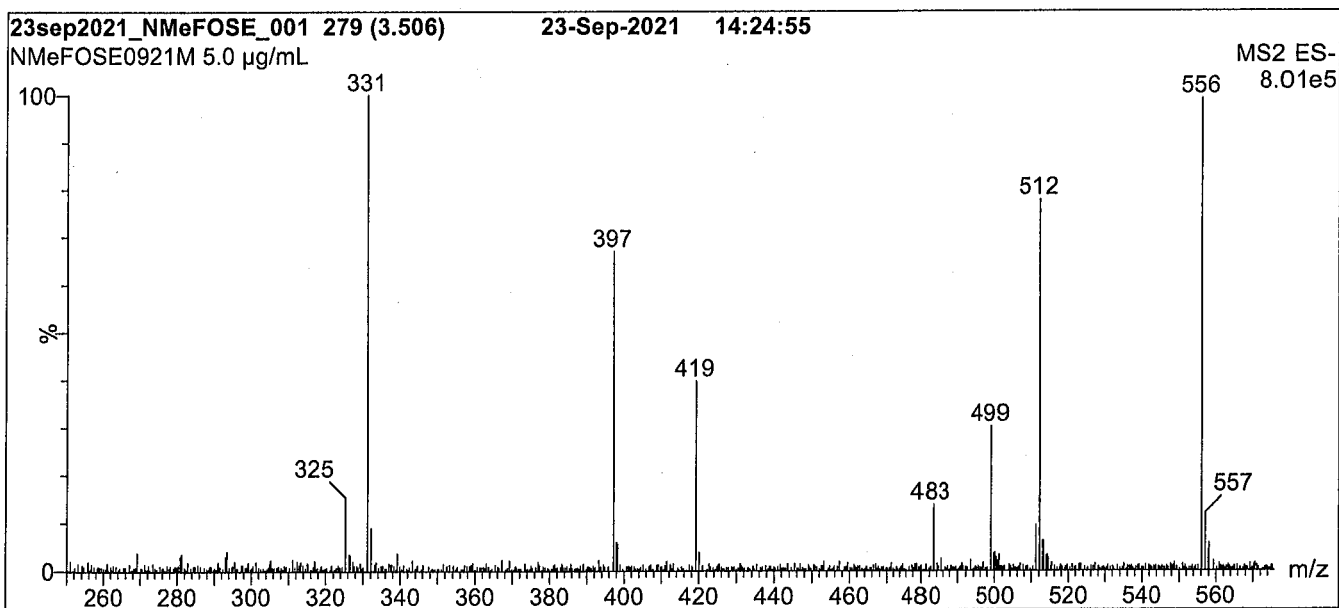
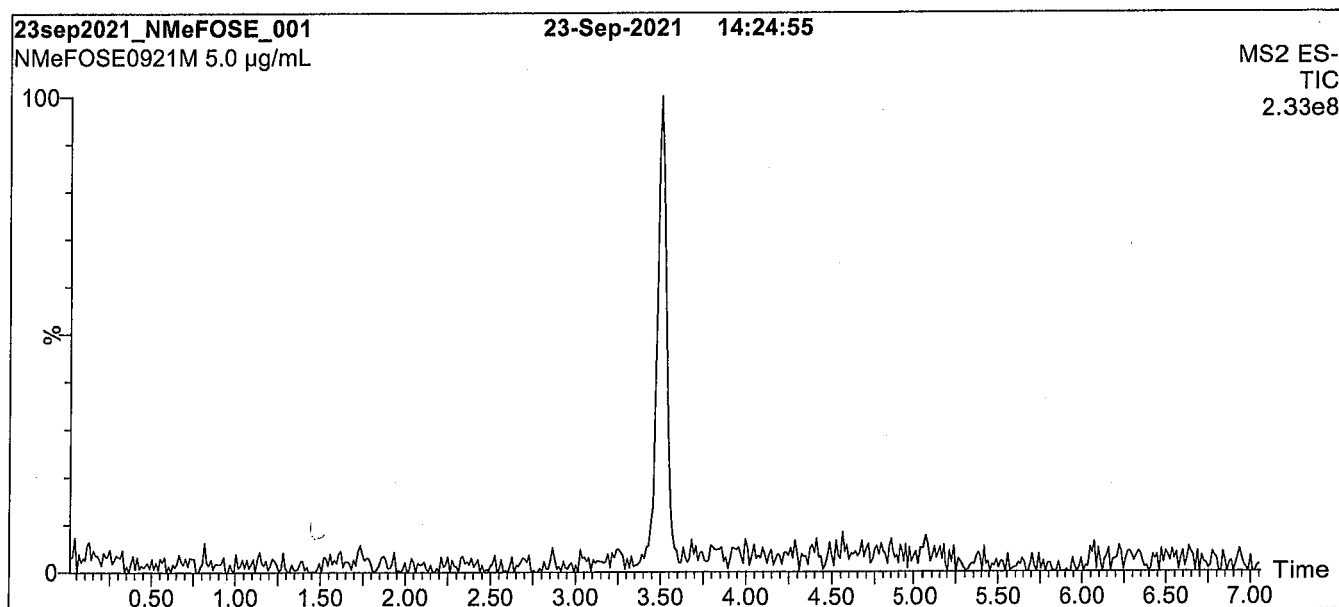


**Figure 1: N-MeFOSE-M; HRGC/LRMS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Agilent 7890A HRGC  
 Agilent 5975C MSD

**Chromatographic Conditions:**

Column: 30 m DB-5 (0.25 mm id, 0.25  $\mu$ m film thickness) Agilent J&W  
 Flow: Constant at 1 mL/min  
 Injector: 250°C (Splitless Injection)  
 Oven: 100°C (5 min)  
 10°C/min to 310°C  
 310°C (10 min)  
 Ionization: EI+  
 Detector: 230°C  
 Full Scan (50-1000 amu)

**Figure 2: N-MeFOSE-M; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 2:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient

Start: 30% H<sub>2</sub>O / 70% MeOH

Ramp to 90% organic over 8 min and hold for

1.5 min before returning to initial conditions in 1 min.

Time: 12 min

Flow: 300 µL/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)

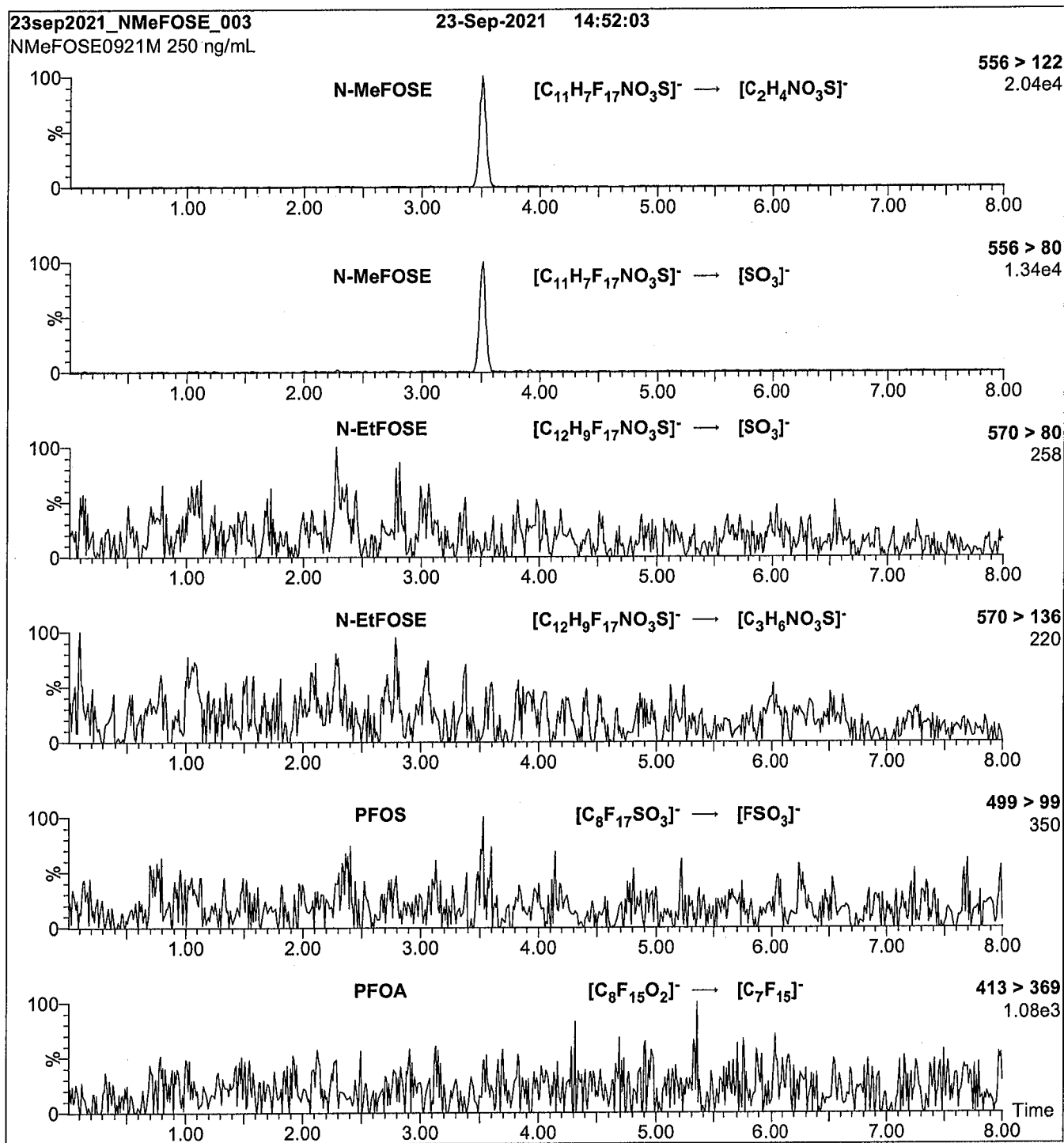
Source: Electrospray (negative)

Capillary Voltage (kV) = 2.00

Cone Voltage (V) = 65.00

Desolvation Temperature (°C) = 450

Desolvation Gas Flow (L/hr) = 1000

**Figure 3: N-MeFOSE-M; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 3:**

Injection: On-column (N-MeFOSE-M)

Mobile phase: Same as Figure 2

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.14e-3

Collision Energy (eV) = 36

0

1

# Analytical Standard Record

**22C0307**

Description:	PFAS - SAS N-MeFOSE 50ug/mL	Expires:	09/23/2026
Standard Type:	Analyte Spike	Prepared:	03/15/2022
Solvent:	Methanol	Prepared By:	Wellington Laboratories (Lot#:
Final Volume (mls):	1	Department:	NMeFOSE0921M)
Vials:	1	Last Edit:	03/15/2022 15:59 by DAG

Analyte	Parent	CAS Number	Concentration	Units
NMeFOSE		24448-09-7	50	ug/mL



**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

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$x_1, x_2, \dots, x_n$  on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where  $x$  is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of  $\pm 5\%$  (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

**TRACEABILITY:**

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

**EXPIRY DATE / PERIOD OF VALIDITY:**

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

**LIMITED WARRANTY:**

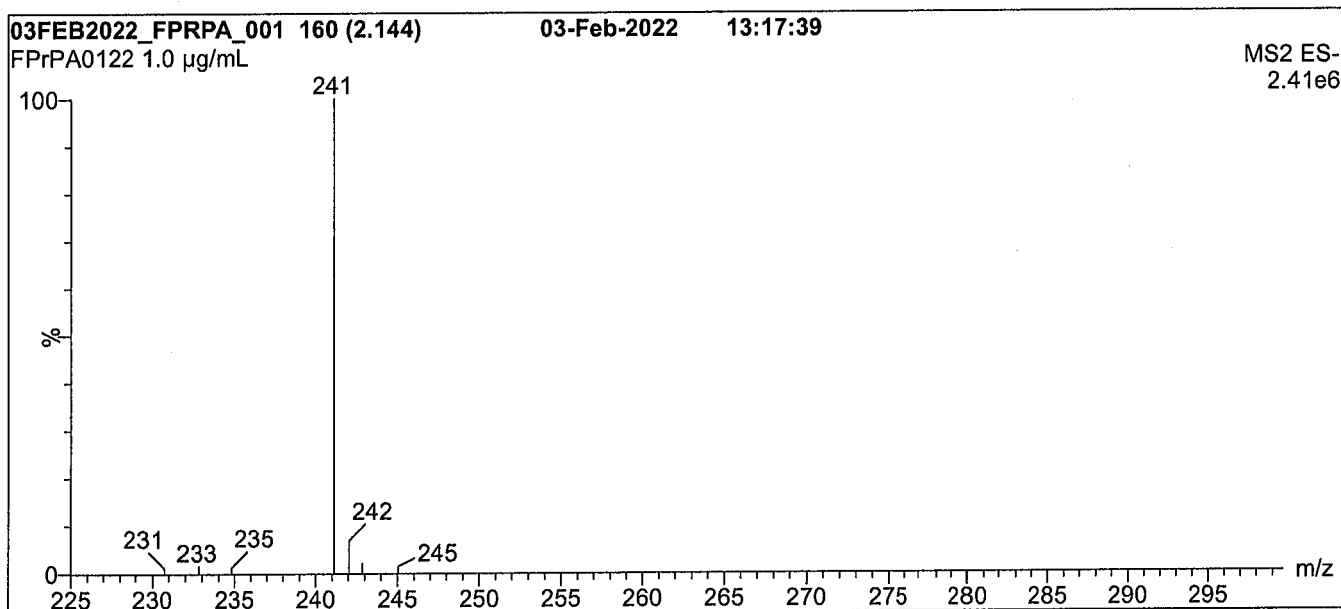
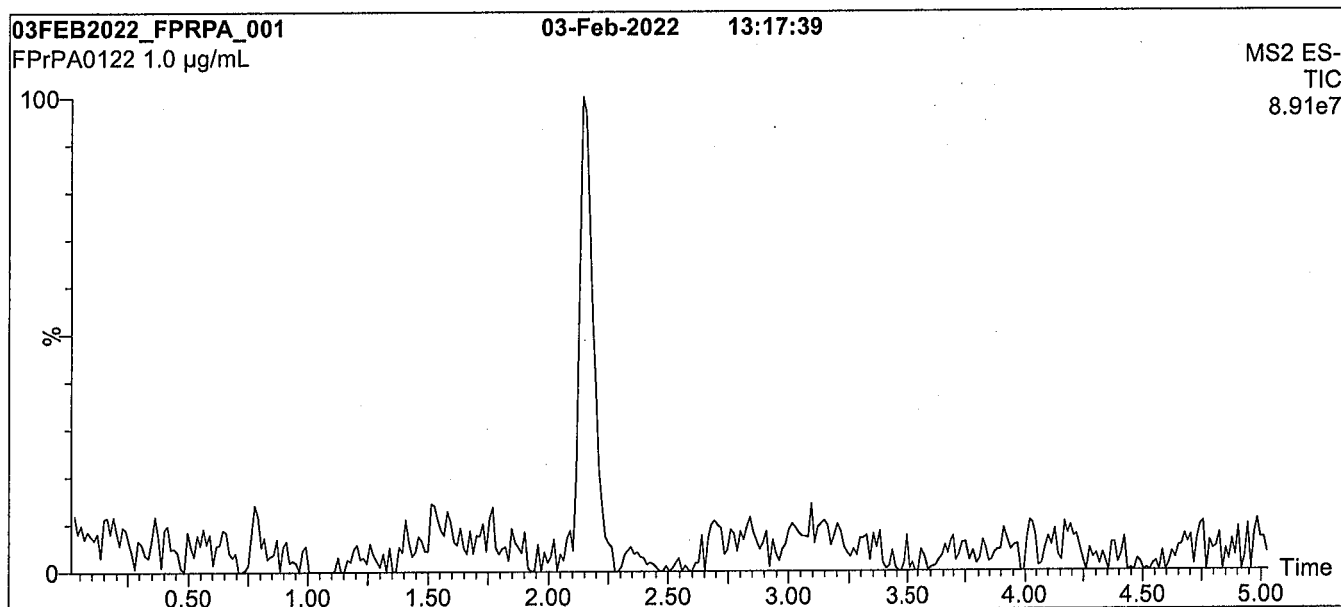
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**QUALITY MANAGEMENT:**

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).



\*\*For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at [www.well-labs.com](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

**Figure 1: FPrPA; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient  
Start: 60% H<sub>2</sub>O / 40% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for 2 min  
before returning to initial conditions in 0.75 min.  
Time: 12 min

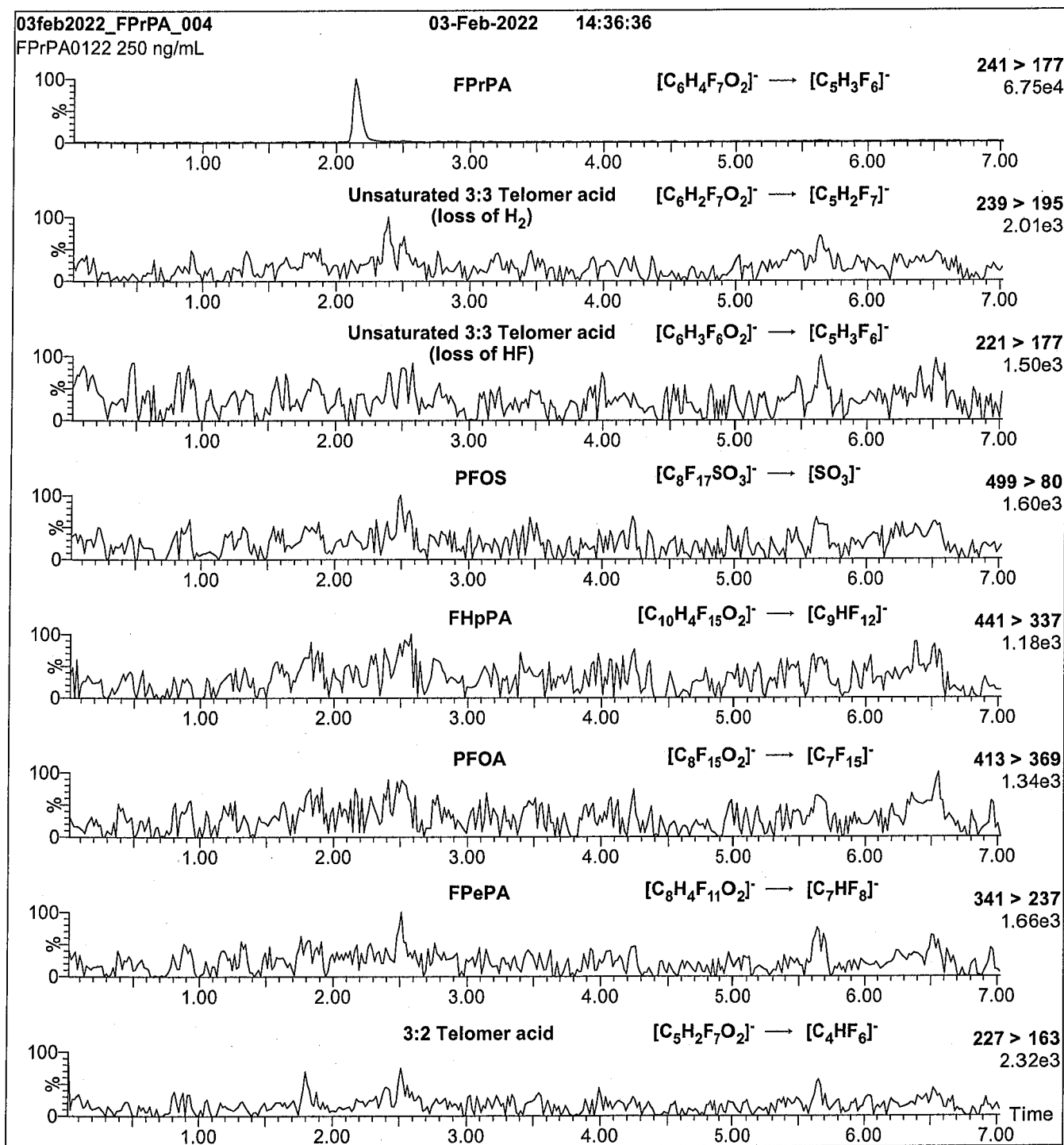
Flow: 300 µL/min

**MS Parameters:**

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.00  
Cone Voltage (V) = 10.00  
Desolvation Temperature (°C) = 500  
Desolvation Gas Flow (L/hr) = 1000



**Figure 2: FPrPA; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (FPrPA)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.33e-3

Collision Energy (eV) = 10

# Analytical Standard Record

**22C0308**

Description:	PFAS - SAS FPrPA 50ug/mL	Expires:	02/03/2027
Standard Type:	Analyte Spike	Prepared:	03/15/2022
Solvent:	Methanol	Prepared By:	Wellington Laboratories (Lot#: FPrPA0122)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	03/15/2022 15:59 by DAG

Analyte	Parent	CAS Number	Concentration	Units
3:3FTCA		113507-82-7	50	ug/mL

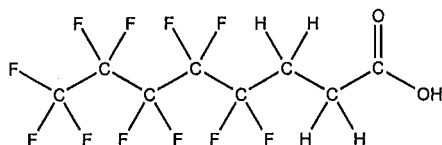


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** FPePA **LOT NUMBER:** FPePA1221  
**COMPOUND:** 3-Perfluoropentyl propanoic acid **22C0309**

**STRUCTURE:** **CAS #:** 914637-49-3



**MOLECULAR FORMULA:**  $C_8H_5F_{11}O_2$  **MOLECULAR WEIGHT:** 342.11  
**CONCENTRATION:**  $50.0 \pm 2.5 \mu\text{g/mL}$  **SOLVENT(S):** Methanol  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 01/05/2022  
**EXPIRY DATE:** (mm/dd/yyyy) 01/05/2027  
**RECOMMENDED STORAGE:** Refrigerate ampoule

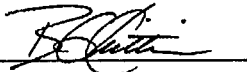
### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains <0.5% of the unsaturated 5:3 telomer acid ( $C_8H_3F_{11}O_2$ ) as an impurity determined by  $^1\text{H}$  NMR.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:   
 B.G. Chittim, General Manager

Date: 01/06/2022  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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**LIMITED WARRANTY:**

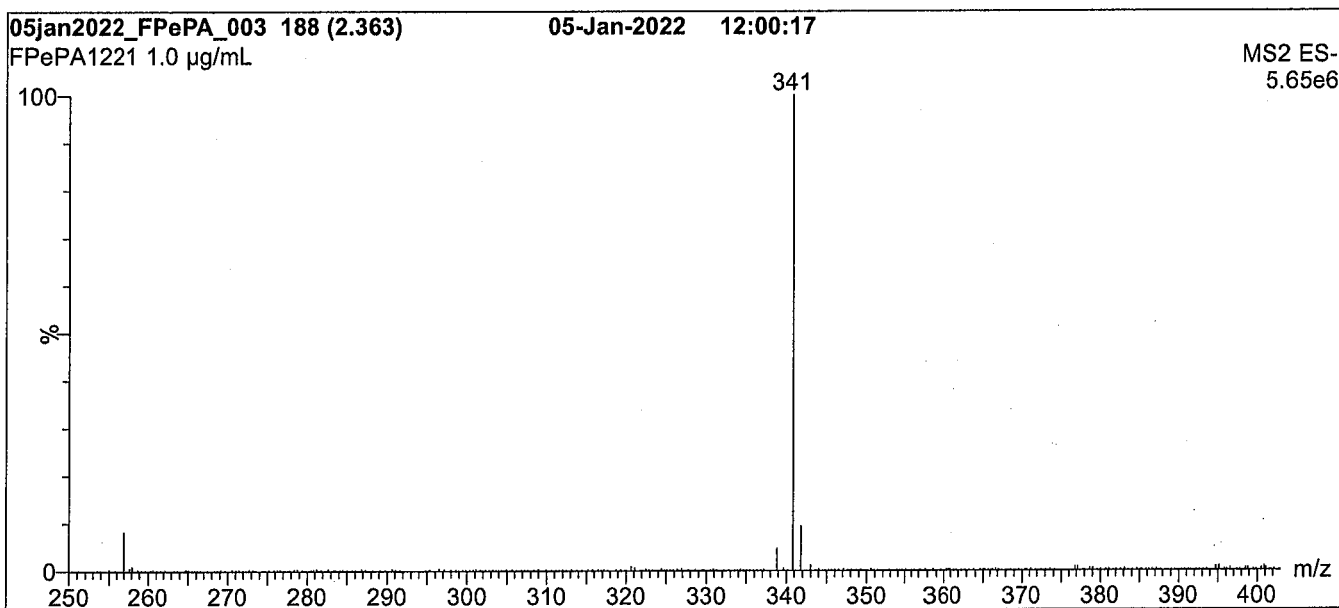
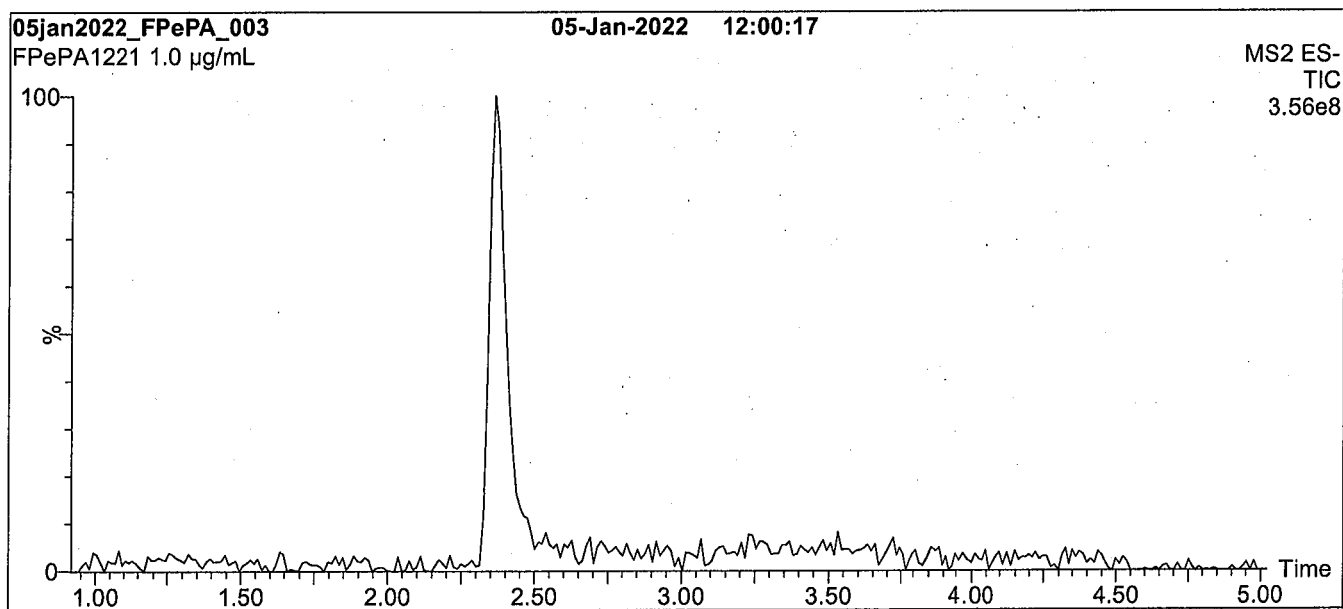
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**QUALITY MANAGEMENT:**

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).



\*\*For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at [www.well-labs.com](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

**Figure 1: FPePA; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
 Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
 1.7 µm, 2.1 x 100 mm

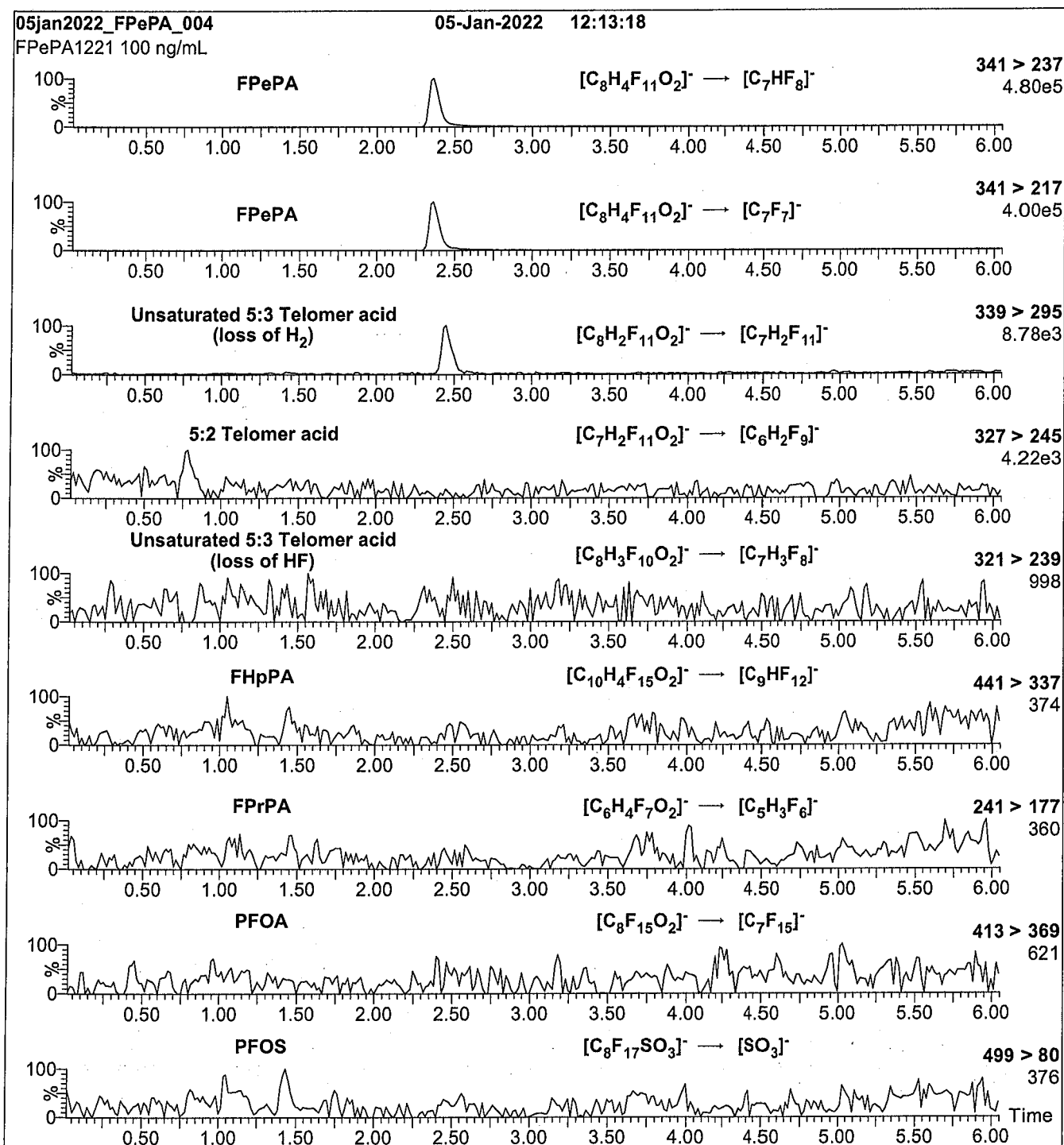
Mobile phase: Gradient  
 Start: 45% H<sub>2</sub>O / 55% (80:20 MeOH:ACN)  
 (both with 10 mM NH<sub>4</sub>OAc buffer)  
 Ramp to 90% organic over 7 min and hold for  
 3 min before returning to initial conditions in 0.75 min.  
 Time: 12 min

Flow: 300 µL/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)  
 Capillary Voltage (kV) = 0.50  
 Cone Voltage (V) = 18.50  
 Desolvation Temperature (°C) = 500  
 Desolvation Gas Flow (L/hr) = 1000

**Figure 2:** FPePA; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 2:**

Injection: On-column (FPePA)  
Mobile phase: Same as Figure 1  
Flow: 300  $\mu$ L/min

**MS Parameters:**

Collision Gas (mbar) = 3.09e-3  
Collision Energy (eV) = 10

# Analytical Standard Record

**22C0309**

Description:	PFAS - SAS FPePA 50ug/mL	Expires:	01/05/2027
Standard Type:	Analyte Spike	Prepared:	03/15/2022
Solvent:	Methanol	Prepared By:	Wellington Laboratories (Lot#:
Final Volume (mls):	1	Department:	PFAS1221)
Vials:	1	Last Edit:	03/15/2022 15:59 by DAG

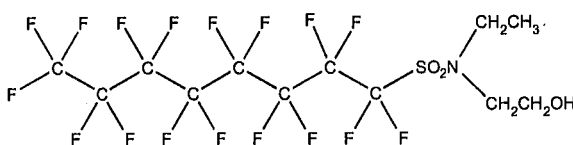
Analyte	Parent	CAS Number	Concentration	Units
5:3FTCA		914637-49-3	50	ug/mL



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** N-EtFOSE-M **LOT NUMBER:** NEtFOSE0921M  
**COMPOUND:** 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol **22C0310**  
**STRUCTURE:** **CAS #:** 1691-99-2



**MOLECULAR FORMULA:** C<sub>12</sub>H<sub>10</sub>F<sub>17</sub>NO<sub>3</sub>S **MOLECULAR WEIGHT:** 571.25  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 09/22/2021 (HRGC/LRMS)  
 09/23/2021 (LC/MS)  
**EXPIRY DATE:** (mm/dd/yyyy) 09/23/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 3: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:   
 B.G. Chittim, General Manager

Date: 10/20/2021  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com



**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters  $x_1, x_2, \dots, x_n$  on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where  $x$  is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of  $\pm 5\%$  (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

**TRACEABILITY:**

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

**EXPIRY DATE / PERIOD OF VALIDITY:**

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

**LIMITED WARRANTY:**

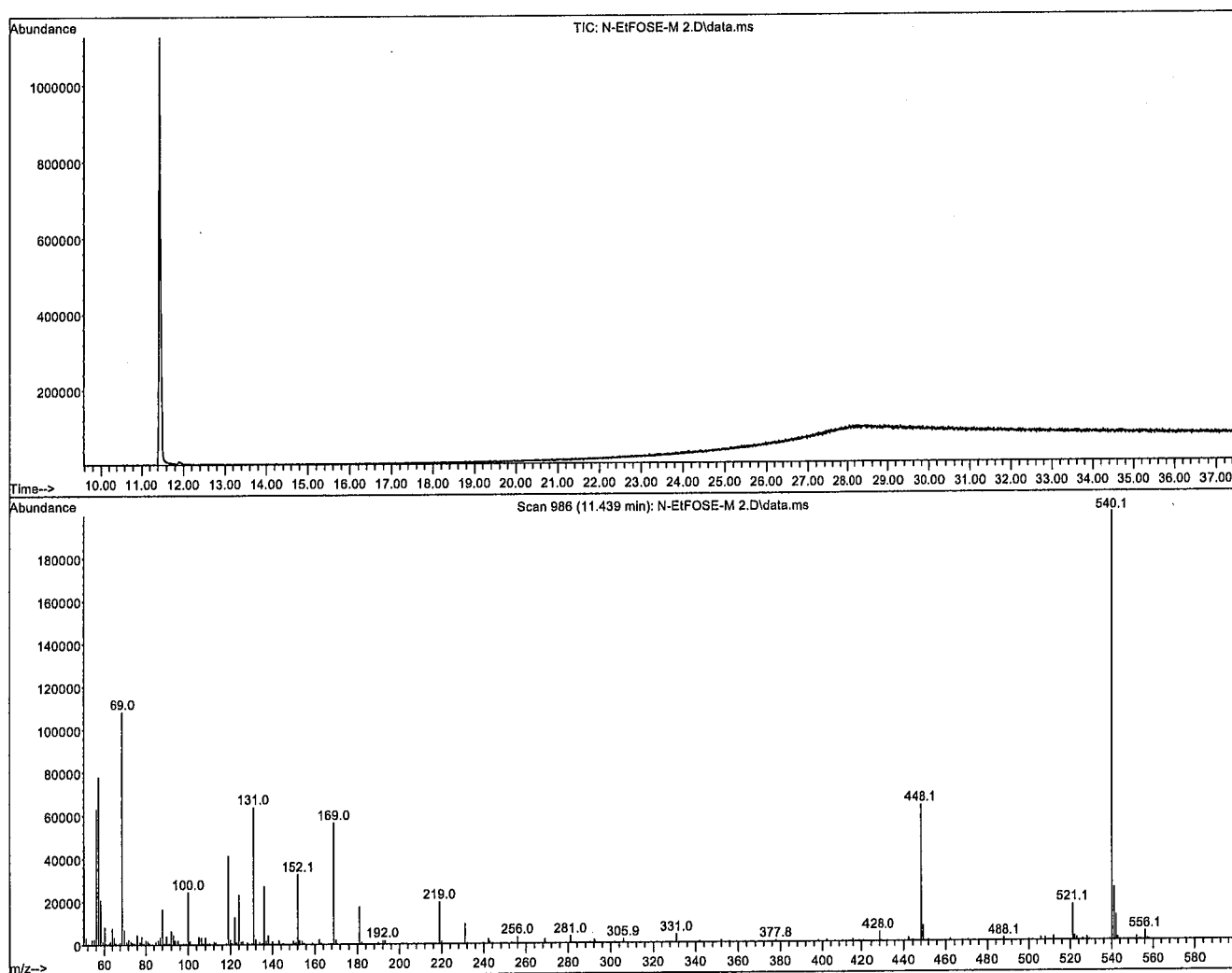
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**QUALITY MANAGEMENT:**

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**Figure 1: N-EtFOSE-M; HRGC/LRMS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Agilent 7890A HRGC  
 Agilent 5975C MSD

**Chromatographic Conditions:**

Column: 30 m DB-5 (0.25 mm id, 0.25  $\mu$ m film thickness) Agilent J&W

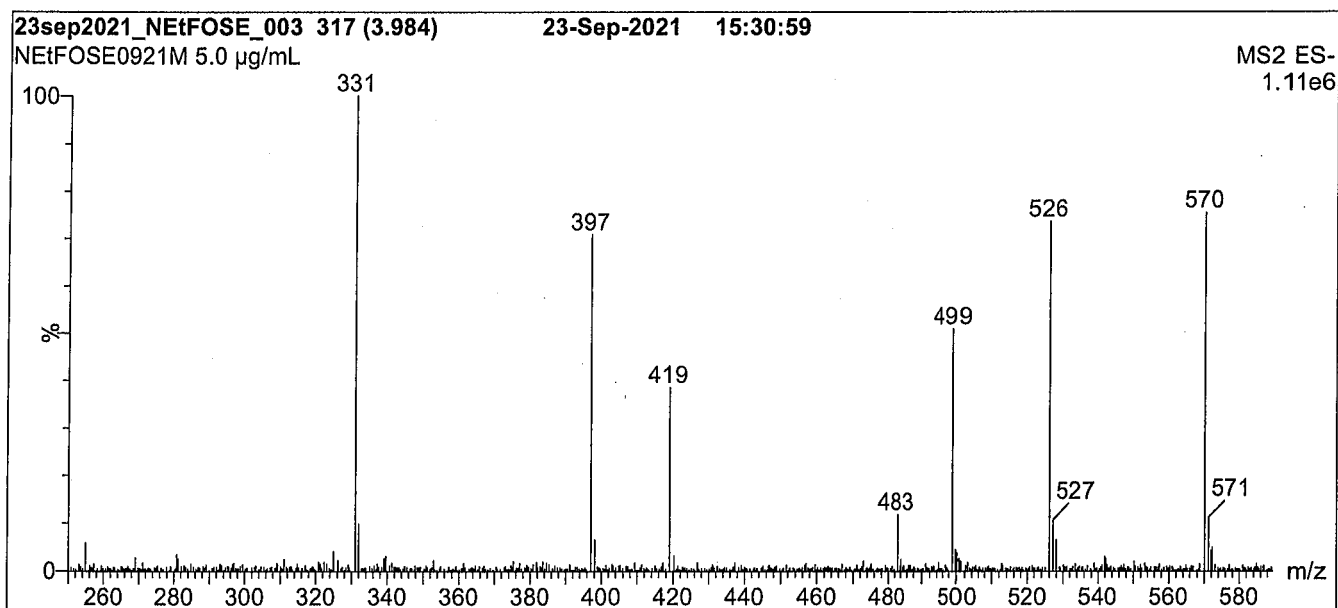
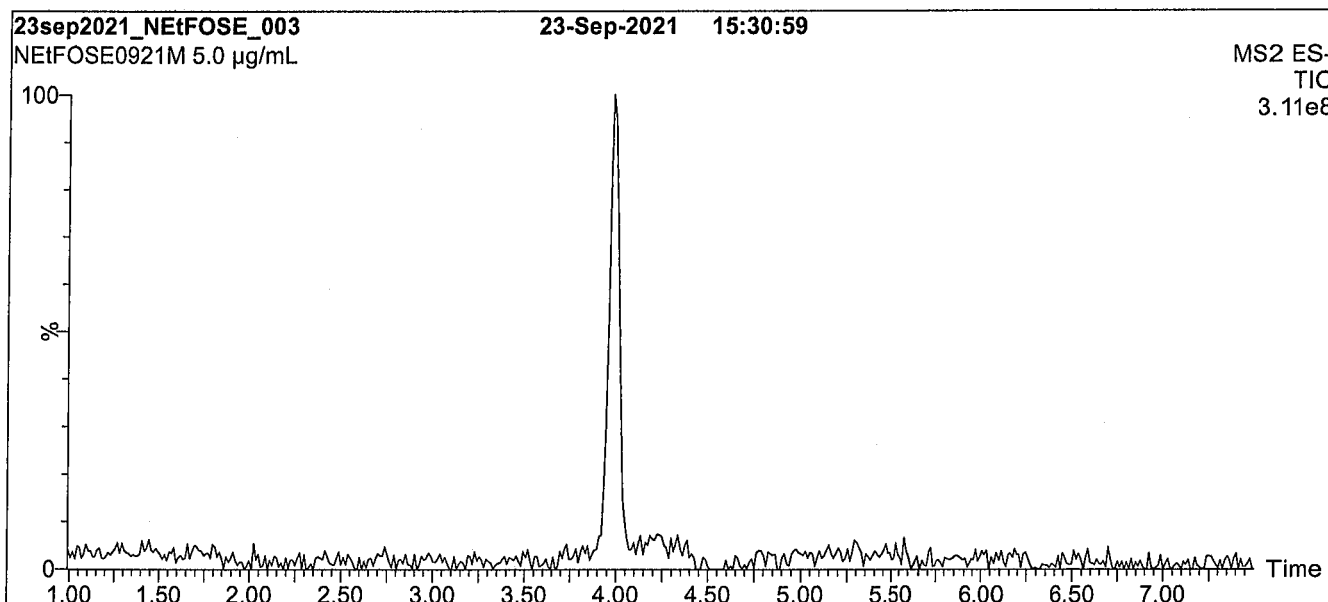
Flow: Constant at 1 mL/min

Injector: 250°C (Splitless Injection)

Oven: 100°C (5 min)  
 10°C/min to 325°C  
 325°C (10 min)

Ionization: EI+

Detector: 230°C  
 Full Scan (50-1000 amu)

**Figure 2: N-EtFOSE-M; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 2:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7 µm, 2.1 x 100 mm

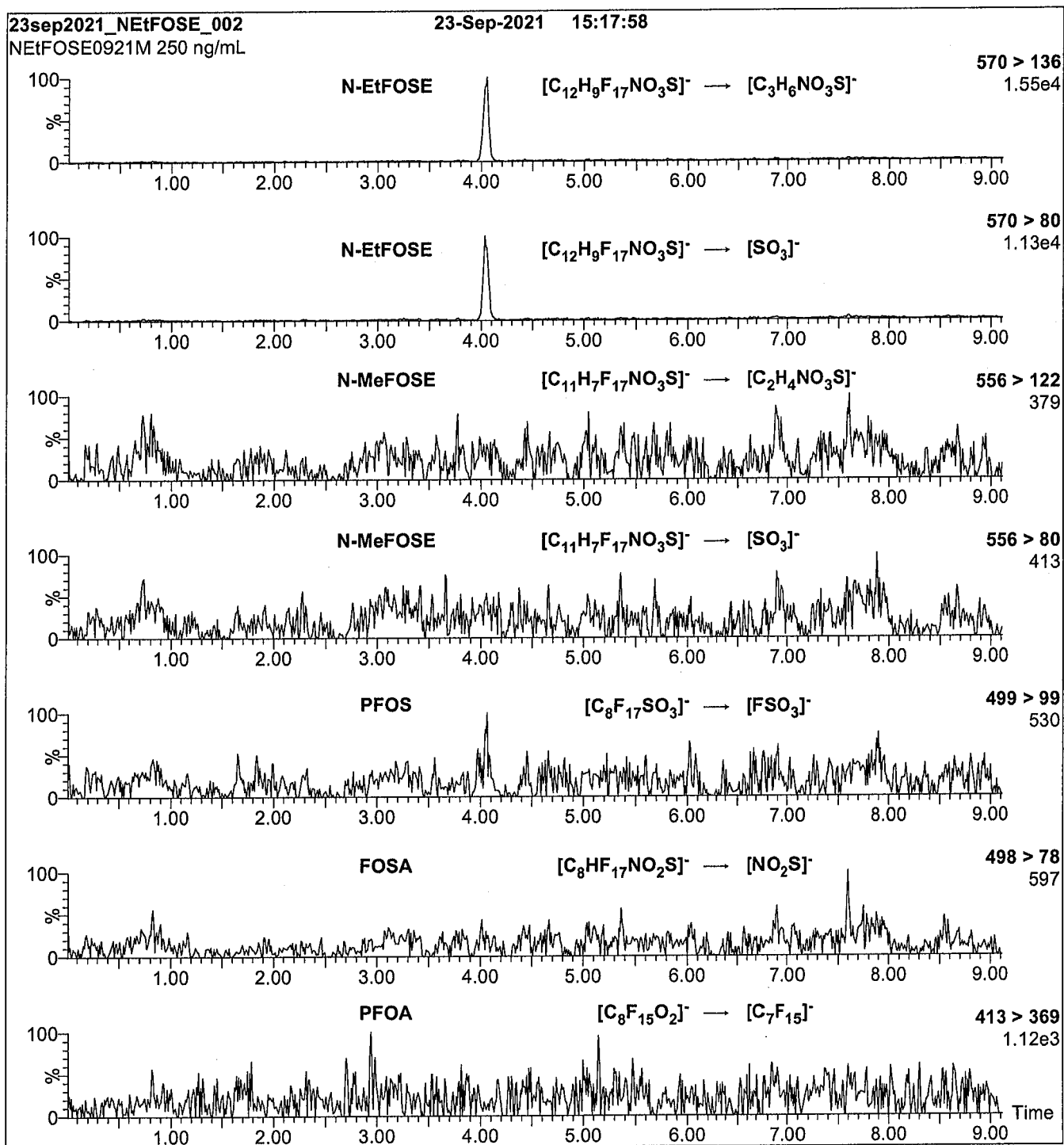
Mobile phase: Gradient  
Start: 30% H<sub>2</sub>O / 70% MeOH  
Ramp to 90% organic over 8 min and hold for  
1.5 min before returning to initial conditions in 1 min.  
Time: 12 min

Flow: 300 µL/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.00  
Cone Voltage (V) = 65.00  
Desolvation Temperature (°C) = 450  
Desolvation Gas Flow (L/hr) = 1000

**Figure 3:** N-EtFOSE-M; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 3:**

Injection: On-column (N-EtFOSE-M)

Mobile phase: Same as Figure 2

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.14e-3

Collision Energy (eV) = 32



# Analytical Standard Record

**22C0310**

Description:	PFAS - SAS NtFOSE 50ug/mL	Expires:	09/23/2026
Standard Type:	Analyte Spike	Prepared:	03/15/2022
Solvent:	Methanol	Prepared By:	Wellington Laboratories (Lot#:
Final Volume (mls):	1	Department:	PFAS (Lot# PFAS0921M)
Vials:	1	Last Edit:	03/15/2022 15:59 by DAG

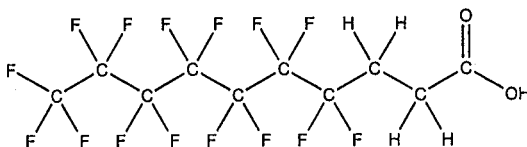
Analyte	Parent	CAS Number	Concentration	Units
NtFOSE		1691-99-2	50	ug/mL



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** FHpPA **LOT NUMBER:** FHpPA1020  
**COMPOUND:** 3-Perfluoroheptyl propanoic acid **22C0311**  
**STRUCTURE:** **CAS #:** 812-70-4



**MOLECULAR FORMULA:**  $C_{10}H_6F_{16}O_2$  **MOLECULAR WEIGHT:** 442.12  
**CONCENTRATION:**  $50.0 \pm 2.5 \mu\text{g/mL}$  **SOLVENT(S):** Methanol  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 11/12/2020  
**EXPIRY DATE:** (mm/dd/yyyy) 11/12/2025  
**RECOMMENDED STORAGE:** Refrigerate ampoule

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:   
 B.G. Chittim, General Manager  
 Date: 11/27/2020  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

**INTENDED USE:**

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**HANDLING:**

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**SYNTHESIS / CHARACTERIZATION:**

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where  $x$  is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of  $\pm 5\%$  (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

**TRACEABILITY:**

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**EXPIRY DATE / PERIOD OF VALIDITY:**

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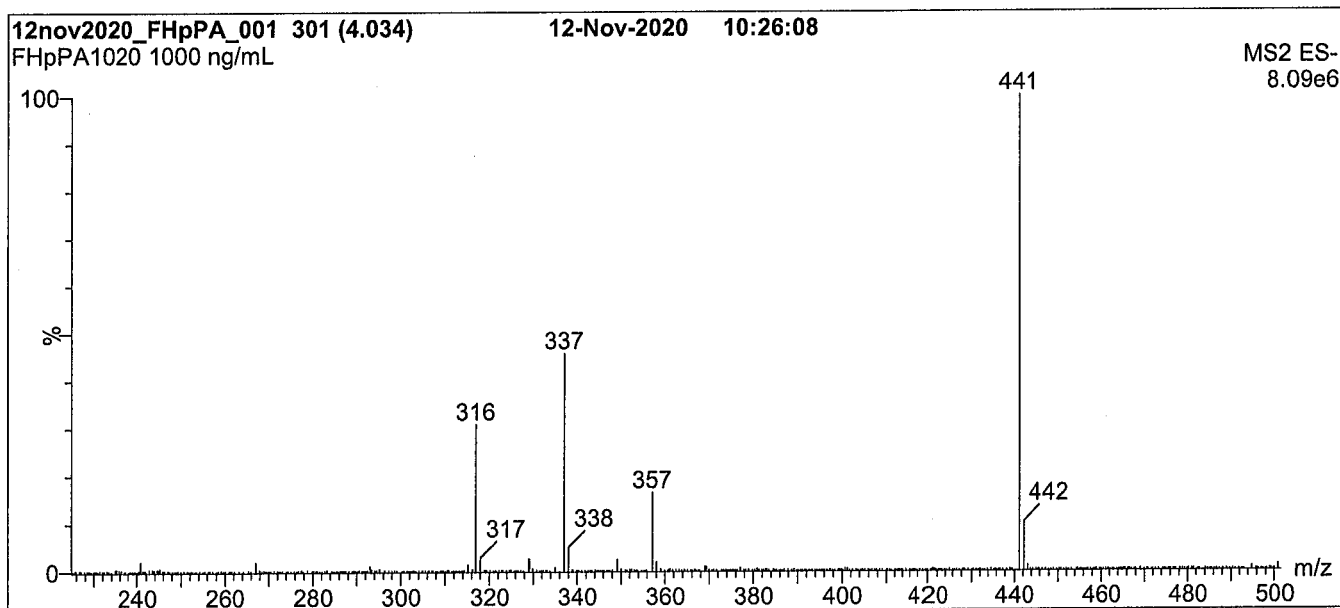
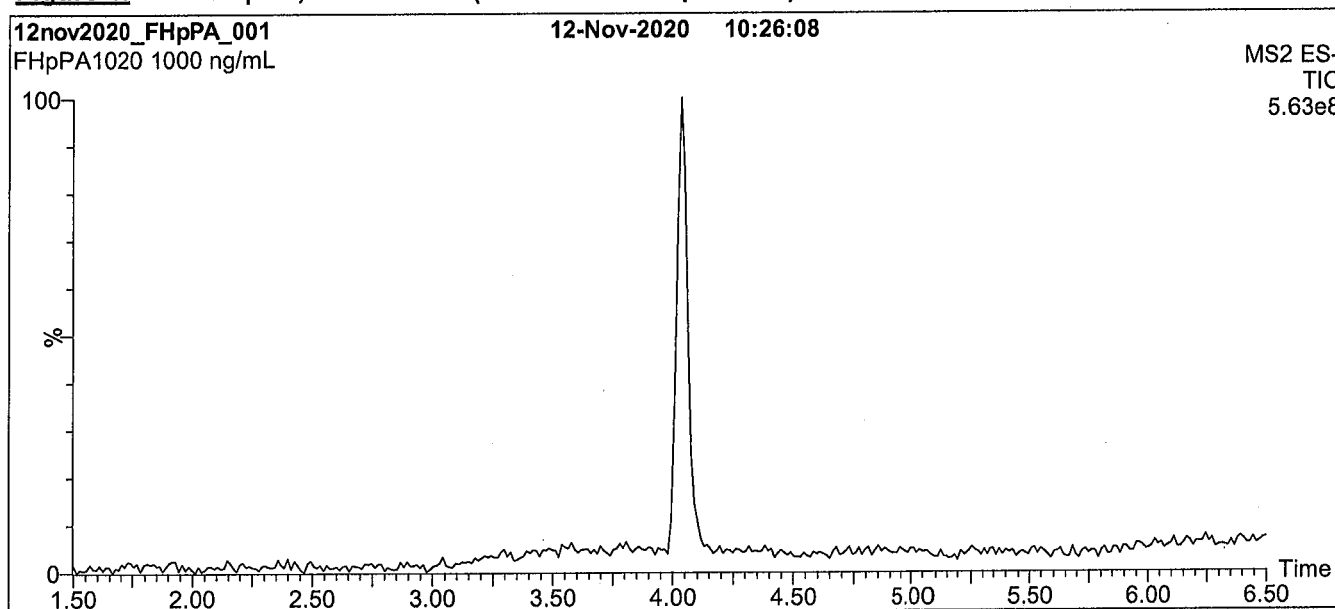
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**Figure 1: FHpPA; LC/MS Data (TIC and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

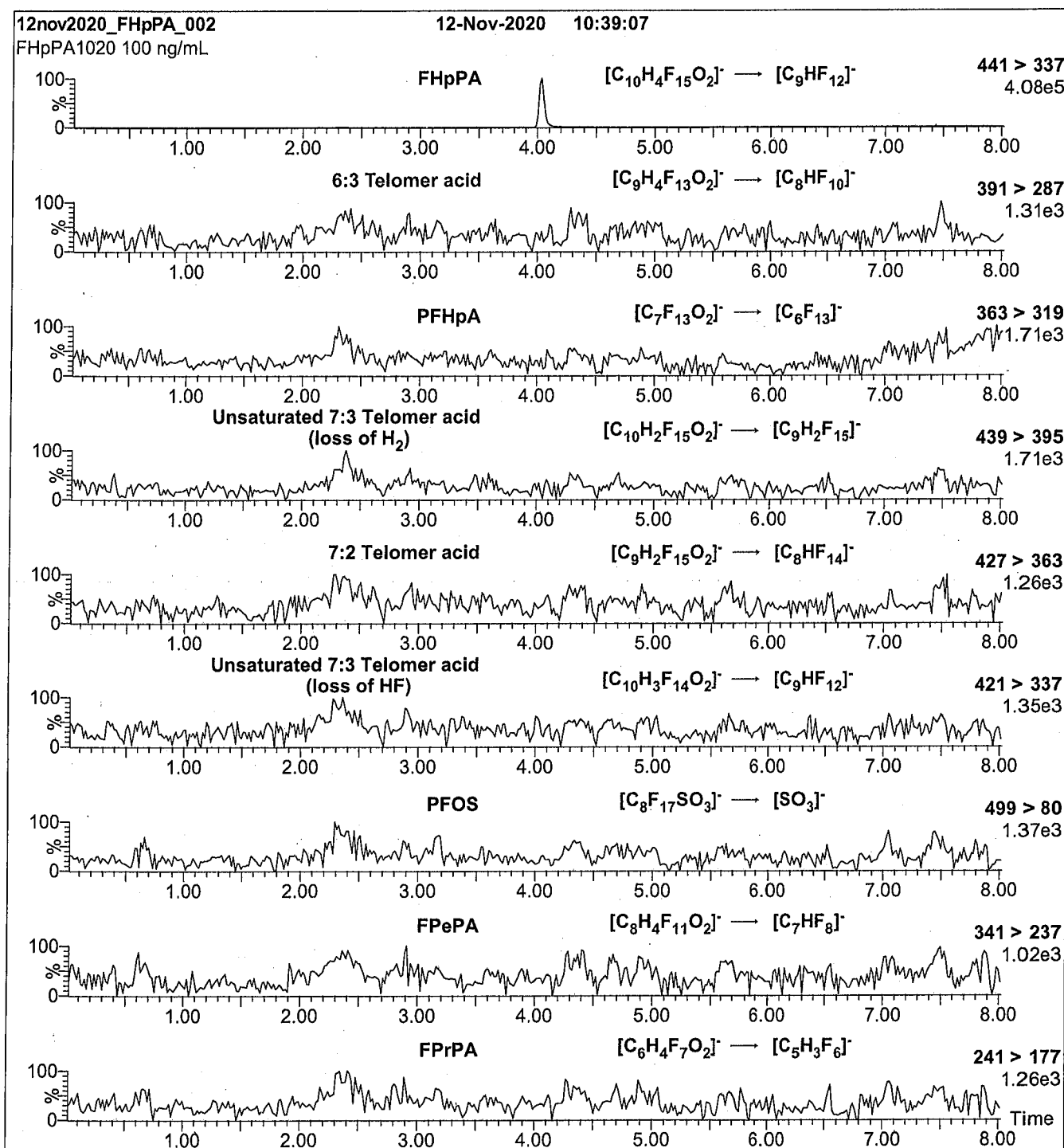
Mobile phase: Gradient  
Start: 45% H<sub>2</sub>O / 55% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for  
2 min before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 0.50  
Cone Voltage (V) = 28.50  
Desolvation Temperature (°C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: FHpPA; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (FHpPA)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.41e-3

Collision Energy (eV) = 8

# Analytical Standard Record

**22C0311**

Description:	PFAS - SAS FHpPA 50ug/mL	Expires:	11/12/2025
Standard Type:	Analyte Spike	Prepared:	03/15/2022
Solvent:	Methanol	Prepared By:	Wellington Laboratories (Lot#:
Final Volume (mls):	1	Department:	PFAS (Lot# PA1020)
Vials:	1	Last Edit:	03/15/2022 16:00 by DAG

Analyte	Parent	CAS Number	Concentration	Units
7:3FTCA		812-70-4	50	ug/mL

# Analytical Standard Record

**22C0311**

Description:	PFAS - SAS FHpPA 50ug/mL	Expires:	11/12/2025
Standard Type:	Analyte Spike	Prepared:	03/15/2022
Solvent:	Methanol	Prepared By:	Wellington Laboratories (Lot#:
Final Volume (mls):	1	Department:	PFAS (Lot# PA1020)
Vials:	1	Last Edit:	03/15/2022 16:00 by DAG

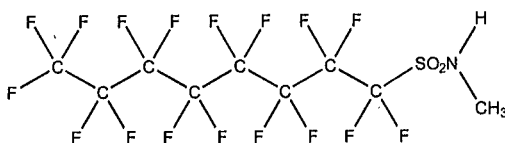
Analyte	Parent	CAS Number	Concentration	Units
7:3FTCA		812-70-4	50	ug/mL



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** N-MeFOSA-M      **LOT NUMBER:** NMeFOSA0721M  
**COMPOUND:** N-methylperfluoro-1-octanesulfonamide      22C0312  
**STRUCTURE:**      **CAS #:** 31506-32-8



**MOLECULAR FORMULA:** C<sub>9</sub>H<sub>4</sub>F<sub>17</sub>NO<sub>2</sub>S      **MOLECULAR WEIGHT:** 513.17  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL      **SOLVENT(S):** Methanol  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 08/03/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 08/03/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)  
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By: \_\_\_\_\_

  
B.G. Chittim, General Manager

Date: 08/04/2021  
(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
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where  $x$  is expressed as a relative standard uncertainty of the individual parameter.

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**LIMITED WARRANTY:**

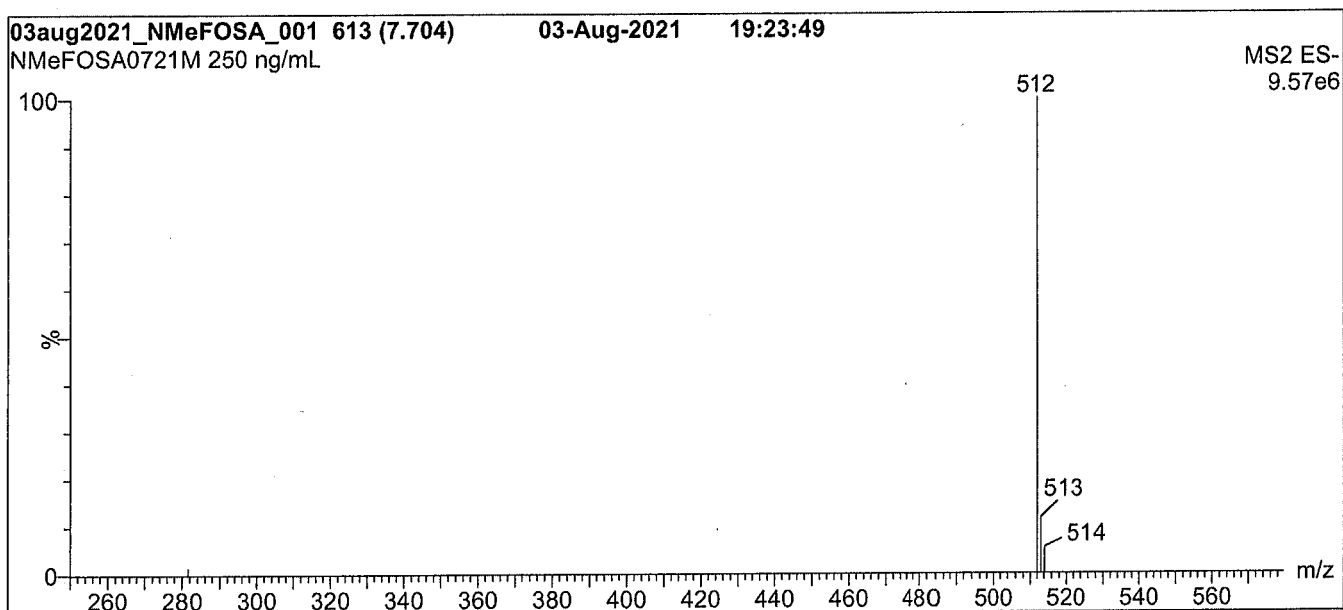
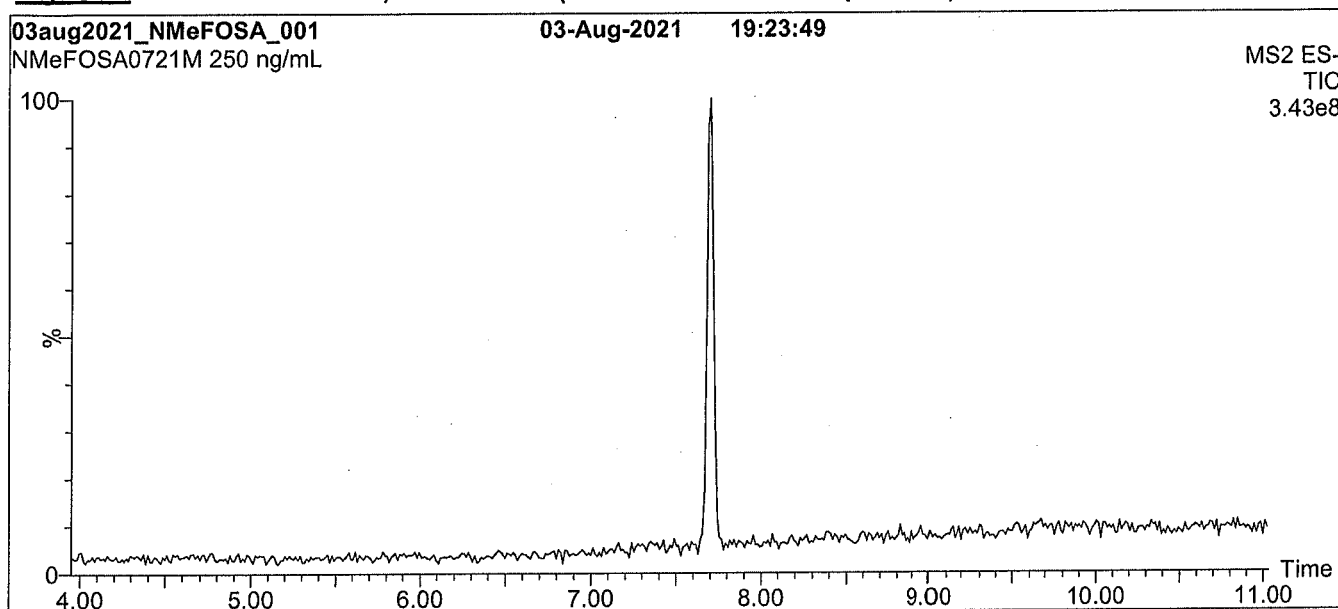
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**Figure 1: N-MeFOSA-M; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

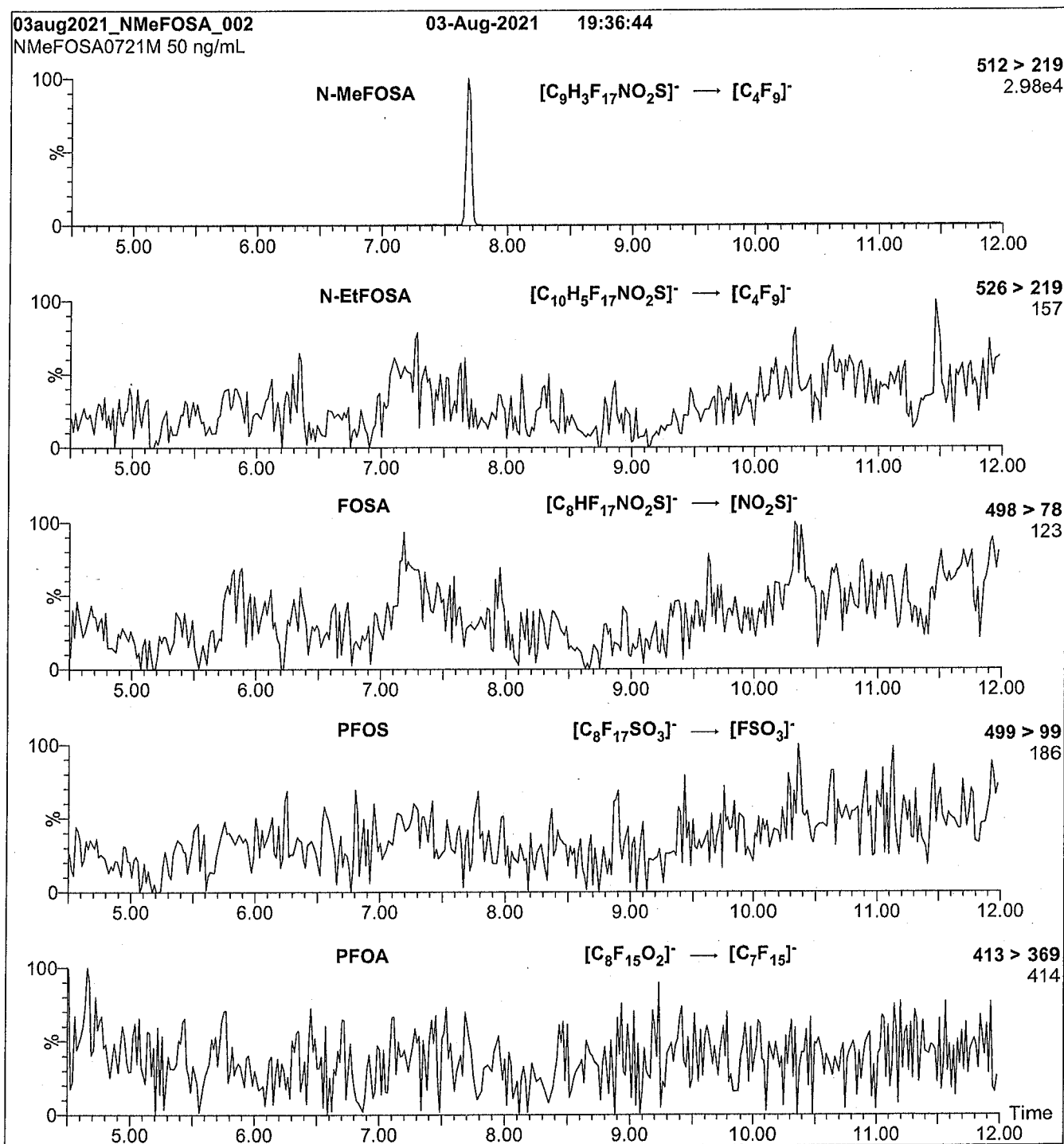
Mobile phase: Gradient  
Start: 40% H<sub>2</sub>O / 60% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for  
2 min before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 1.00  
Cone Voltage (V) = 44.00  
Desolvation Temperature (°C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: N-MeFOSA-M; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (N-MeFOSA-M)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.41e-3

Collision Energy (eV) = 24



# Analytical Standard Record

**22C0312**

Description:	PFAS - SAS NMeFOSA 50ug/mL	Expires:	08/03/2026
Standard Type:	Analyte Spike	Prepared:	03/15/2022
Solvent:	Methanol	Prepared By:	Dipti Gokal
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	03/15/2022 16:00 by DAG

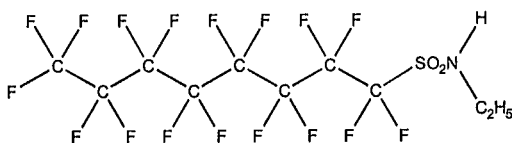
Analyte	Parent	CAS Number	Concentration	Units
NMeFOSA		31506-32-8	50	ug/mL



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** N-EtFOSA-M      **LOT NUMBER:** NEtFOSA0821M  
**COMPOUND:** N-ethylperfluoro-1-octanesulfonamide      **22C0313**  
**STRUCTURE:**      **CAS #:** 4151-50-2



**MOLECULAR FORMULA:**  $C_{10}H_{17}F_{17}NO_2S$       **MOLECULAR WEIGHT:** 527.20  
**CONCENTRATION:**  $50.0 \pm 2.5 \mu\text{g/mL}$       **SOLVENT(S):** Methanol  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 08/12/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 08/12/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.

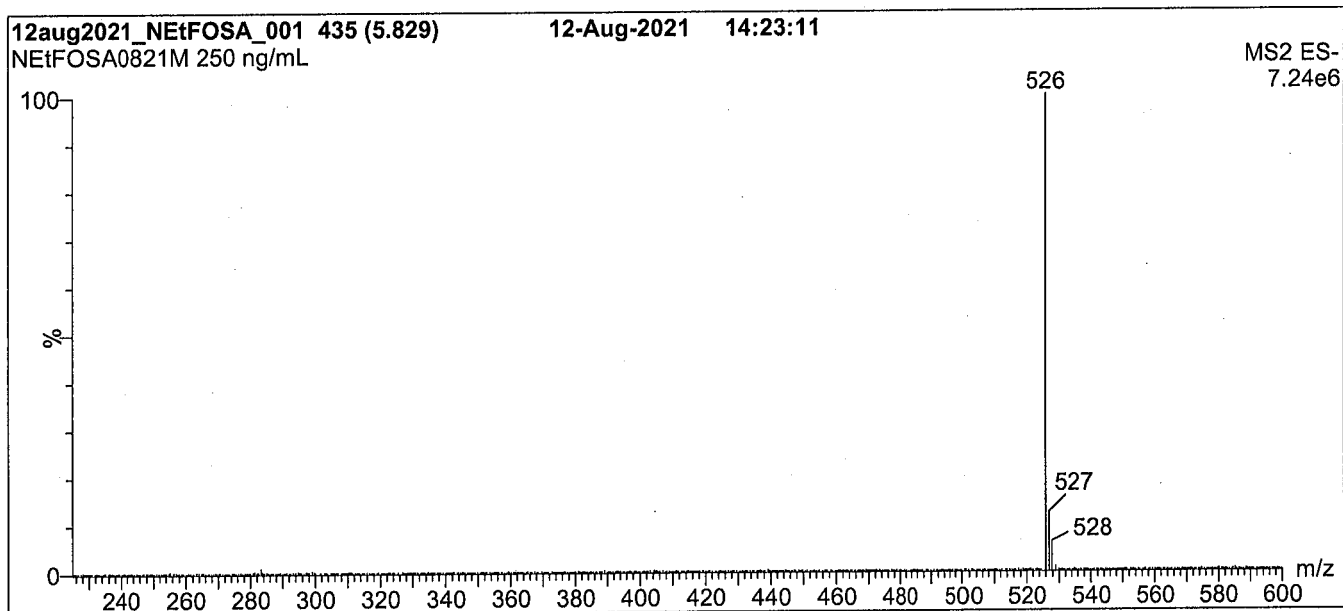
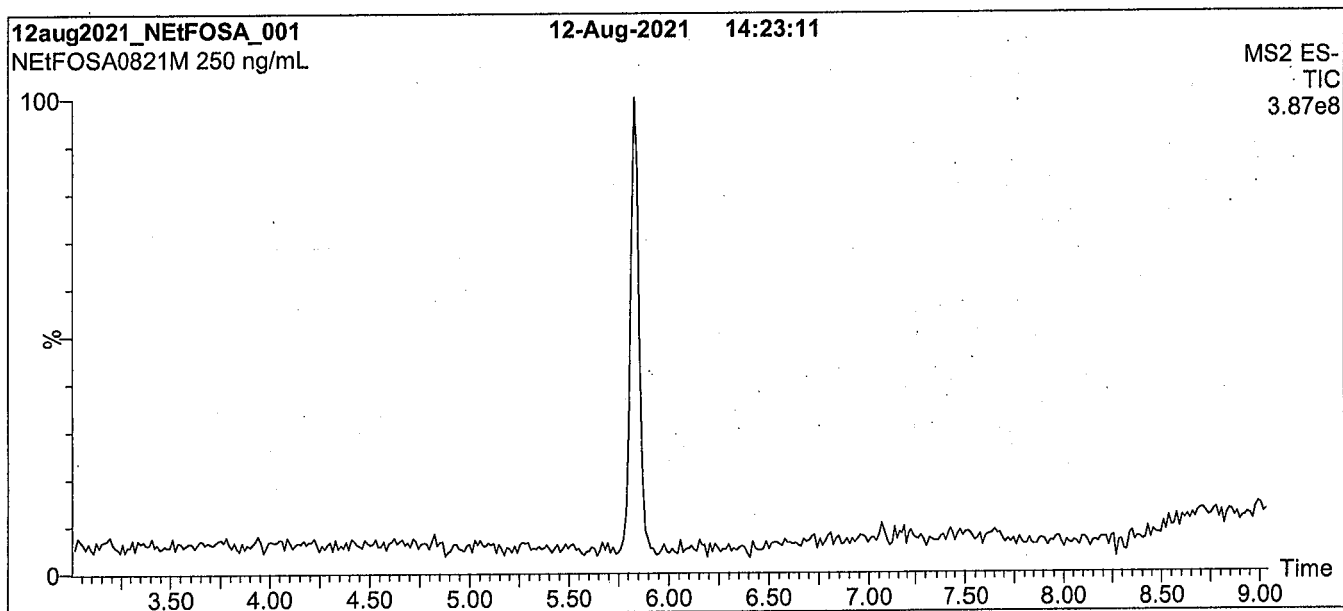
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Certified By: \_\_\_\_\_

B.G. Chittim, General Manager

Date: 08/16/2021  
 (mm/dd/yyyy)

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**Figure 1: N-EtFOSA-M; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient  
Start: 30% H<sub>2</sub>O / 70% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for  
2 min before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 1.00  
Cone Voltage (V) = 44.00  
Desolvation Temperature ( $^{\circ}$ C) = 500  
Desolvation Gas Flow (L/hr) = 1000

# Analytical Standard Record

**22C0313**

Description:	PFAS - SAS NETFOSA 50ug/mL	Expires:	08/12/2026
Standard Type:	Other	Prepared:	03/15/2022
Solvent:	Methanol	Prepared By:	Wellington Laboratories (Lot#:
Final Volume (mls):	1	Department:	NETFOSA0821M)
Vials:	1	Last Edit:	08/17/2022 10:49 by LYA

Analyte	Parent	CAS Number	Concentration	Units
NETFOSA		4151-50-2	50	ug/mL



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PFAC-MXF** 22F0058

**Native Replacement PFAS  
Solution/Mixture**

**PRODUCT CODE:** PFAC-MXF  
**LOT NUMBER:** PFACMXF0122  
**SOLVENT(S):** Methanol / Water (<1%)  
**DATE PREPARED:** (mm/dd/yyyy) 01/10/2022  
**LAST TESTED:** (mm/dd/yyyy) 01/11/2022  
**EXPIRY DATE:** (mm/dd/yyyy) 01/11/2025  
**RECOMMENDED STORAGE:** Refrigerate ampoule

**DESCRIPTION:**

PFAC-MXF is a solution/mixture of sodium dodecafluoro-3H-4,8-dioxanonanoate (NaDONA), the major and minor components of F-53B (9Cl-PF3ONS and 11Cl-PF3OUdS), and GenX (HFPO-DA). The components and their concentrations are given in Table A.

The individual native components of this mixture all have chemical purities of >98%.

**DOCUMENTATION/ DATA ATTACHED:**

Table A: Components and Concentrations of the Solution/Mixture  
 Figure 1: LC/MS Data (SIR)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

**ADDITIONAL INFORMATION:**

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters  $x_1, x_2, \dots, x_n$  on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where  $x$  is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of  $\pm 5\%$  (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

**TRACEABILITY:**

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

**EXPIRY DATE / PERIOD OF VALIDITY:**

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

**LIMITED WARRANTY:**

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**QUALITY MANAGEMENT:**

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).



\*\*For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at [www.well-labs.com](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

**Table A: PFAC-MXF; Components and Concentrations (ng/mL;  $\pm$  5% in Methanol/Water (<1%))**

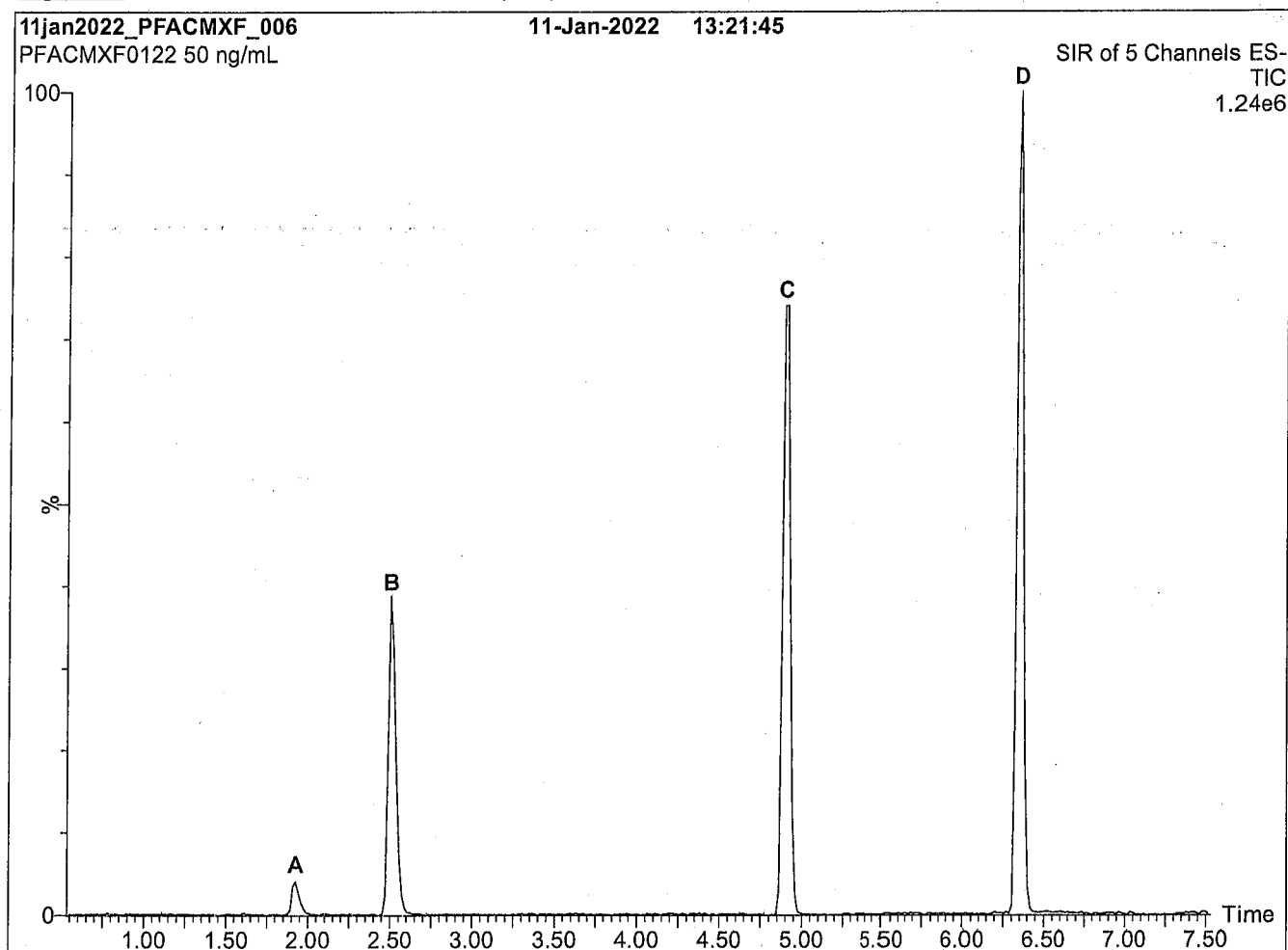
Compound	Acronym	Concentration* (ng/ml)		Peak Assignment in Figure 1
		as the salt	as the acid	
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid	HFPO-DA	2000		A
Sodium dodecafluoro-3H-4,8-dioxanonanoate	NaDONA	2000	1890	B
Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonate	9Cl-PF3ONS	2000	1870	C
Potassium 11-chloroeicosafluoro-3-oxaundecane-1-sulfonate	11Cl-PF3OUdS	2000	1890	D

\* Concentrations have been rounded to three significant figures.

Certified By: 

B.G. Chittim, General Manager

Date: 01/12/2022  
(mm/dd/yyyy)

**Figure 1: PFAC-MXF; LC/MS Data (SIR)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient  
Start: 45% H<sub>2</sub>O / 55% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for 2 min  
before returning to initial conditions in 0.75 min.  
Time: 12 min

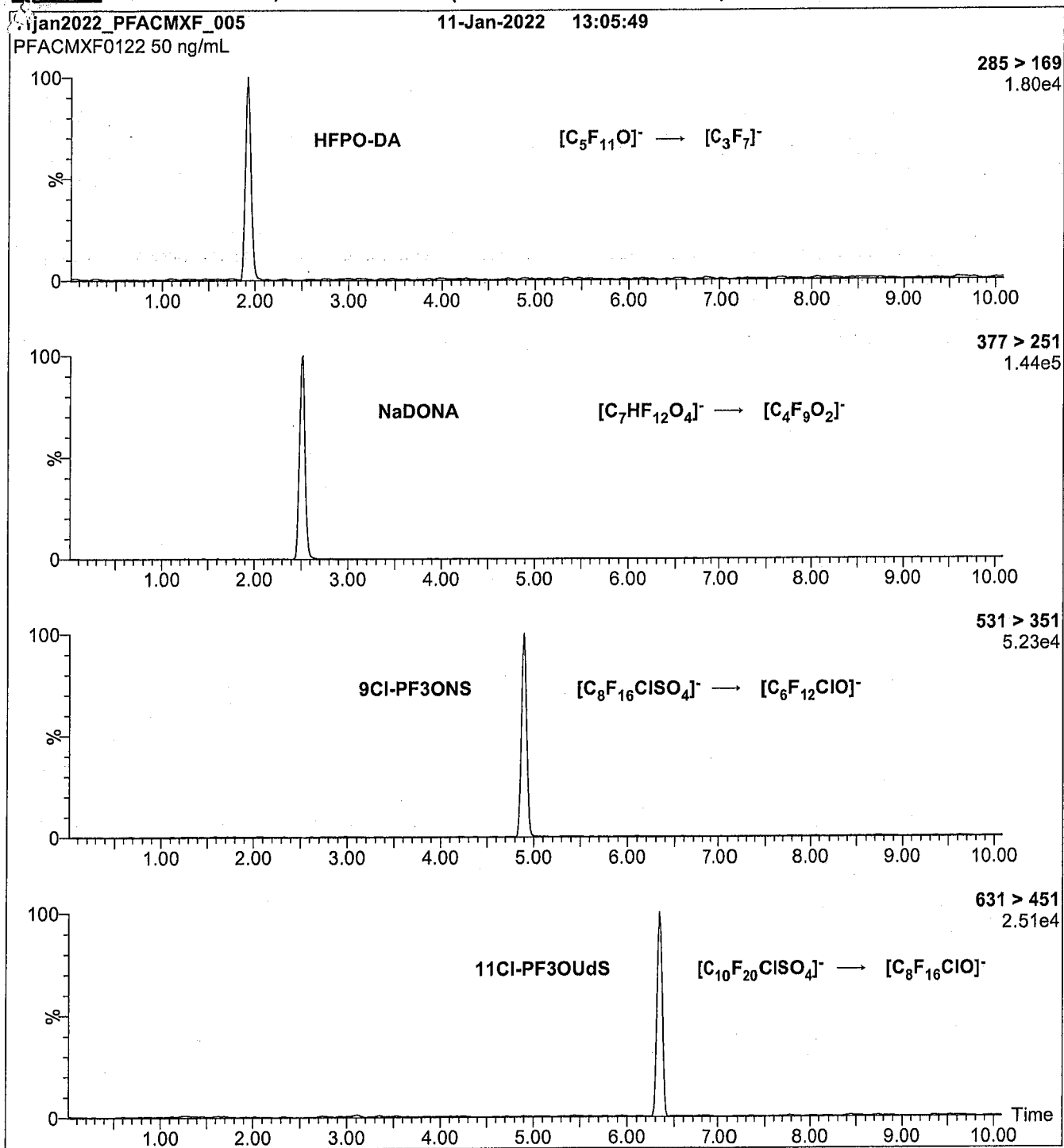
Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: SIR

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.00  
Cone Voltage (V) = variable (15-74)  
Desolvation Temperature ( $^{\circ}$ C) = 325  
Desolvation Gas Flow (L/hr) = 1000



**Figure 2: PFAC-MXF; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (PFAC-MXF)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.43e-3

Collision Energy (eV) = 6-60 (variable)



# Analytical Standard Record

**22F0058**

Description: PFAS - MIX MXF 2ug/mL  
 Standard Type: Other  
 Solvent: MeOH  
 Final Volume (mls): 1.2  
 Vials: 1

Expires: 01/11/2025  
 Prepared: 01/10/2022  
 Prepared By: Lizbeth Andres  
 Department: PFAS  
 Last Edit: 09/15/2022 09:32 by DAG

Analyte	Parent	CAS Number	Concentration	Units
11CL-PF3OUDS		763051-92-9	1.89	ug/mL
9CL-PF3ONS		756426-58-1	1.87	ug/mL
ADONA		919005-14-4	1.89	ug/mL
HFPO-DA		13252-13-6	2	ug/mL



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PFAC-MXH** 22F0059

**Native Per- and Poly-fluoroalkyl Substance  
Solution/Mixture**

**PRODUCT CODE:** PFAC-MXH  
**LOT NUMBER:** PFACMXH0921  
**SOLVENT(S):** Methanol / Isopropanol (2%) / Water (<1%)  
**DATE PREPARED:** (mm/dd/yyyy) 09/09/2021  
**LAST TESTED:** (mm/dd/yyyy) 09/14/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 09/14/2026  
**RECOMMENDED STORAGE:** Refrigerate ampoule

**DESCRIPTION:**

PFAC-MXH is a solution/mixture of eleven native linear perfluoroalkylcarboxylic acids (C<sub>4</sub>-C<sub>14</sub>), eight native perfluoroalkanesulfonates (C<sub>4</sub>, C<sub>5</sub>, C<sub>7</sub>, C<sub>9</sub>, C<sub>10</sub> and C<sub>12</sub> linear; C<sub>6</sub> and C<sub>8</sub> linear and branched), three native fluorotelomer sulfonates (4:2, 6:2, and 8:2), two native linear and branched perfluorooctanesulfonamidoacetic acids, and perfluoro-1-octanesulfonamide (FOSA). The components and their concentrations are given in Table A.

The individual components of this mixture all have chemical purities of >98%.

**DOCUMENTATION/ DATA ATTACHED:**

Table A: Components and Concentrations of the Solution/Mixture  
 Table B: Isomeric Components and Percent Composition of br-NMeFOSAA  
 Table C: Isomeric Components and Percent Composition of br-NEtFOSAA  
 Table D: Isomeric Components and Percent Composition of PFHxSK  
 Table E: Isomeric Components and Percent Composition of PFOSK  
 Figure 1: LC/MS Data (SIR)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

**ADDITIONAL INFORMATION:**

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

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**HANDLING:**

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**SYNTHESIS / CHARACTERIZATION:**

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters

$x_1, x_2, \dots, x_n$  on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where  $x$  is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of  $\pm 5\%$  (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

**TRACEABILITY:**

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

**EXPIRY DATE / PERIOD OF VALIDITY:**

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

**LIMITED WARRANTY:**

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**QUALITY MANAGEMENT:**

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\*\*For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at [www.well-labs.com](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

**Table A: PFAC-MXH; Components and Concentrations**  
( $\mu\text{g/mL}$ ,  $\pm 5\%$  in methanol / isopropanol (2%) / water (<1%))

Compound	Acronym	Concentration* ( $\mu\text{g/mL}$ )		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-n-butanoic acid	PFBA	4.00		1
Perfluoro-n-pentanoic acid	PFPeA	2.00		2
Perfluoro-n-hexanoic acid	PFHxA	1.00		5
Perfluoro-n-heptanoic acid	PFHpA	1.00		7
Perfluoro-n-octanoic acid	PFOA	1.00		11
Perfluoro-n-nonanoic acid	PFNA	1.00		14
Perfluoro-n-decanoic acid	PFDA	1.00		18
Perfluoro-n-undecanoic acid	PFUdA	1.00		23
Perfluoro-n-dodecanoic acid	PFDoA	1.00		26
Perfluoro-n-tridecanoic acid	PFTrDA	1.00		27
Perfluoro-n-tetradecanoic acid	PFTeDA	1.00		29
Perfluoro-1-octanesulfonamide	FOSA	1.00		25
N-methylperfluorooctanesulfonamidoacetic acid <sup>a</sup>	N-MeFOSAA: linear isomer	0.760		20
	N-MeFOSAA: $\Sigma$ branched isomers	0.240		17
N-ethylperfluorooctanesulfonamidoacetic acid <sup>b</sup>	N-EtFOSAA: linear isomer	0.775		22
	N-EtFOSAA: $\Sigma$ branched isomers	0.225		21
Compound	Acronym	Concentration* ( $\mu\text{g/mL}$ )		Peak Assignment in Figure 1
		as the salt	as the acid	
Potassium perfluoro-1-butanedisulfonate	L-PFBS	1.00	0.887	3
Sodium perfluoro-1-pentadisulfonate	L-PFPeS	1.00	0.941	6
Potassium perfluorohexanedisulfonate <sup>c</sup>	PFHxSK: linear isomer	0.811	0.741	9
	PFHxSK: $\Sigma$ branched isomers	0.189	0.173	8
Sodium perfluoro-1-heptadisulfonate	L-PFHpS	1.00	0.953	12
Potassium perfluorooctanedisulfonate <sup>d</sup>	PFOSK: linear isomer	0.788	0.732	15
	PFOSK: $\Sigma$ branched isomers	0.211	0.196	13
Sodium perfluoro-1-nonanedisulfonate	L-PFNS	1.00	0.962	19
Sodium perfluoro-1-decanedisulfonate	L-PFDS	1.00	0.965	24
Sodium perfluoro-1-dodecanedisulfonate	L-PFDoS	1.00	0.970	28
Sodium 1H,1H,2H,2H-perfluorohexanesulfonate	4:2FTS	4.00	3.75	4
Sodium 1H,1H,2H,2H-perfluorooctanesulfonate	6:2FTS	4.00	3.80	10
Sodium 1H,1H,2H,2H-perfluorodecanedisulfonate	8:2FTS	4.00	3.84	16

<sup>a</sup> See Table B for percent composition of linear and branched N-MeFOSAA isomers.

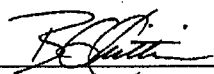
<sup>b</sup> See Table C for percent composition of linear and branched N-EtFOSAA isomers.

<sup>c</sup> See Table D for percent composition of linear and branched PFHxSK isomers.

<sup>d</sup> See Table E for percent composition of linear and branched PFOSK isomers.

\* Concentrations have been rounded to three significant figures.

Certified By: \_\_\_\_\_

  
B.G. Chittim, General Manager

Date: 09/23/2021

(mm/dd/yyyy)



**Table C: br-NEtFOSAA; Isomeric Components and Percent Composition (by <sup>19</sup>F-NMR)\***

Isomer	Compound	Structure	Percent Composition by <sup>19</sup> F-NMR	
1	N-ethylperfluoro-1-octanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_7\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad  $ $\quad \quad \quad \text{C}_2\text{H}_5$	77.5	77.5
2	N-ethylperfluoro-3-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_3\text{CF}(\text{CF}_2)_2\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad   \quad \quad \quad  $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{C}_2\text{H}_5$	2.3	22.5
3	N-ethylperfluoro-4-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_2\text{CF}(\text{CF}_2)_3\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad   \quad \quad \quad  $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{C}_2\text{H}_5$	2.2	
4	N-ethylperfluoro-5-methylheptanesulfonamidoacetic acid	$\text{CF}_3\text{CF}_2\text{CF}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad   \quad \quad \quad  $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{C}_2\text{H}_5$	5.4	
5	N-ethylperfluoro-6-methylheptanesulfonamidoacetic acid	$\text{CF}_3\text{CF}(\text{CF}_2)_5\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad   \quad \quad \quad  $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{C}_2\text{H}_5$	10.4	
6	N-ethylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid	$\begin{array}{c} \text{CF}_3 \\   \\ \text{CF}_3\text{C}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H} \\   \\ \text{CF}_3 \end{array}$ $\quad \quad \quad  $ $\quad \quad \quad \text{C}_2\text{H}_5$	0.3	
7	N-ethylperfluoro-4,5-dimethylhexanesulfonamidoacetic acid	$\begin{array}{c} \text{CF}_3 \\   \\ \text{CF}_3\text{CFCF}(\text{CF}_2)_3\text{SO}_2\text{NCH}_2\text{CO}_2\text{H} \\   \\ \text{CF}_3 \end{array}$ $\quad \quad \quad  $ $\quad \quad \quad \text{C}_2\text{H}_5$	0.3	
8	N-ethylperfluoro-3,5-dimethylhexanesulfonamidoacetic acid	$\begin{array}{c} \text{CF}_3 \\   \\ \text{CF}_3\text{CFCF}_2\text{CF}(\text{CF}_2)_2\text{SO}_2\text{NCH}_2\text{CO}_2\text{H} \\   \\ \text{CF}_3 \end{array}$ $\quad \quad \quad  $ $\quad \quad \quad \text{C}_2\text{H}_5$	0.3	
9	Other Unidentified Isomers		1.3	

\* Percent of total N-ethylperfluorooctanesulfonamidoacetic acid isomers only.



**Table D: PFHxSK; Isomeric Components and Percent Composition (by  $^{19}\text{F}$ -NMR)\***

Isomer	Compound	Structure	Percent Composition by $^{19}\text{F}$ -NMR	
1	Potassium perfluoro-1-hexanesulfonate	$\text{CF}_3\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{SO}_3^-\text{K}^+$	81.1	81.1
2	Potassium 1-trifluoromethylperfluoropentanesulfonate**	$\begin{array}{c} \text{CF}_3\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}(\text{SO}_3^-\text{K}^+) \\   \\ \text{CF}_3 \end{array}$	2.9	18.9
3	Potassium 2-trifluoromethylperfluoropentanesulfonate	$\begin{array}{c} \text{CF}_3\text{CF}_2\text{CF}_2\text{CF}(\text{CF}_3)\text{CF}_2\text{SO}_3^-\text{K}^+ \\   \\ \text{CF}_3 \end{array}$	1.4	
4	Potassium 3-trifluoromethylperfluoropentanesulfonate	$\begin{array}{c} \text{CF}_3\text{CF}_2\text{CF}(\text{CF}_3)\text{CF}_2\text{CF}_2\text{SO}_3^-\text{K}^+ \\   \\ \text{CF}_3 \end{array}$	5.0	
5	Potassium 4-trifluoromethylperfluoropentanesulfonate	$\begin{array}{c} \text{CF}_3\text{CF}(\text{CF}_3)\text{CF}_2\text{CF}_2\text{CF}_2\text{SO}_3^-\text{K}^+ \\   \\ \text{CF}_3 \end{array}$	8.9	
6	Potassium 3,3-di(trifluoromethyl)perfluorobutanesulfonate	$\begin{array}{c} \text{CF}_3 \\   \\ \text{CF}_3\text{C}(\text{CF}_3)\text{CF}_2\text{CF}_2\text{SO}_3^-\text{K}^+ \\   \\ \text{CF}_3 \end{array}$	0.2	
7	Other Unidentified Isomers		0.5	

\* Percent of total perfluorohexanesulfonate isomers only.

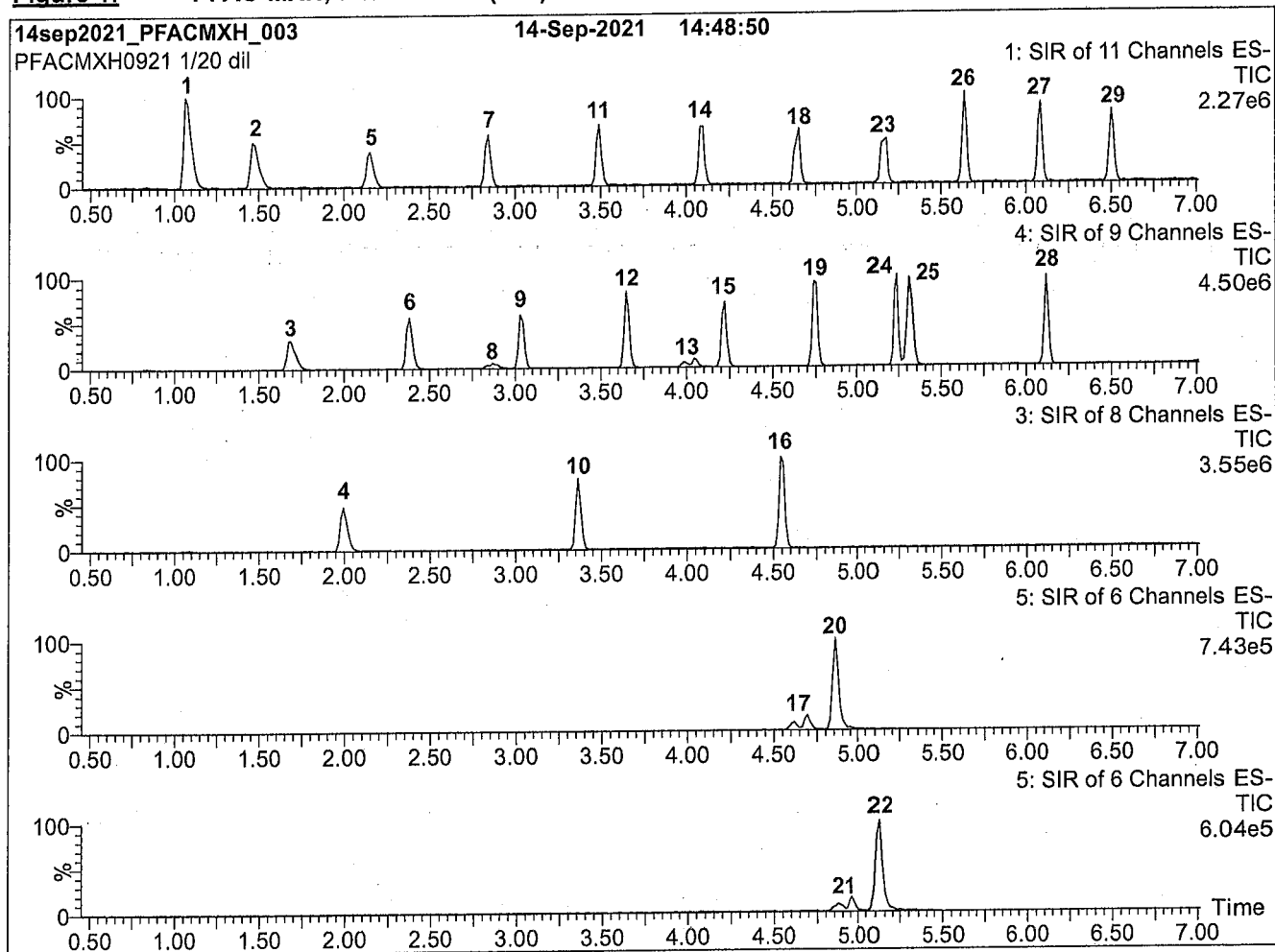
\*\* Systematic Name: Potassium perfluorohexane-2-sulfonate.

**Table E: PFOSK; Isomeric Components and Percent Composition (by <sup>19</sup>F-NMR)\***

Isomer	Compound	Structure	Percent Composition by <sup>19</sup> F-NMR	
1	Potassium perfluoro-1-octanesulfonate	CF <sub>3</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> SO <sub>3</sub> <sup>-</sup> K <sup>+</sup>	78.8	78.8
2	Potassium 1-trifluoromethylperfluoroheptanesulfonate**	CF <sub>3</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF(SO <sub>3</sub> <sup>-</sup> )K <sup>+</sup>   CF <sub>3</sub>	1.2	21.1
3	Potassium 2-trifluoromethylperfluoroheptanesulfonate	CF <sub>3</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF(CF <sub>3</sub> )SO <sub>3</sub> <sup>-</sup> K <sup>+</sup>   CF <sub>3</sub>	0.6	
4	Potassium 3-trifluoromethylperfluoroheptanesulfonate	CF <sub>3</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF(CF <sub>3</sub> )CF <sub>2</sub> SO <sub>3</sub> <sup>-</sup> K <sup>+</sup>   CF <sub>3</sub>	1.9	
5	Potassium 4-trifluoromethylperfluoroheptanesulfonate	CF <sub>3</sub> CF <sub>2</sub> CF <sub>2</sub> CF(CF <sub>3</sub> )CF <sub>2</sub> CF <sub>2</sub> SO <sub>3</sub> <sup>-</sup> K <sup>+</sup>   CF <sub>3</sub>	2.2	
6	Potassium 5-trifluoromethylperfluoroheptanesulfonate	CF <sub>3</sub> CF <sub>2</sub> CF(CF <sub>3</sub> )CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> SO <sub>3</sub> <sup>-</sup> K <sup>+</sup>   CF <sub>3</sub>	4.5	
7	Potassium 6-trifluoromethylperfluoroheptanesulfonate	CF <sub>3</sub> CF(CF <sub>3</sub> )CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> SO <sub>3</sub> <sup>-</sup> K <sup>+</sup>   CF <sub>3</sub>	10.0	
8	Potassium 5,5-di(trifluoromethyl)perfluorohexanesulfonate	CF <sub>3</sub>   CF <sub>3</sub> CCF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> SO <sub>3</sub> <sup>-</sup> K <sup>+</sup>   CF <sub>3</sub>	0.2	
9	Potassium 4,4-di(trifluoromethyl)perfluorohexanesulfonate	CF <sub>3</sub>   CF <sub>3</sub> CF <sub>2</sub> CCF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> SO <sub>3</sub> <sup>-</sup> K <sup>+</sup>   CF <sub>3</sub>	0.03	
10	Potassium 4,5-di(trifluoromethyl)perfluorohexanesulfonate	CF <sub>3</sub>   CF <sub>3</sub> CF(CF <sub>3</sub> )CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> SO <sub>3</sub> <sup>-</sup> K <sup>+</sup>   CF <sub>3</sub>	0.4	
11	Potassium 3,5-di(trifluoromethyl)perfluorohexanesulfonate	CF <sub>3</sub>   CF <sub>3</sub> CF(CF <sub>3</sub> )CF <sub>2</sub> CF(CF <sub>3</sub> )CF <sub>2</sub> SO <sub>3</sub> <sup>-</sup> K <sup>+</sup>   CF <sub>3</sub>	0.07	

\* Percent of total perfluorooctanesulfonate isomers only.

\*\* Systematic Name: Potassium perfluorooctane-2-sulfonate.

**Figure 1: PFAC-MXH; LC/MS Data (SIR)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient

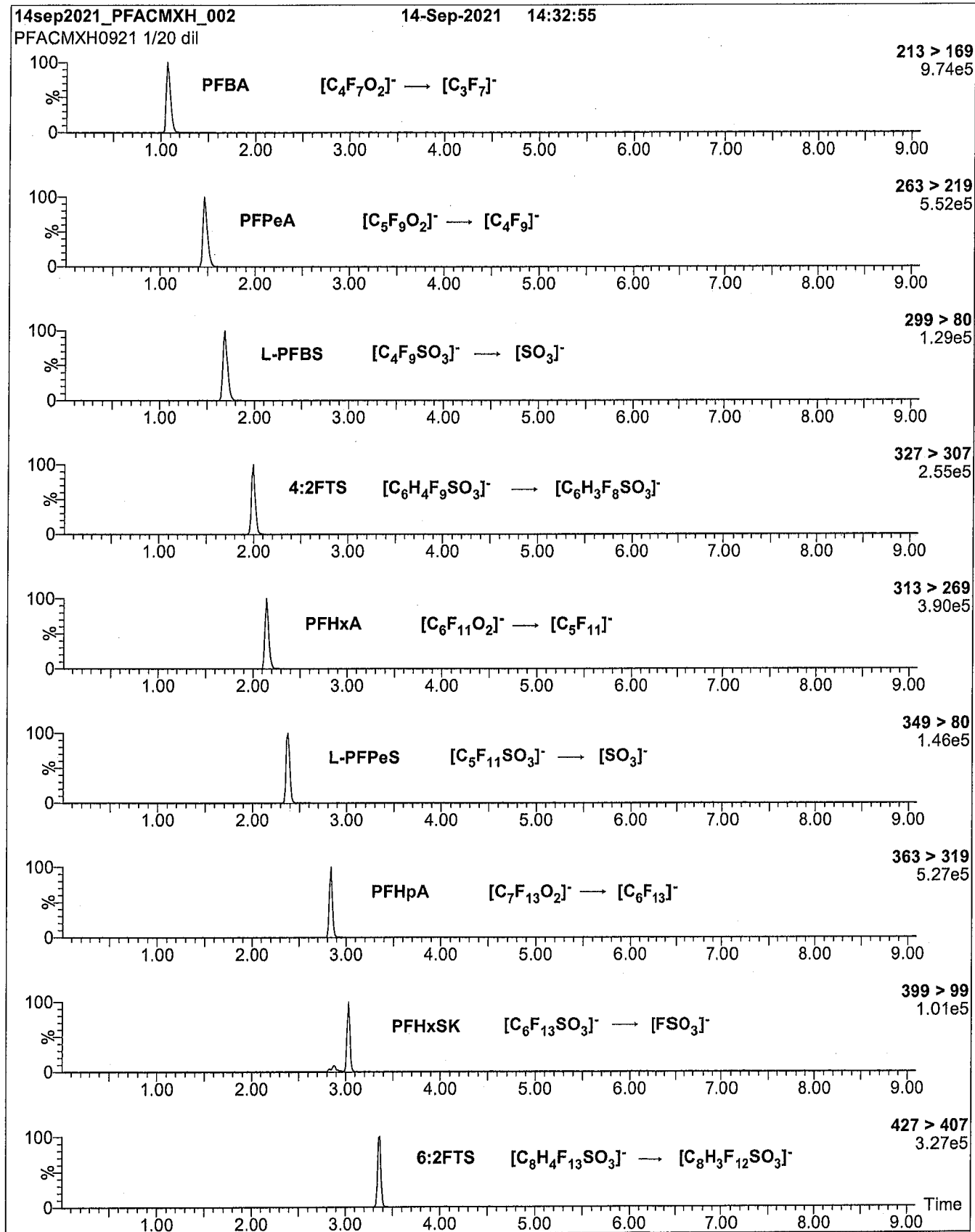
Start: 50% H<sub>2</sub>O / 50% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 9 min and hold for 2 min  
before returning to initial conditions in 1 min.  
Time: 15 min

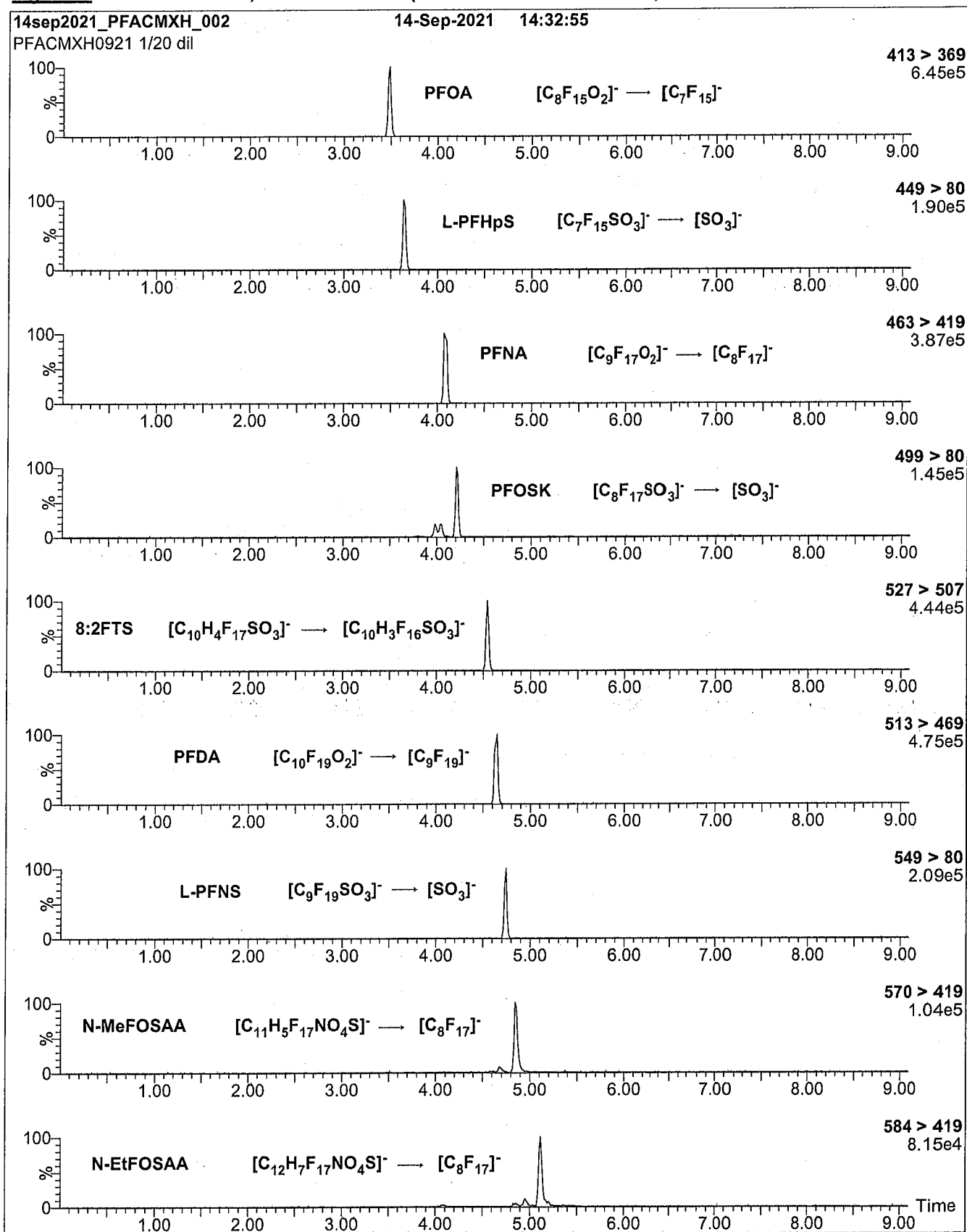
Flow: 300  $\mu$ L/min

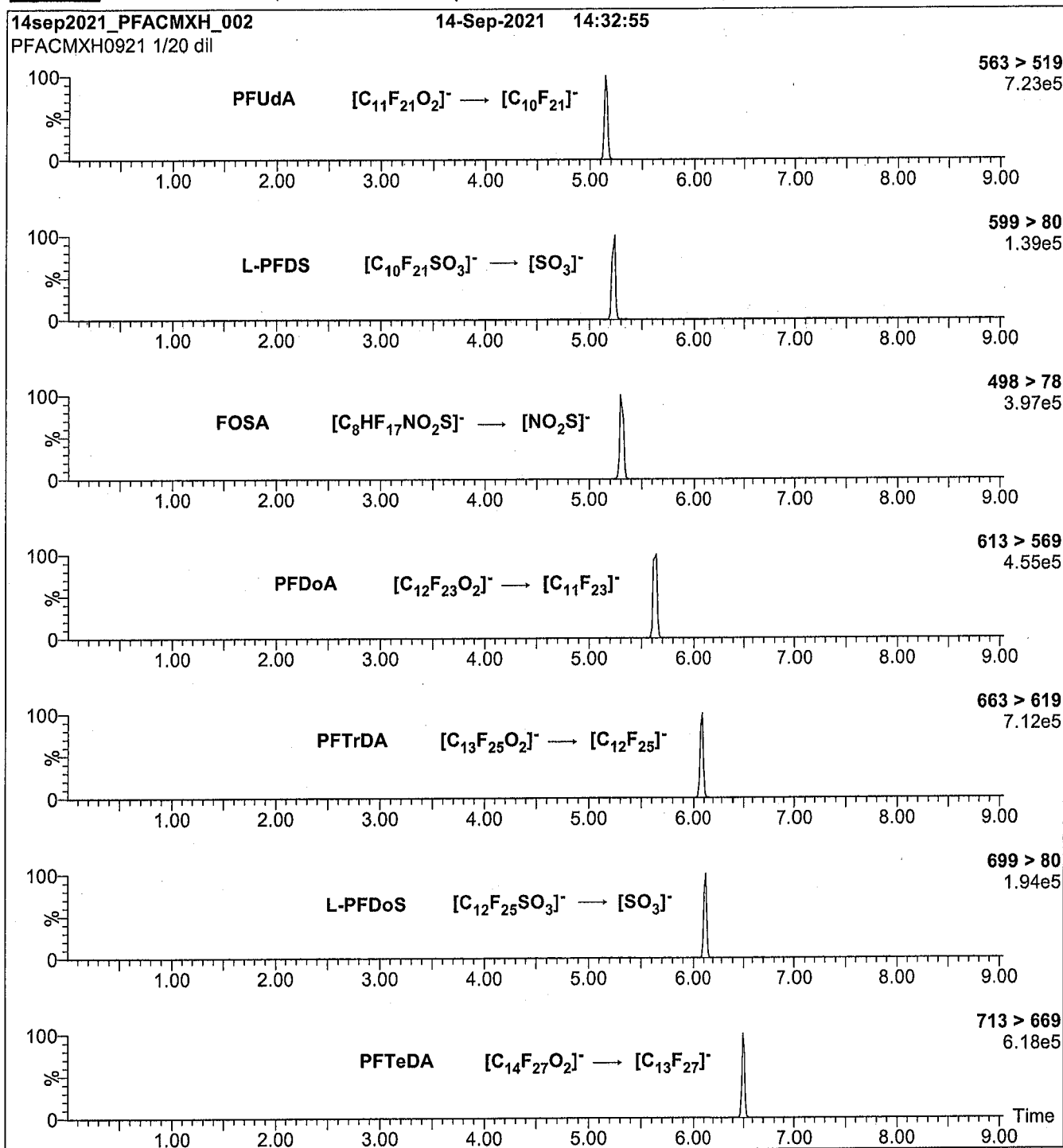
**MS Parameters:**

Experiment: SIR

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.50  
Cone Voltage (V) = variable (2-74)  
Desolvation Temperature ( $^{\circ}$ C) = 350  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: PFAC-MXH; LC/MS/MS Data (Selected MRM Transitions)**

**Figure 2: PFAC-MXH; LC/MS/MS Data (Selected MRM Transitions)**

**Figure 2: PFAC-MXH; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (PFAC-MXH)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.31e-3

Collision Energy (eV) = 6-60 (variable)



# Analytical Standard Record

**22F0059**

Description:	PFAS - MIX MXH 2ug/mL	Expires:	09/14/2026
Standard Type:	Other	Prepared:	09/09/2021
Solvent:	MeOH	Prepared By:	Lizbeth Andres
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	09/15/2022 09:33 by DAG

Analyte	Parent	CAS Number	Concentration	Units
4:2FTS		757124-72-4	3.75	ug/mL
6:2FTS		27619-97-2	3.8	ug/mL
8:2FTS		39108-34-4	3.84	ug/mL
NETFOSAA		2991-50-6	1	ug/mL
NMeFOSAA		2355-31-9	1	ug/mL
PFBA		375-22-4	4	ug/mL
PFBS		375-73-5	0.887	ug/mL
PFDA		335-76-2	1	ug/mL
PFDOA		307-55-1	1	ug/mL
PFDOS		79780-39-5	0.97	ug/mL
PFDS		335-77-3	0.965	ug/mL
PFHPA		375-85-9	1	ug/mL
PFHPS		375-92-8	0.953	ug/mL
PFHXA		307-24-4	1	ug/mL
PFHXS		355-46-4	0.914	ug/mL
PFNA		375-95-1	1	ug/mL
PFNS		68259-12-1	0.962	ug/mL
PFOA		335-67-1	1	ug/mL
PFOS		1763-23-1	0.928	ug/mL
PFOSA		754-91-6	1	ug/mL
PFPEA		2706-90-3	2	ug/mL
PFPEs		630402-22-1	0.941	ug/mL
PFTEDA		376-06-7	1	ug/mL
PFTRDA		72629-94-8	1	ug/mL
PFUnA		2058-94-8	1	ug/mL





# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PFAC-MXG** 22F0061

**Native Perfluoroalkyl Ether Carboxylic  
Acids and Sulfonate Solution/Mixture**

<b><u>PRODUCT CODE:</u></b>	PFAC-MXG
<b><u>LOT NUMBER:</u></b>	PFACMXG0222
<b><u>SOLVENT(S):</u></b>	Methanol/Water (<1%)
<b><u>DATE PREPARED:</u></b> (mm/dd/yyyy)	02/07/2022
<b><u>LAST TESTED:</u></b> (mm/dd/yyyy)	02/22/2022
<b><u>EXPIRY DATE:</u></b> (mm/dd/yyyy)	02/22/2027
<b><u>RECOMMENDED STORAGE:</u></b>	Store ampoule in a cool, dark place

**DESCRIPTION:**

PFAC-MXG is a solution/mixture of three native perfluoroalkyl ether carboxylic acids and a native perfluoroalkyl ether sulfonate. The components and their concentrations are given in Table A.

The individual components all have chemical purities of >98%.

**DOCUMENTATION/ DATA ATTACHED:**

Table A: Components and Concentrations of the Solution/Mixture  
Figure 1: LC/MS Data (SIR)  
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

**ADDITIONAL INFORMATION:**

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com**

**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters  $x_1, x_2, \dots, x_n$  on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where  $x$  is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of  $\pm 5\%$  (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

**TRACEABILITY:**

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

**EXPIRY DATE / PERIOD OF VALIDITY:**

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

**LIMITED WARRANTY:**

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**QUALITY MANAGEMENT:**

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).



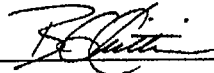
\*\*For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at [www.well-labs.com](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

**Table A: PFAC-MXG; Components and Concentrations (ng/mL;  $\pm$  5% in methanol/water (<1%))**

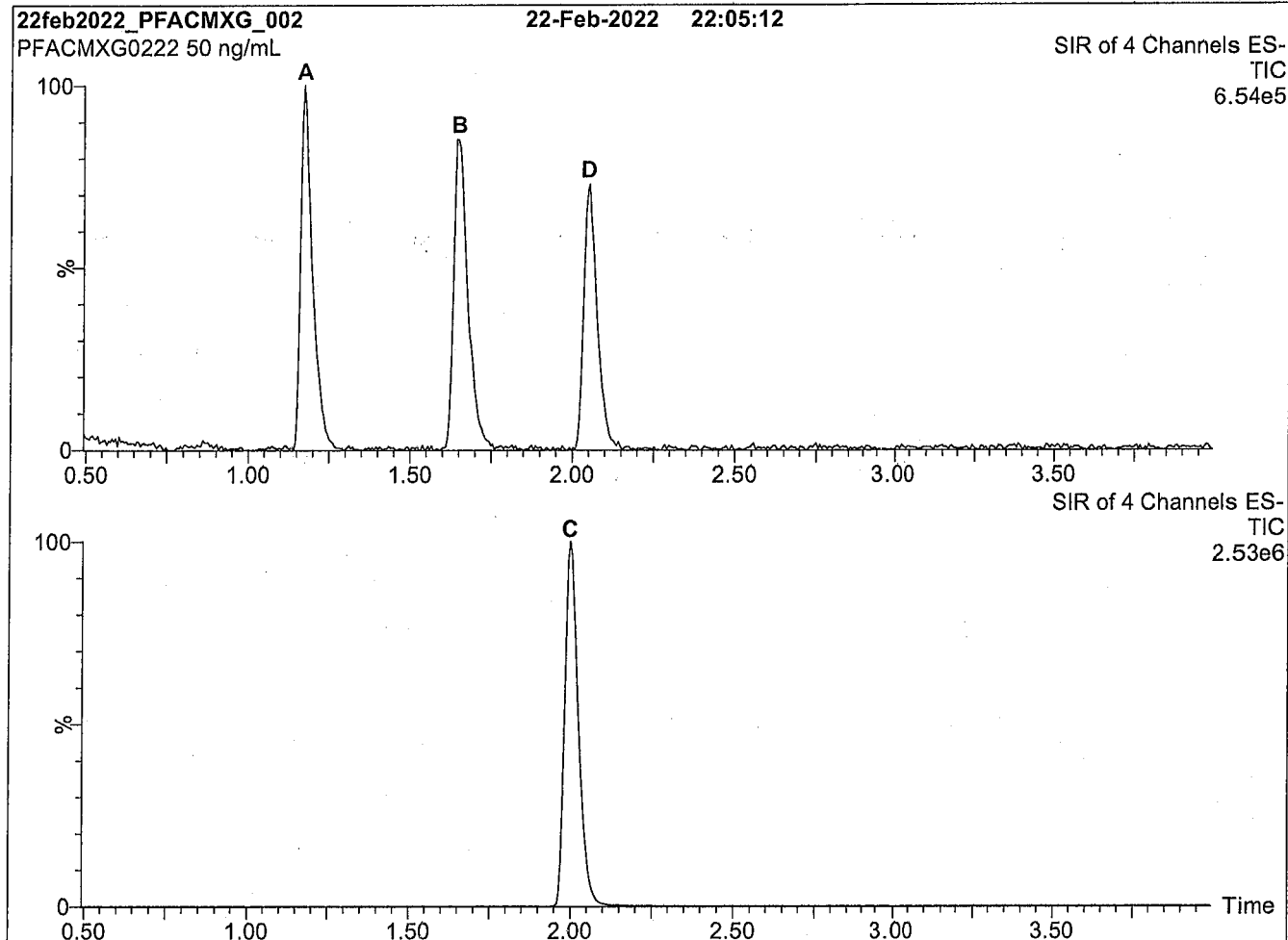
Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-4-oxapentanoic acid	PF4OPeA	2000		A
Perfluoro-5-oxahexanoic acid	PF5OHxA	2000		B
Perfluoro-3,6-dioxaheptanoic acid	3,6-OPFHpA	2000		D
Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Potassium perfluoro(2-ethoxyethane)sulfonate	PFEESA	2000	1780	C

\* Concentrations have been rounded to three significant figures.

Certified By: \_\_\_\_\_

  
B.G. Chittim, General Manager

Date: 03/03/2022  
(mm/dd/yyyy)

**Figure 1: PFAC-MXG; LC/MS Data (SIR)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

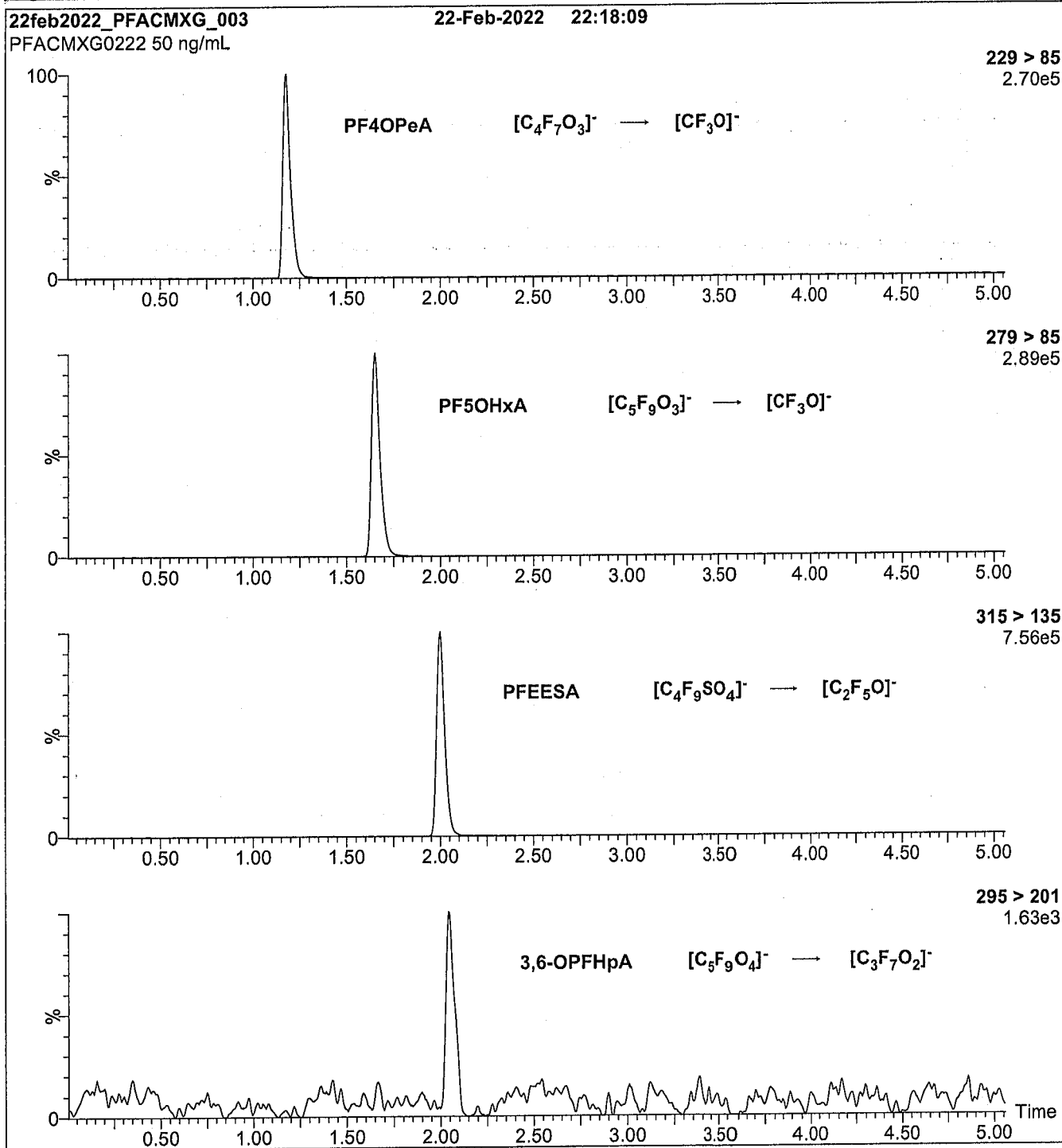
Mobile phase: Gradient  
Start: 50% H<sub>2</sub>O / 50% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for 2 min  
before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: SIR

Source: Electrospray (negative)  
Capillary Voltage (kV) = 1.00  
Cone Voltage (V) = variable (15-35)  
Desolvation Temperature ( $^{\circ}$ C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: PFAC-MXG; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (PFAC-MXG)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.33e-3

Collision Energy (eV) = 8-48 (variable)



# Analytical Standard Record

**22F0061**

Description:	PFAS - MIX MXG 2ug/mL	Expires:	02/22/2027
Standard Type:	Other	Prepared:	02/07/2022
Solvent:	MeOH	Prepared By:	Lizbeth Andres
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	09/15/2022 09:34 by DAG
Comments:	contains NFDHA PFMBA PFMPA PFEESA @ 2ug/mL		

Analyte	Parent	CAS Number	Concentration	Units
NFDHA		151772-58-6	2	ug/mL
PFEESA		113507-82-7	1.78	ug/mL
PFMBA		863090-89-5	2	ug/mL
PFMPA		377-73-1	2	ug/mL

# Analytical Standard Record

**22I0153**

Description:	PFAS - MIX 1633 200ng/mL	Expires:	01/11/2025
Standard Type:	Analyte Spike	Prepared:	09/13/2022
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	6	Department:	PFAS
Vials:	1	Last Edit:	09/15/2022 09:34 by DAG

Analyte	Parent	CAS Number	Concentration	Units
NMeFOSE	22C0307	24448-09-7	0.8	ug/mL
3:3FTCA	22C0308	113507-82-7	0.8	ug/mL
5:3FTCA	22C0309	914637-49-3	0.8	ug/mL
NETFOSE	22C0310	1691-99-2	0.8	ug/mL
7:3FTCA	22C0311	812-70-4	0.8	ug/mL
NMeFOSA	22C0312	31506-32-8	0.8	ug/mL
NETFOSA	22C0313	4151-50-2	0.8	ug/mL
11CL-PF3OUDS	22F0058	763051-92-9	0.378	ug/mL
9CL-PF3ONS	22F0058	756426-58-1	0.374	ug/mL
ADONA	22F0058	919005-14-4	0.378	ug/mL
HFPO-DA	22F0058	13252-13-6	0.4	ug/mL
4:2FTS	22F0059	757124-72-4	0.75	ug/mL
6:2FTS	22F0059	27619-97-2	0.76	ug/mL
8:2FTS	22F0059	39108-34-4	0.768	ug/mL
NETFOSAA	22F0059	2991-50-6	0.2	ug/mL
NMeFOSAA	22F0059	2355-31-9	0.2	ug/mL
PFBA	22F0059	375-22-4	0.8	ug/mL
PFBS	22F0059	375-73-5	0.177	ug/mL
PFDA	22F0059	335-76-2	0.2	ug/mL
PFDOA	22F0059	307-55-1	0.2	ug/mL
PFDOS	22F0059	79780-39-5	0.194	ug/mL
PFDS	22F0059	335-77-3	0.193	ug/mL
PFHPA	22F0059	375-85-9	0.2	ug/mL
PFHPS	22F0059	375-92-8	0.191	ug/mL
PFHXA	22F0059	307-24-4	0.2	ug/mL
PFHXS	22F0059	355-46-4	0.183	ug/mL
PFNA	22F0059	375-95-1	0.2	ug/mL
PFNS	22F0059	68259-12-1	0.192	ug/mL
PFOA	22F0059	335-67-1	0.2	ug/mL
PFOS	22F0059	1763-23-1	0.186	ug/mL
PFOSA	22F0059	754-91-6	0.2	ug/mL
PFPEA	22F0059	2706-90-3	0.4	ug/mL
PFPEs	22F0059	630402-22-1	0.188	ug/mL
PFTEDA	22F0059	376-06-7	0.2	ug/mL
PFTRDA	22F0059	72629-94-8	0.2	ug/mL
PFUnA	22F0059	2058-94-8	0.2	ug/mL
NFDHA	22F0061	151772-58-6	0.4	ug/mL
PFEESA	22F0061	113507-82-7	0.356	ug/mL
PFMBA	22F0061	863090-89-5	0.4	ug/mL
PFMPA	22F0061	377-73-1	0.4	ug/mL



# Analytical Standard Record

22I0153

**Parent Standards used:**

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
22C0307	PFAS - SAS N-MeFOSE 50ug/mL	03/15/2022	Wellington Laboratories	NMeFOSE0921M	09/23/2026	03/15/2022 15:59	by DAG	0.096
22C0308	PFAS - SAS FPrPA 50ug/mL	03/15/2022	Wellington Laboratories	FPrPA0122	02/03/2027	03/15/2022 15:59	by DAG	0.096
22C0309	PFAS - SAS FPePA 50ug/mL	03/15/2022	Wellington Laboratories	FPePA1221	01/05/2027	03/15/2022 15:59	by DAG	0.096
22C0310	PFAS - SAS NEtFOSE 50ug/mL	03/15/2022	Wellington Laboratories	NEtFOSE0921M	09/23/2026	03/15/2022 15:59	by DAG	0.096
22C0311	PFAS - SAS FHpPA 50ug/mL	03/15/2022	Wellington Laboratories	FHpPA1020	11/12/2025	03/15/2022 16:00	by DAG	0.096
22C0312	PFAS - SAS NMeFOSA 50ug/mL	03/15/2022	Wellington Laboratories	NMeFOSA0721M	08/03/2026	03/15/2022 16:00	by DAG	0.096
22C0313	PFAS - SAS NEtFOSA 50ug/mL	03/15/2022	Wellington Laboratories	NEtFOSA0821M	08/12/2026	08/17/2022 10:49	by LYA	0.096
22F0058	PFAS - MIX MXF 2ug/mL	01/10/2022	Wellington Laboratories	PFACMXF0122	01/11/2025	09/15/2022 09:32	by DAG	1.2
22F0059	PFAS - MIX MXH 2ug/mL	09/09/2021	Wellington Laboratories	PFACMXH0921	09/14/2026	09/15/2022 09:33	by DAG	1.2
22F0061	PFAS - MIX MXG 2ug/mL	02/07/2022	Wellington Laboratories	PFACMXG0222	02/22/2027	09/15/2022 09:34	by DAG	1.2



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### PFAC-MXG

#### Native Perfluoroalkyl Ether Carboxylic Acids and Sulfonate Solution/Mixture

<b><u>PRODUCT CODE:</u></b>	PFAC-MXG
<b><u>LOT NUMBER:</u></b>	PFACMXG0222
<b><u>SOLVENT(S):</u></b>	Methanol/Water (<1%)
<b><u>DATE PREPARED:</u></b> (mm/dd/yyyy)	02/07/2022
<b><u>LAST TESTED:</u></b> (mm/dd/yyyy)	02/22/2022
<b><u>EXPIRY DATE:</u></b> (mm/dd/yyyy)	02/22/2027
<b><u>RECOMMENDED STORAGE:</u></b>	Store ampoule in a cool, dark place

#### **DESCRIPTION:**

PFAC-MXG is a solution/mixture of three native perfluoroalkyl ether carboxylic acids and a native perfluoroalkyl ether sulfonate. The components and their concentrations are given in Table A.

The individual components all have chemical purities of >98%.

#### **DOCUMENTATION/ DATA ATTACHED:**

Table A: Components and Concentrations of the Solution/Mixture  
Figure 1: LC/MS Data (SIR)  
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

#### **ADDITIONAL INFORMATION:**

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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**Table A: PFAC-MXG; Components and Concentrations (ng/mL; ± 5% in methanol/water (<1%))**

Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-4-oxapentanoic acid	PF4OPeA	2000		A
Perfluoro-5-oxahexanoic acid	PF5OHxA	2000		B
Perfluoro-3,6-dioxaheptanoic acid	3,6-OPFHpA	2000		D
Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
Potassium perfluoro(2-ethoxyethane)sulfonate	PFEESA	2000	1780	

\* Concentrations have been rounded to three significant figures.

Certified By: \_\_\_\_\_

B.G. Chittim, General Manager

Date: 03/03/2022

(mm/dd/yyyy)

# Analytical Standard Record

**22I0342**

Description:	PFAS - MIX MXG 2ug/mL	Expires:	02/22/2027
Standard Type:	Other	Prepared:	02/07/2022
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	09/26/2022 09:55 by DAG
Comments:	contains NFDHA PFMBA PFMPA PFEESA @ 2ug/mL		

Analyte	Parent	CAS Number	Concentration	Units
NFDHA		151772-58-6	2	ug/mL
PFEESA		113507-82-7	1.78	ug/mL
PFMBA		863090-89-5	2	ug/mL
PFMPA		377-73-1	2	ug/mL

# Analytical Standard Record

**22I0343**

Description:	PFAS - MIX MXF 2ug/mL	Expires:	01/11/2025
Standard Type:	Other	Prepared:	09/26/2022
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	09/26/2022 09:47 by DAG

Analyte	Parent	CAS Number	Concentration	Units
11CL-PF3OUDS		763051-92-9	1.89	ug/mL
9CL-PF3ONS		756426-58-1	1.87	ug/mL
ADONA		919005-14-4	1.89	ug/mL
HFPO-DA		13252-13-6	2	ug/mL



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### PFAC-MXF

#### Native Replacement PFAS Solution/Mixture

<b><u>PRODUCT CODE:</u></b>	PFAC-MXF
<b><u>LOT NUMBER:</u></b>	PFACMXF0122
<b><u>SOLVENT(S):</u></b>	Methanol / Water (<1%)
<b><u>DATE PREPARED:</u></b> (mm/dd/yyyy)	01/10/2022
<b><u>LAST TESTED:</u></b> (mm/dd/yyyy)	01/11/2022
<b><u>EXPIRY DATE:</u></b> (mm/dd/yyyy)	01/11/2025
<b><u>RECOMMENDED STORAGE:</u></b>	Refrigerate ampoule

#### DESCRIPTION:

PFAC-MXF is a solution/mixture of sodium dodecafluoro-3H-4,8-dioxanonanoate (NaDONA), the major and minor components of F-53B (9Cl-PF3ONS and 11Cl-PF3OUdS), and GenX (HFPO-DA). The components and their concentrations are given in Table A.

The individual native components of this mixture all have chemical purities of >98%.

#### DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture  
 Figure 1: LC/MS Data (SIR)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

#### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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**Table A: PFAC-MXF; Components and Concentrations (ng/mL;  $\pm$  5% in Methanol/Water (<1%))**

Compound	Acronym	Concentration* (ng/ml)		Peak Assignment in Figure 1
		as the salt	as the acid	
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid	HFPO-DA	2000		A
Sodium dodecafluoro-3H-4,8-dioxananoate	NaDONA	2000	1890	B
Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonate	9Cl-PF3ONS	2000	1870	C
Potassium 11-chloroeicosafluoro-3-oxaundecane-1-sulfonate	11Cl-PF3OUdS	2000	1890	D

\* Concentrations have been rounded to three significant figures.

Certified By:   
B.G. Chittim, General Manager

Date: 01/12/2022  
(mm/dd/yyyy)

# Analytical Standard Record

**22I0343**

Description:	PFAS - MIX MXF 2ug/mL	Expires:	01/11/2025
Standard Type:	Other	Prepared:	01/10/2022
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	09/26/2022 09:54 by DAG

Analyte	Parent	CAS Number	Concentration	Units
11CL-PF3OUDS		763051-92-9	1.89	ug/mL
9CL-PF3ONS		756426-58-1	1.87	ug/mL
ADONA		919005-14-4	1.89	ug/mL
HFPO-DA		13252-13-6	2	ug/mL





# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

APPL ID:2210334

### PFAC-MXH

#### Native PFAS Solution/Mixture

**PRODUCT CODE:** PFAC-MXH  
**LOT NUMBER:** PFACMXH0822  
**SOLVENT(S):** Methanol/Isopropanol (2%)/Water (<1%)  
**DATE PREPARED:** (mm/dd/yyyy) 08/05/2022  
**LAST TESTED:** (mm/dd/yyyy) 08/08/2022  
**EXPIRY DATE:** (mm/dd/yyyy) 08/08/2027  
**RECOMMENDED STORAGE:** Refrigerate ampoule

#### DESCRIPTION:

PFAC-MXH is a solution/mixture of 11 native linear perfluoroalkylcarboxylic acids (C<sub>4</sub>-C<sub>14</sub>), eight native perfluoroalkanesulfonates (C<sub>4</sub>, C<sub>5</sub>, C<sub>7</sub>, C<sub>9</sub>, C<sub>10</sub> and C<sub>12</sub> linear; C<sub>6</sub> and C<sub>8</sub> linear and branched), three native fluorotelomer sulfonates (4:2, 6:2, and 8:2), two native linear and branched perfluorooctanesulfonamidoacetic acids, and perfluoro-1-octanesulfonamide (FOSA). The components and their concentrations are given in Table A.

The individual components of this mixture all have chemical purities of >98%.

#### DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture  
 Table B: Isomeric Components and Percent Composition of N-MeFOSAA  
 Table C: Isomeric Components and Percent Composition of N-EtFOSAA  
 Table D: Isomeric Components and Percent Composition of PFHxSK  
 Table E: Isomeric Components and Percent Composition of PFOSK  
 Figure 1: LC/MS Data (SIR)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

#### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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**Table A: PFAC-MXH; Components and Concentrations**  
(ng/mL,  $\pm$  5% in methanol/isopropanol (2%)/water (<1%))

Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-n-butanoic acid	PFBA	4000		1
Perfluoro-n-pentanoic acid	PFPeA	2000		2
Perfluoro-n-hexanoic acid	PFHxA	1000		5
Perfluoro-n-heptanoic acid	PFHpA	1000		7
Perfluoro-n-octanoic acid	PFOA	1000		11
Perfluoro-n-nonanoic acid	PFNA	1000		14
Perfluoro-n-decanoic acid	PFDA	1000		18
Perfluoro-n-undecanoic acid	PFUdA	1000		24
Perfluoro-n-dodecanoic acid	PFDoA	1000		26
Perfluoro-n-tridecanoic acid	PFTrDA	1000		27
Perfluoro-n-tetradecanoic acid	PFTeDA	1000		29
Perfluoro-1-octanesulfonamide	FOSA	1000		23
N-methylperfluorooctanesulfonamidoacetic acid <sup>a</sup>	N-MeFOSAA: linear isomer	760		20
	N-MeFOSAA: $\Sigma$ branched isomers	240		17
N-ethylperfluorooctanesulfonamidoacetic acid <sup>b</sup>	N-EtFOSAA: linear isomer	775		22
	N-EtFOSAA: $\Sigma$ branched isomers	225		21
Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Potassium perfluoro-1-butanedisulfonate	L-PFBS	1000	887	3
Sodium perfluoro-1-pentadisulfonate	L-PFPeS	1000	941	6
Potassium perfluorohexadisulfonate <sup>c</sup>	PFHxSK: linear isomer	811	741	9
	PFHxSK: $\Sigma$ branched isomers	189	173	8
Sodium perfluoro-1-heptadisulfonate	L-PFHpS	1000	953	12
Potassium perfluorooctadisulfonate <sup>d</sup>	PFOSK: linear isomer	788	732	15
	PFOSK: $\Sigma$ branched isomers	211	196	13
Sodium perfluoro-1-nonadisulfonate	L-PFNS	1000	962	19
Sodium perfluoro-1-decadisulfonate	L-PFDS	1000	965	25
Sodium perfluoro-1-dodecadisulfonate	L-PFDoS	1000	970	28
Sodium 1H,1H,2H,2H-perfluorohexanesulfonate	4:2FTS	4000	3750	4
Sodium 1H,1H,2H,2H-perfluorooctanesulfonate	6:2FTS	4000	3800	10
Sodium 1H,1H,2H,2H-perfluorodecane sulfonate	8:2FTS	4000	3840	16

<sup>a</sup> See Table B for percent composition of linear and branched N-MeFOSAA isomers.

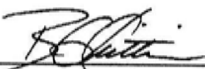
<sup>b</sup> See Table C for percent composition of linear and branched N-EtFOSAA isomers.

<sup>c</sup> See Table D for percent composition of linear and branched PFHxSK isomers.

<sup>d</sup> See Table E for percent composition of linear and branched PFOSK isomers.

\* Concentrations have been rounded to three significant figures.

Certified By:

  
B.G. Chittim, General Manager

Date: 08/09/2022

(mm/dd/yyyy)

# Analytical Standard Record

**22I0344**

Description:	PFAS - MIX MXH 1-4ug/mL	Expires:	08/08/2027
Standard Type:	Other	Prepared:	08/05/2022
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	09/26/2022 09:59 by DAG

Analyte	Parent	CAS Number	Concentration	Units
4:2FTS		757124-72-4	3.75	ug/mL
6:2FTS		27619-97-2	3.8	ug/mL
8:2FTS		39108-34-4	3.84	ug/mL
NETFOSAA		2991-50-6	1	ug/mL
NMeFOSAA		2355-31-9	1	ug/mL
PFBA		375-22-4	4	ug/mL
PFBS		375-73-5	0.887	ug/mL
PFDA		335-76-2	1	ug/mL
PFDOA		307-55-1	1	ug/mL
PFDOS		79780-39-5	0.97	ug/mL
PFDS		335-77-3	0.965	ug/mL
PFHPA		375-85-9	1	ug/mL
PFHPS		375-92-8	0.953	ug/mL
PFHXA		307-24-4	1	ug/mL
PFHXS		355-46-4	0.914	ug/mL
PFNA		375-95-1	1	ug/mL
PFNS		68259-12-1	0.962	ug/mL
PFOA		335-67-1	1	ug/mL
PFOS		1763-23-1	0.928	ug/mL
PFOSA		754-91-6	1	ug/mL
PFPEA		2706-90-3	2	ug/mL
PFPEs		630402-22-1	0.941	ug/mL
PFTEDA		376-06-7	1	ug/mL
PFTRDA		72629-94-8	1	ug/mL
PFUnA		2058-94-8	1	ug/mL

# Analytical Standard Record

**22J0448**

Description:	PFAS - MIX 1633 20ng/mL	Expires:	04/25/2023
Standard Type:	Analyte Spike	Prepared:	10/27/2022
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	10	Department:	PFAS
Vials:	1	Last Edit:	10/27/2022 08:51 by DAG

Analyte	Parent	CAS Number	Concentration	Units
11CL-PF3OUDS	22I0153	763051-92-9	0.0378	ug/mL
3:3FTCA	22I0153	113507-82-7	0.08	ug/mL
4:2FTS	22I0153	757124-72-4	0.075	ug/mL
5:3FTCA	22I0153	914637-49-3	0.08	ug/mL
6:2FTS	22I0153	27619-97-2	0.076	ug/mL
7:3FTCA	22I0153	812-70-4	0.08	ug/mL
8:2FTS	22I0153	39108-34-4	0.0768	ug/mL
9CL-PF3ONS	22I0153	756426-58-1	0.0374	ug/mL
ADONA	22I0153	919005-14-4	0.0378	ug/mL
HFPO-DA	22I0153	13252-13-6	0.04	ug/mL
NETFOSA	22I0153	4151-50-2	0.08	ug/mL
NETFOSAA	22I0153	2991-50-6	0.02	ug/mL
NETFOSE	22I0153	1691-99-2	0.08	ug/mL
NFDHA	22I0153	151772-58-6	0.04	ug/mL
NMeFOSA	22I0153	31506-32-8	0.08	ug/mL
NMeFOSAA	22I0153	2355-31-9	0.02	ug/mL
NMeFOSE	22I0153	24448-09-7	0.08	ug/mL
PFBA	22I0153	375-22-4	0.08	ug/mL
PFBS	22I0153	375-73-5	0.0177	ug/mL
PFDA	22I0153	335-76-2	0.02	ug/mL
PFDOA	22I0153	307-55-1	0.02	ug/mL
PFDOS	22I0153	79780-39-5	0.0194	ug/mL
PFDS	22I0153	335-77-3	0.0193	ug/mL
PFEESA	22I0153	113507-82-7	0.0356	ug/mL
PFHPA	22I0153	375-85-9	0.02	ug/mL
PFHPS	22I0153	375-92-8	0.0191	ug/mL
PFHXA	22I0153	307-24-4	0.02	ug/mL
PFHXS	22I0153	355-46-4	0.0183	ug/mL
PFMBA	22I0153	863090-89-5	0.04	ug/mL
PFMPA	22I0153	377-73-1	0.04	ug/mL
PFNA	22I0153	375-95-1	0.02	ug/mL
PFNS	22I0153	68259-12-1	0.0192	ug/mL
PFOA	22I0153	335-67-1	0.02	ug/mL
PFOS	22I0153	1763-23-1	0.0186	ug/mL
PFOSA	22I0153	754-91-6	0.02	ug/mL
PFPEA	22I0153	2706-90-3	0.04	ug/mL
PFPEs	22I0153	630402-22-1	0.0188	ug/mL
PFTEDA	22I0153	376-06-7	0.02	ug/mL
PFTRDA	22I0153	72629-94-8	0.02	ug/mL
PFUnA	22I0153	2058-94-8	0.02	ug/mL

# Analytical Standard Record

**22J0448****Parent Standards used:**

<b>Standard</b>	<b>Description</b>	<b>Prepared</b>	<b>Prepared By</b>	<b>Lot Nbr</b>	<b>Expires</b>	<b>Last Edit</b>	<b>(mls)</b>
22I0153	PFAS - MIX 1633 200ng/mL	09/13/2022	In house	x	01/11/2025	09/15/2022 09:34 by DAG	1

# Analytical Standard Record

22J0552

Description:	PFAS - MIX 1633 200ng/mL	Expires:	01/11/2025
Standard Type:	Analyte Spike	Prepared:	10/31/2022
Solvent:	MeOH 62244	Prepared By:	Dipti Gokal
Final Volume (mls):	6	Department:	PFAS
Vials:	1	Last Edit:	10/31/2022 14:57 by DAG

Analyte	Parent	CAS Number	Concentration	Units
NETFOSA	21J0007	4151-50-2	0.8	ug/mL
NMeFOSE	21J0014	24448-09-7	0.8	ug/mL
3:3FTCA	21L0004	113507-82-7	0.8	ug/mL
5:3FTCA	21L0005	914637-49-3	0.8	ug/mL
NETFOSE	21L0006	1691-99-2	0.8	ug/mL
7:3FTCA	21L0007	812-70-4	0.8	ug/mL
NMeFOSA	21L0008	31506-32-8	0.8	ug/mL
NFDHA	22I0342	151772-58-6	0.4	ug/mL
PFEESA	22I0342	113507-82-7	0.356	ug/mL
PFMBA	22I0342	863090-89-5	0.4	ug/mL
PFMPA	22I0342	377-73-1	0.4	ug/mL
11CL-PF3OUDS	22I0343	763051-92-9	0.378	ug/mL
9CL-PF3ONS	22I0343	756426-58-1	0.374	ug/mL
ADONA	22I0343	919005-14-4	0.378	ug/mL
HFPO-DA	22I0343	13252-13-6	0.4	ug/mL
4:2FTS	22I0344	757124-72-4	0.75	ug/mL
6:2FTS	22I0344	27619-97-2	0.76	ug/mL
8:2FTS	22I0344	39108-34-4	0.768	ug/mL
NETFOSAA	22I0344	2991-50-6	0.2	ug/mL
NMeFOSAA	22I0344	2355-31-9	0.2	ug/mL
PFBA	22I0344	375-22-4	0.8	ug/mL
PFBS	22I0344	375-73-5	0.177	ug/mL
PFDA	22I0344	335-76-2	0.2	ug/mL
PFDOA	22I0344	307-55-1	0.2	ug/mL
PFDOS	22I0344	79780-39-5	0.194	ug/mL
PFDS	22I0344	335-77-3	0.193	ug/mL
PFHPA	22I0344	375-85-9	0.2	ug/mL
PFHPS	22I0344	375-92-8	0.191	ug/mL
PFHXA	22I0344	307-24-4	0.2	ug/mL
PFHXS	22I0344	355-46-4	0.183	ug/mL
PFNA	22I0344	375-95-1	0.2	ug/mL
PFNS	22I0344	68259-12-1	0.192	ug/mL
PFOA	22I0344	335-67-1	0.2	ug/mL
PFOS	22I0344	1763-23-1	0.186	ug/mL
PFOSA	22I0344	754-91-6	0.2	ug/mL
PFPEA	22I0344	2706-90-3	0.4	ug/mL
PFPEs	22I0344	630402-22-1	0.188	ug/mL
PFTEDA	22I0344	376-06-7	0.2	ug/mL
PFTRDA	22I0344	72629-94-8	0.2	ug/mL
PFUnA	22I0344	2058-94-8	0.2	ug/mL

# Analytical Standard Record

22J0552

## Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
21J0007	PFAS - SAS N-EtFOSA 50ug/mL	08/12/2021	Wellington Laboratories	NEtFOSA0821M	08/12/2026	10/31/2022 14:36	by DAG	0.096
21J0014	PFAS - SAS N-MeFOSE 50ug/mL	09/22/2021	Wellington Laboratories	NMeFOSE0921M	09/23/2026	10/31/2022 14:35	by DAG	0.096
21L0004	PFAS - SAS 3:3FTA 50ug/mL	12/07/2021	Wellington Laboratories	FPrPA1020	11/12/2025	10/31/2022 14:39	by DAG	0.096
21L0005	PFAS - SAS 5:3FTA 50ug/mL	12/07/2021	Wellington Laboratories	FPePA1120	11/11/2025	10/31/2022 14:41	by DAG	0.096
21L0006	PFAS - SAS EtFOSE 50ug/mL	12/07/2021	Wellington Laboratories	FPePA1120	09/23/2026	10/31/2022 14:41	by DAG	0.096
21L0007	PFAS - SAS 7:3FTA 50ug/mL	12/07/2021	Wellington Laboratories	FHpPA1020	11/12/2025	10/31/2022 14:42	by DAG	0.096
21L0008	PFAS - SAS N-MeFOSA 50ug/mL	12/07/2021	Wellington Laboratories	NMeFOSA0721M	08/03/2026	10/31/2022 14:42	by DAG	0.096
22I0342	PFAS - MIX MXG 2ug/mL	02/07/2022	Wellington Laboratories	PFACMXG0222	02/22/2027	10/31/2022 14:48	by DAG	1.2
22I0343	PFAS - MIX MXF 2ug/mL	01/10/2022	Wellington Laboratories	PFACMXF0122	01/11/2025	10/31/2022 14:55	by DAG	1.2
22I0344	PFAS - MIX MXH 1-4ug/mL	08/05/2022	Wellington Laboratories	PFACMXH0822	08/08/2027	10/31/2022 14:56	by DAG	1.2

# Analytical Standard Record

**22K0039**

Description:	PFAS - MIX 1633 10ng/mL	Expires:	05/01/2023
Standard Type:	Analyte Spike	Prepared:	11/02/2022
Solvent:	MeOH	Prepared By:	Andonios Karas
Final Volume (mls):	10	Department:	PFAS
Vials:	1	Last Edit:	11/02/2022 12:56 by ABK

Analyte	Parent	CAS Number	Concentration	Units
11CL-PF3OUDS	22J0552	763051-92-9	0.0189	ug/mL
3:3FTCA	22J0552	113507-82-7	0.04	ug/mL
4:2FTS	22J0552	757124-72-4	0.0375	ug/mL
5:3FTCA	22J0552	914637-49-3	0.04	ug/mL
6:2FTS	22J0552	27619-97-2	0.038	ug/mL
7:3FTCA	22J0552	812-70-4	0.04	ug/mL
8:2FTS	22J0552	39108-34-4	0.0384	ug/mL
9CL-PF3ONS	22J0552	756426-58-1	0.0187	ug/mL
ADONA	22J0552	919005-14-4	0.0189	ug/mL
HFPO-DA	22J0552	13252-13-6	0.02	ug/mL
NETFOSA	22J0552	4151-50-2	0.04	ug/mL
NETFOSAA	22J0552	2991-50-6	0.01	ug/mL
NETFOSE	22J0552	1691-99-2	0.04	ug/mL
NFDHA	22J0552	151772-58-6	0.02	ug/mL
NMeFOSA	22J0552	31506-32-8	0.04	ug/mL
NMeFOSAA	22J0552	2355-31-9	0.01	ug/mL
NMeFOSE	22J0552	24448-09-7	0.04	ug/mL
PFBA	22J0552	375-22-4	0.04	ug/mL
PFBS	22J0552	375-73-5	0.00885	ug/mL
PFDA	22J0552	335-76-2	0.01	ug/mL
PFDOA	22J0552	307-55-1	0.01	ug/mL
PFDOS	22J0552	79780-39-5	0.0097	ug/mL
PFDS	22J0552	335-77-3	0.00965	ug/mL
PFEESA	22J0552	113507-82-7	0.0178	ug/mL
PFHPA	22J0552	375-85-9	0.01	ug/mL
PFHPS	22J0552	375-92-8	0.00955	ug/mL
PFHXA	22J0552	307-24-4	0.01	ug/mL
PFHXS	22J0552	355-46-4	0.00915	ug/mL
PFMBA	22J0552	863090-89-5	0.02	ug/mL
PFMPA	22J0552	377-73-1	0.02	ug/mL
PFNA	22J0552	375-95-1	0.01	ug/mL
PFNS	22J0552	68259-12-1	0.0096	ug/mL
PFOA	22J0552	335-67-1	0.01	ug/mL
PFOS	22J0552	1763-23-1	0.0093	ug/mL
PFOSA	22J0552	754-91-6	0.01	ug/mL
PFPEA	22J0552	2706-90-3	0.02	ug/mL
PFPEs	22J0552	630402-22-1	0.0094	ug/mL
PFTEDA	22J0552	376-06-7	0.01	ug/mL
PFTRDA	22J0552	72629-94-8	0.01	ug/mL
PFUnA	22J0552	2058-94-8	0.01	ug/mL



# Analytical Standard Record

**22K0039****Parent Standards used:**

<b>Standard</b>	<b>Description</b>	<b>Prepared</b>	<b>Prepared By</b>	<b>Lot Nbr</b>	<b>Expires</b>	<b>Last Edit</b>	<b>(mls)</b>
22J0552	PFAS - MIX 1633 200ng/mL	10/31/2022	In house	x	01/11/2025	10/31/2022 15:40 by DAG	0.5

# Analytical Standard Record

**22K0055**

Description:	MPFAC-HIF-ES-EIS	Expires:	08/02/2025
Standard Type:	Other	Prepared:	11/02/2022
Solvent:	meoh	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	11/02/2022 15:37 by DAG

Analyte	Parent	CAS Number	Concentration	Units
13C2-4:2FTS		13C2-4:2FTS	1	ug/mL
13C2-6:2FTS		13C2-6:2FTS	1	ug/mL
13C2-8:2FTS		13C2-8:2FTS	1	ug/mL
13C2-PFDOA		13C2-PFDOA	0.25	ug/mL
13C2-PFTEDA		13C2-PFTEDA	0.25	ug/mL
13C3-HFPO-DA		13C3-HFPO-DA	2	ug/mL
13C3-PFBS		13C3-PFBS	0.5	ug/mL
13C3-PFHXS		13C3-PFHXS	0.5	ug/mL
13C4-PFBA		13C4-PFBA	2	ug/mL
13C4-PFHPA		13C4-PFHPA	0.5	ug/mL
13C5-PFHXA		13C5-PFHXA	0.5	ug/mL
13C5-PFPEA		13C5-PFPEA	1	ug/mL
13C6-PFDA		13C6-PFDA	0.25	ug/mL
13C7-PFUnA		13C7-PFUDA	0.25	ug/mL
13C8-PFOA		13C8-PFOA	0.5	ug/mL
13C8-PFOS		13C8-PFOS	0.5	ug/mL
13C8-PFOSA		13C8-PFOSA	0.5	ug/mL
13C9-PFNA		13C9-PFNA	0.25	ug/mL
D3-NMEFOSA		D3-NMEFOSA	0.5	ug/mL
D3-NMEFOSAA		D3-NMEFOSAA	1	ug/mL
D5-NETFOSA		D5-NETFOSA	0.5	ug/mL
D5-NETFOSAA		D5-NETFOSAA	1	ug/mL
D7-NMEFOSE		D7-NMEFOSE	5	ug/mL
D9-NETFOSSE		D9-NETFOSSE	5	ug/mL

# Analytical Standard Record

**22K0055**

Description:	MPFAC-HIF-ES-EIS	Expires:	08/02/2025
Standard Type:	Other	Prepared:	07/20/2022
Solvent:	meoh	Prepared By:	Wellington Laboratories (Lot#: MPFACHIFES0822)
Final Volume (mls):	1.2	Department:	MPFACHIFES0822)
Vials:	1	Last Edit:	11/04/2022 10:46 by DAG

Analyte	Parent	CAS Number	Concentration	Units
13C2-4:2FTS		13C2-4:2FTS	1	ug/mL
13C2-6:2FTS		13C2-6:2FTS	1	ug/mL
13C2-8:2FTS		13C2-8:2FTS	1	ug/mL
13C2-PFDOA		13C2-PFDOA	0.25	ug/mL
13C2-PFTEDA		13C2-PFTEDA	0.25	ug/mL
13C3-HFPO-DA		13C3-HFPO-DA	2	ug/mL
13C3-PFBS		13C3-PFBS	0.5	ug/mL
13C3-PFHXS		13C3-PFHXS	0.5	ug/mL
13C4-PFBA		13C4-PFBA	2	ug/mL
13C4-PFHPA		13C4-PFHPA	0.5	ug/mL
13C5-PFHXA		13C5-PFHXA	0.5	ug/mL
13C5-PFPEA		13C5-PFPEA	1	ug/mL
13C6-PFDA		13C6-PFDA	0.25	ug/mL
13C7-PFUnA		13C7-PFUDA	0.25	ug/mL
13C8-PFOA		13C8-PFOA	0.5	ug/mL
13C8-PFOS		13C8-PFOS	0.5	ug/mL
13C8-PFOSA		13C8-PFOSA	0.5	ug/mL
13C9-PFNA		13C9-PFNA	0.25	ug/mL
D3-NMEFOSA		D3-NMEFOSA	0.5	ug/mL
D3-NMEFOSAA		D3-NMEFOSAA	1	ug/mL
D5-NETFOSA		D5-NETFOSA	0.5	ug/mL
D5-NETFOSAA		D5-NETFOSAA	1	ug/mL
D7-NMEFOSE		D7-NMEFOSE	5	ug/mL
D9-NETFOSSE		D9-NETFOSSE	5	ug/mL



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### MPFAC-HIF-ES

#### Mass-Labelled PFAS Extraction Standard Solution/Mixture

<b><u>PRODUCT CODE:</u></b>	MPFAC-HIF-ES
<b><u>LOT NUMBER:</u></b>	MPFACHIFES0822
<b><u>SOLVENT(S):</u></b>	Methanol/Isopropanol (1%)/Water (<1%)
<b><u>DATE PREPARED:</u></b> (mm/dd/yyyy)	07/20/2022
<b><u>LAST TESTED:</u></b> (mm/dd/yyyy)	08/02/2022
<b><u>EXPIRY DATE:</u></b> (mm/dd/yyyy)	08/02/2025
<b><u>RECOMMENDED STORAGE:</u></b>	Refrigerate ampoule

#### **DESCRIPTION:**

MPFAC-HIF-ES is a solution/mixture of ten mass-labelled ( $^{13}\text{C}$ ) perfluoroalkylcarboxylic acids ( $\text{C}_4$ - $\text{C}_{12}$ ,  $\text{C}_{14}$ ), three mass-labelled ( $^{13}\text{C}$ ) perfluoroalkanesulfonates ( $\text{C}_4$ ,  $\text{C}_6$ , and  $\text{C}_8$ ), three mass-labelled (one  $^{13}\text{C}$  and two  $^2\text{H}$ ) perfluoro-1-octanesulfonamides, three mass-labelled ( $^{13}\text{C}$ ) fluorotelomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled ( $^2\text{H}$ ) perfluorooctanesulfonamidoacetic acids, two mass-labelled ( $^2\text{H}$ ) perfluorooctanesulfonamidoethanols, and mass-labelled ( $^{13}\text{C}$ ) hexafluoropropylene oxide dimer acid (GenX, M3HFPO-DA). The components and their concentrations are given in Table A.

The individual  $^{13}\text{C}$ -labelled components all have chemical purities >98% and isotopic purities of  $\geq 99\%$ . The individual  $^2\text{H}$ -labelled components all have chemical purities >98% and isotopic purities of  $\geq 98\%$ .

#### **DOCUMENTATION/ DATA ATTACHED:**

Table A: Components and Concentrations of the Solution/Mixture  
 Figure 1: LC/MS Data (SIR)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

#### **ADDITIONAL INFORMATION:**

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.


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**Table A: MPFAC-HIF-ES; Components and Concentrations**  
(ng/mL, ± 5% in methanol/isopropanol (1%)/water (<1%))

Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-n-( <sup>13</sup> C <sub>4</sub> )butanoic acid	MPFBA	2000		1
Perfluoro-n-( <sup>13</sup> C <sub>5</sub> )pentanoic acid	M5PFPeA	1000		2
Perfluoro-n-(1,2,3,4,6- <sup>13</sup> C <sub>5</sub> )hexanoic acid	M5PFHxA	500		5
Perfluoro-n-(1,2,3,4- <sup>13</sup> C <sub>4</sub> )heptanoic acid	M4PFHpA	500		7
Perfluoro-n-( <sup>13</sup> C <sub>8</sub> )octanoic acid	M8PFOA	500		10
Perfluoro-n-( <sup>13</sup> C <sub>9</sub> )nonanoic acid	M9PFNA	250		11
Perfluoro-n-(1,2,3,4,5,6- <sup>13</sup> C <sub>6</sub> )decanoic acid	M6PFDA	250		14
Perfluoro-n-(1,2,3,4,5,6,7- <sup>13</sup> C <sub>7</sub> )undecanoic acid	M7PFUdA	250		17
Perfluoro-n-(1,2- <sup>13</sup> C <sub>2</sub> )dodecanoic acid	MPFD <sub>o</sub> A	250		19
Perfluoro-n-(1,2- <sup>13</sup> C <sub>2</sub> )tetradecanoic acid	M2PFTeDA	250		23
Perfluoro-1-( <sup>13</sup> C <sub>8</sub> )octanesulfonamide	M8FOSA	500		18
N-methyl-d <sub>3</sub> -perfluoro-1-octanesulfonamide	d-N-MeFOSA	500		21
N-ethyl-d <sub>5</sub> -perfluoro-1-octanesulfonamide	d-N-EtFOSA	500		24
N-methyl-d <sub>3</sub> -perfluoro-1-octanesulfonamidoacetic acid	d3-N-MeFOSAA	1000		15
N-ethyl-d <sub>5</sub> -perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	1000		16
2-(N-methyl-d <sub>3</sub> -perfluoro-1-octanesulfonamido)ethan-d <sub>4</sub> -ol	d7-N-MeFOSE	5000		20
2-(N-ethyl-d <sub>5</sub> -perfluoro-1-octanesulfonamido)ethan-d <sub>4</sub> -ol	d9-N-EtFOSE	5000		22
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)( <sup>13</sup> C <sub>3</sub> )propanoic acid	M3HFPO-DA	2000		6
Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Sodium perfluoro-1-(2,3,4- <sup>13</sup> C <sub>3</sub> )butanesulfonate	M3PFBS	500	466	3
Sodium perfluoro-1-(1,2,3- <sup>13</sup> C <sub>3</sub> )hexanesulfonate	M3PFHxS	500	474	8
Sodium perfluoro-1-( <sup>13</sup> C <sub>8</sub> )octanesulfonate	M8PFOS	500	479	12
Sodium 1H,1H,2H,2H-perfluoro-(1,2- <sup>13</sup> C <sub>2</sub> )hexanesulfonate	M2-4:2FTS	1000	938	4
Sodium 1H,1H,2H,2H-perfluoro-(1,2- <sup>13</sup> C <sub>2</sub> )octanesulfonate	M2-6:2FTS	1000	951	9
Sodium 1H,1H,2H,2H-perfluoro-(1,2- <sup>13</sup> C <sub>2</sub> )decanesulfonate	M2-8:2FTS	1000	960	13

\* Concentrations have been rounded to three significant figures.

Certified By:   
B.G. Chittim, General Manager

Date: 08/02/2022  
(mm/dd/yyyy)



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### MPFAC-HIF-ES

#### Mass-Labelled PFAS Extraction Standard Solution/Mixture

<b><u>PRODUCT CODE:</u></b>	MPFAC-HIF-ES
<b><u>LOT NUMBER:</u></b>	MPFACHIFES0822
<b><u>SOLVENT(S):</u></b>	Methanol/Isopropanol (1%)/Water (<1%)
<b><u>DATE PREPARED:</u></b> (mm/dd/yyyy)	07/20/2022
<b><u>LAST TESTED:</u></b> (mm/dd/yyyy)	08/02/2022
<b><u>EXPIRY DATE:</u></b> (mm/dd/yyyy)	08/02/2025
<b><u>RECOMMENDED STORAGE:</u></b>	Refrigerate ampoule

#### **DESCRIPTION:**

MPFAC-HIF-ES is a solution/mixture of ten mass-labelled ( $^{13}\text{C}$ ) perfluoroalkylcarboxylic acids ( $\text{C}_4$ - $\text{C}_{12}$ ,  $\text{C}_{14}$ ), three mass-labelled ( $^{13}\text{C}$ ) perfluoroalkanesulfonates ( $\text{C}_4$ ,  $\text{C}_6$ , and  $\text{C}_8$ ), three mass-labelled (one  $^{13}\text{C}$  and two  $^2\text{H}$ ) perfluoro-1-octanesulfonamides, three mass-labelled ( $^{13}\text{C}$ ) fluorotelomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled ( $^2\text{H}$ ) perfluorooctanesulfonamidoacetic acids, two mass-labelled ( $^2\text{H}$ ) perfluorooctanesulfonamidoethanols, and mass-labelled ( $^{13}\text{C}$ ) hexafluoropropylene oxide dimer acid (GenX, M3HFPO-DA). The components and their concentrations are given in Table A.

The individual  $^{13}\text{C}$ -labelled components all have chemical purities >98% and isotopic purities of  $\geq 99\%$ . The individual  $^2\text{H}$ -labelled components all have chemical purities >98% and isotopic purities of  $\geq 98\%$ .

#### **DOCUMENTATION/ DATA ATTACHED:**

Table A: Components and Concentrations of the Solution/Mixture  
Figure 1: LC/MS Data (SIR)  
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

#### **ADDITIONAL INFORMATION:**

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.


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**Table A: MPFAC-HIF-ES; Components and Concentrations**  
(ng/mL, ± 5% in methanol/isopropanol (1%)/water (<1%))

Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-n-( <sup>13</sup> C <sub>4</sub> )butanoic acid	MPFBA	2000		1
Perfluoro-n-( <sup>13</sup> C <sub>5</sub> )pentanoic acid	M5PFPeA	1000		2
Perfluoro-n-(1,2,3,4,6- <sup>13</sup> C <sub>5</sub> )hexanoic acid	M5PFHxA	500		5
Perfluoro-n-(1,2,3,4- <sup>13</sup> C <sub>4</sub> )heptanoic acid	M4PFHpA	500		7
Perfluoro-n-( <sup>13</sup> C <sub>8</sub> )octanoic acid	M8PFOA	500		10
Perfluoro-n-( <sup>13</sup> C <sub>9</sub> )nonanoic acid	M9PFNA	250		11
Perfluoro-n-(1,2,3,4,5,6- <sup>13</sup> C <sub>6</sub> )decanoic acid	M6PFDA	250		14
Perfluoro-n-(1,2,3,4,5,6,7- <sup>13</sup> C <sub>7</sub> )undecanoic acid	M7PFUdA	250		17
Perfluoro-n-(1,2- <sup>13</sup> C <sub>2</sub> )dodecanoic acid	MPFD <sub>o</sub> A	250		19
Perfluoro-n-(1,2- <sup>13</sup> C <sub>2</sub> )tetradecanoic acid	M2PFTeDA	250		23
Perfluoro-1-( <sup>13</sup> C <sub>8</sub> )octanesulfonamide	M8FOSA	500		18
N-methyl-d <sub>3</sub> -perfluoro-1-octanesulfonamide	d-N-MeFOSA	500		21
N-ethyl-d <sub>5</sub> -perfluoro-1-octanesulfonamide	d-N-EtFOSA	500		24
N-methyl-d <sub>3</sub> -perfluoro-1-octanesulfonamidoacetic acid	d3-N-MeFOSAA	1000		15
N-ethyl-d <sub>5</sub> -perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	1000		16
2-(N-methyl-d <sub>3</sub> -perfluoro-1-octanesulfonamido)ethan-d <sub>4</sub> -ol	d7-N-MeFOSE	5000		20
2-(N-ethyl-d <sub>5</sub> -perfluoro-1-octanesulfonamido)ethan-d <sub>4</sub> -ol	d9-N-EtFOSE	5000		22
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)( <sup>13</sup> C <sub>3</sub> )propanoic acid	M3HFPO-DA	2000		6
Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Sodium perfluoro-1-(2,3,4- <sup>13</sup> C <sub>3</sub> )butanesulfonate	M3PFBS	500	466	3
Sodium perfluoro-1-(1,2,3- <sup>13</sup> C <sub>3</sub> )hexanesulfonate	M3PFHxS	500	474	8
Sodium perfluoro-1-( <sup>13</sup> C <sub>8</sub> )octanesulfonate	M8PFOS	500	479	12
Sodium 1H,1H,2H,2H-perfluoro-(1,2- <sup>13</sup> C <sub>2</sub> )hexanesulfonate	M2-4:2FTS	1000	938	4
Sodium 1H,1H,2H,2H-perfluoro-(1,2- <sup>13</sup> C <sub>2</sub> )octanesulfonate	M2-6:2FTS	1000	951	9
Sodium 1H,1H,2H,2H-perfluoro-(1,2- <sup>13</sup> C <sub>2</sub> )decanesulfonate	M2-8:2FTS	1000	960	13

\* Concentrations have been rounded to three significant figures.

Certified By:   
B.G. Chittim, General Manager

Date: 08/02/2022  
(mm/dd/yyyy)



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### MPFAC-HIF-ES

#### Mass-Labelled PFAS Extraction Standard Solution/Mixture

<b><u>PRODUCT CODE:</u></b>	MPFAC-HIF-ES
<b><u>LOT NUMBER:</u></b>	MPFACHIFES0822
<b><u>SOLVENT(S):</u></b>	Methanol/Isopropanol (1%)/Water (<1%)
<b><u>DATE PREPARED:</u></b> (mm/dd/yyyy)	07/20/2022
<b><u>LAST TESTED:</u></b> (mm/dd/yyyy)	08/02/2022
<b><u>EXPIRY DATE:</u></b> (mm/dd/yyyy)	08/02/2025
<b><u>RECOMMENDED STORAGE:</u></b>	Refrigerate ampoule

#### **DESCRIPTION:**

MPFAC-HIF-ES is a solution/mixture of ten mass-labelled ( $^{13}\text{C}$ ) perfluoroalkylcarboxylic acids ( $\text{C}_4$ - $\text{C}_{12}$ ,  $\text{C}_{14}$ ), three mass-labelled ( $^{13}\text{C}$ ) perfluoroalkanesulfonates ( $\text{C}_4$ ,  $\text{C}_6$ , and  $\text{C}_8$ ), three mass-labelled (one  $^{13}\text{C}$  and two  $^2\text{H}$ ) perfluoro-1-octanesulfonamides, three mass-labelled ( $^{13}\text{C}$ ) fluorotelomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled ( $^2\text{H}$ ) perfluorooctanesulfonamidoacetic acids, two mass-labelled ( $^2\text{H}$ ) perfluorooctanesulfonamidoethanols, and mass-labelled ( $^{13}\text{C}$ ) hexafluoropropylene oxide dimer acid (GenX, M3HFPO-DA). The components and their concentrations are given in Table A.

The individual  $^{13}\text{C}$ -labelled components all have chemical purities >98% and isotopic purities of  $\geq 99\%$ . The individual  $^2\text{H}$ -labelled components all have chemical purities >98% and isotopic purities of  $\geq 98\%$ .

#### **DOCUMENTATION/ DATA ATTACHED:**

Table A: Components and Concentrations of the Solution/Mixture  
Figure 1: LC/MS Data (SIR)  
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

#### **ADDITIONAL INFORMATION:**

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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**Table A: MPFAC-HIF-ES; Components and Concentrations**  
(ng/mL, ± 5% in methanol/isopropanol (1%)/water (<1%))

Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-n-( <sup>13</sup> C <sub>4</sub> )butanoic acid	MPFBA	2000		1
Perfluoro-n-( <sup>13</sup> C <sub>5</sub> )pentanoic acid	M5PFPeA	1000		2
Perfluoro-n-(1,2,3,4,6- <sup>13</sup> C <sub>5</sub> )hexanoic acid	M5PFHxA	500		5
Perfluoro-n-(1,2,3,4- <sup>13</sup> C <sub>4</sub> )heptanoic acid	M4PFHpA	500		7
Perfluoro-n-( <sup>13</sup> C <sub>8</sub> )octanoic acid	M8PFOA	500		10
Perfluoro-n-( <sup>13</sup> C <sub>9</sub> )nonanoic acid	M9PFNA	250		11
Perfluoro-n-(1,2,3,4,5,6- <sup>13</sup> C <sub>6</sub> )decanoic acid	M6PFDA	250		14
Perfluoro-n-(1,2,3,4,5,6,7- <sup>13</sup> C <sub>7</sub> )undecanoic acid	M7PFUdA	250		17
Perfluoro-n-(1,2- <sup>13</sup> C <sub>2</sub> )dodecanoic acid	MPFD <sub>o</sub> A	250		19
Perfluoro-n-(1,2- <sup>13</sup> C <sub>2</sub> )tetradecanoic acid	M2PFTeDA	250		23
Perfluoro-1-( <sup>13</sup> C <sub>8</sub> )octanesulfonamide	M8FOSA	500		18
N-methyl-d <sub>3</sub> -perfluoro-1-octanesulfonamide	d-N-MeFOSA	500		21
N-ethyl-d <sub>5</sub> -perfluoro-1-octanesulfonamide	d-N-EtFOSA	500		24
N-methyl-d <sub>3</sub> -perfluoro-1-octanesulfonamidoacetic acid	d3-N-MeFOSAA	1000		15
N-ethyl-d <sub>5</sub> -perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	1000		16
2-(N-methyl-d <sub>3</sub> -perfluoro-1-octanesulfonamido)ethan-d <sub>4</sub> -ol	d7-N-MeFOSE	5000		20
2-(N-ethyl-d <sub>5</sub> -perfluoro-1-octanesulfonamido)ethan-d <sub>4</sub> -ol	d9-N-EtFOSE	5000		22
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)( <sup>13</sup> C <sub>3</sub> )propanoic acid	M3HFPO-DA	2000		6
Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Sodium perfluoro-1-(2,3,4- <sup>13</sup> C <sub>3</sub> )butanesulfonate	M3PFBS	500	466	3
Sodium perfluoro-1-(1,2,3- <sup>13</sup> C <sub>3</sub> )hexanesulfonate	M3PFHxS	500	474	8
Sodium perfluoro-1-( <sup>13</sup> C <sub>8</sub> )octanesulfonate	M8PFOS	500	479	12
Sodium 1H,1H,2H,2H-perfluoro-(1,2- <sup>13</sup> C <sub>2</sub> )hexanesulfonate	M2-4:2FTS	1000	938	4
Sodium 1H,1H,2H,2H-perfluoro-(1,2- <sup>13</sup> C <sub>2</sub> )octanesulfonate	M2-6:2FTS	1000	951	9
Sodium 1H,1H,2H,2H-perfluoro-(1,2- <sup>13</sup> C <sub>2</sub> )decanesulfonate	M2-8:2FTS	1000	960	13

\* Concentrations have been rounded to three significant figures.

Certified By:   
B.G. Chittim, General Manager

Date: 08/02/2022  
(mm/dd/yyyy)

# Analytical Standard Record

**22K0097**

Description:	MPFAC-HIF-ES-EIS	Expires:	08/02/2025
Standard Type:	Other	Prepared:	07/20/2022
Solvent:	meoh	Prepared By:	Wellington Laboratories (Lot#: MPFACHIFES0822)
Final Volume (mls):	1.2	Department:	MPFACHIFES0822)
Vials:	1	Last Edit:	11/04/2022 10:47 by DAG

Analyte	Parent	CAS Number	Concentration	Units
13C2-4:2FTS		13C2-4:2FTS	1	ug/mL
13C2-6:2FTS		13C2-6:2FTS	1	ug/mL
13C2-8:2FTS		13C2-8:2FTS	1	ug/mL
13C2-PFDOA		13C2-PFDOA	0.25	ug/mL
13C2-PFTEDA		13C2-PFTEDA	0.25	ug/mL
13C3-HFPO-DA		13C3-HFPO-DA	2	ug/mL
13C3-PFBS		13C3-PFBS	0.5	ug/mL
13C3-PFHXS		13C3-PFHXS	0.5	ug/mL
13C4-PFBA		13C4-PFBA	2	ug/mL
13C4-PFHPA		13C4-PFHPA	0.5	ug/mL
13C5-PFHXA		13C5-PFHXA	0.5	ug/mL
13C5-PFPEA		13C5-PFPEA	1	ug/mL
13C6-PFDA		13C6-PFDA	0.25	ug/mL
13C7-PFUnA		13C7-PFUDA	0.25	ug/mL
13C8-PFOA		13C8-PFOA	0.5	ug/mL
13C8-PFOS		13C8-PFOS	0.5	ug/mL
13C8-PFOSA		13C8-PFOSA	0.5	ug/mL
13C9-PFNA		13C9-PFNA	0.25	ug/mL
D3-NMEFOSA		D3-NMEFOSA	0.5	ug/mL
D3-NMEFOSAA		D3-NMEFOSAA	1	ug/mL
D5-NETFOSA		D5-NETFOSA	0.5	ug/mL
D5-NETFOSAA		D5-NETFOSAA	1	ug/mL
D7-NMEFOSE		D7-NMEFOSE	5	ug/mL
D9-NETFOSSE		D9-NETFOSSE	5	ug/mL



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### MPFAC-HIF-ES

#### Mass-Labelled PFAS Extraction Standard Solution/Mixture

<b><u>PRODUCT CODE:</u></b>	MPFAC-HIF-ES
<b><u>LOT NUMBER:</u></b>	MPFACHIFES0822
<b><u>SOLVENT(S):</u></b>	Methanol/Isopropanol (1%)/Water (<1%)
<b><u>DATE PREPARED:</u></b> (mm/dd/yyyy)	07/20/2022
<b><u>LAST TESTED:</u></b> (mm/dd/yyyy)	08/02/2022
<b><u>EXPIRY DATE:</u></b> (mm/dd/yyyy)	08/02/2025
<b><u>RECOMMENDED STORAGE:</u></b>	Refrigerate ampoule

#### **DESCRIPTION:**

MPFAC-HIF-ES is a solution/mixture of ten mass-labelled ( $^{13}\text{C}$ ) perfluoroalkylcarboxylic acids ( $\text{C}_4$ - $\text{C}_{12}$ ,  $\text{C}_{14}$ ), three mass-labelled ( $^{13}\text{C}$ ) perfluoroalkanesulfonates ( $\text{C}_4$ ,  $\text{C}_6$ , and  $\text{C}_8$ ), three mass-labelled (one  $^{13}\text{C}$  and two  $^2\text{H}$ ) perfluoro-1-octanesulfonamides, three mass-labelled ( $^{13}\text{C}$ ) fluorotelomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled ( $^2\text{H}$ ) perfluorooctanesulfonamidoacetic acids, two mass-labelled ( $^2\text{H}$ ) perfluorooctanesulfonamidoethanols, and mass-labelled ( $^{13}\text{C}$ ) hexafluoropropylene oxide dimer acid (GenX, M3HFPO-DA). The components and their concentrations are given in Table A.

The individual  $^{13}\text{C}$ -labelled components all have chemical purities >98% and isotopic purities of  $\geq 99\%$ . The individual  $^2\text{H}$ -labelled components all have chemical purities >98% and isotopic purities of  $\geq 98\%$ .

#### **DOCUMENTATION/ DATA ATTACHED:**

Table A: Components and Concentrations of the Solution/Mixture  
Figure 1: LC/MS Data (SIR)  
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

#### **ADDITIONAL INFORMATION:**

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.


**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

**Table A: MPFAC-HIF-ES; Components and Concentrations**  
(ng/mL, ± 5% in methanol/isopropanol (1%)/water (<1%))

Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-n-( <sup>13</sup> C <sub>4</sub> )butanoic acid	MPFBA	2000		1
Perfluoro-n-( <sup>13</sup> C <sub>5</sub> )pentanoic acid	M5PFPeA	1000		2
Perfluoro-n-(1,2,3,4,6- <sup>13</sup> C <sub>5</sub> )hexanoic acid	M5PFHxA	500		5
Perfluoro-n-(1,2,3,4- <sup>13</sup> C <sub>4</sub> )heptanoic acid	M4PFHpA	500		7
Perfluoro-n-( <sup>13</sup> C <sub>8</sub> )octanoic acid	M8PFOA	500		10
Perfluoro-n-( <sup>13</sup> C <sub>9</sub> )nonanoic acid	M9PFNA	250		11
Perfluoro-n-(1,2,3,4,5,6- <sup>13</sup> C <sub>6</sub> )decanoic acid	M6PFDA	250		14
Perfluoro-n-(1,2,3,4,5,6,7- <sup>13</sup> C <sub>7</sub> )undecanoic acid	M7PFUdA	250		17
Perfluoro-n-(1,2- <sup>13</sup> C <sub>2</sub> )dodecanoic acid	MPFD <sub>o</sub> A	250		19
Perfluoro-n-(1,2- <sup>13</sup> C <sub>2</sub> )tetradecanoic acid	M2PFTeDA	250		23
Perfluoro-1-( <sup>13</sup> C <sub>8</sub> )octanesulfonamide	M8FOSA	500		18
N-methyl-d <sub>3</sub> -perfluoro-1-octanesulfonamide	d-N-MeFOSA	500		21
N-ethyl-d <sub>5</sub> -perfluoro-1-octanesulfonamide	d-N-EtFOSA	500		24
N-methyl-d <sub>3</sub> -perfluoro-1-octanesulfonamidoacetic acid	d3-N-MeFOSAA	1000		15
N-ethyl-d <sub>5</sub> -perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	1000		16
2-(N-methyl-d <sub>3</sub> -perfluoro-1-octanesulfonamido)ethan-d <sub>4</sub> -ol	d7-N-MeFOSE	5000		20
2-(N-ethyl-d <sub>5</sub> -perfluoro-1-octanesulfonamido)ethan-d <sub>4</sub> -ol	d9-N-EtFOSE	5000		22
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)( <sup>13</sup> C <sub>3</sub> )propanoic acid	M3HFPO-DA	2000		6
Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Sodium perfluoro-1-(2,3,4- <sup>13</sup> C <sub>3</sub> )butanesulfonate	M3PFBS	500	466	3
Sodium perfluoro-1-(1,2,3- <sup>13</sup> C <sub>3</sub> )hexanesulfonate	M3PFHxS	500	474	8
Sodium perfluoro-1-( <sup>13</sup> C <sub>8</sub> )octanesulfonate	M8PFOS	500	479	12
Sodium 1H,1H,2H,2H-perfluoro-(1,2- <sup>13</sup> C <sub>2</sub> )hexanesulfonate	M2-4:2FTS	1000	938	4
Sodium 1H,1H,2H,2H-perfluoro-(1,2- <sup>13</sup> C <sub>2</sub> )octanesulfonate	M2-6:2FTS	1000	951	9
Sodium 1H,1H,2H,2H-perfluoro-(1,2- <sup>13</sup> C <sub>2</sub> )decanesulfonate	M2-8:2FTS	1000	960	13

\* Concentrations have been rounded to three significant figures.

Certified By:   
B.G. Chittim, General Manager

Date: 08/02/2022  
(mm/dd/yyyy)

# Analytical Standard Record

22K0502

Description:	PFAS IIS 7C 40ng/mL	Expires:	01/20/2023
Standard Type:	Internal Standard	Prepared:	11/28/2022
Solvent:	MeOH/62286	Prepared By:	Dipti Gokal
Final Volume (mls):	25	Department:	PFAS
Vials:	1	Last Edit:	11/28/2022 15:10 by DAG

Analyte	Parent	CAS Number	Concentration	Units
13C2-PFDA	22A0234	13C2-PFDA	0.04	ug/mL
13C2-PFHXA	22A0234	13C2-PFHxA	0.04	ug/mL
13C3-PFBA	22A0234	13C3-PFBA	0.04	ug/mL
13C4-PFOA	22A0234	13C4-PFOA	0.04	ug/mL
13C4-PFOS	22A0234	13C4-PFOS	0.04	ug/mL
13C5-PFNA	22A0234	13C5-PFNA	0.04	ug/mL
18O2-PFHXS	22A0234	18O2-PFHXS	0.04	ug/mL

### Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mls)
22A0234	PFAS IIS 7C 5ug/mL	01/20/2022	In house	*	01/20/2023	01/20/2022 15:49	by HGH 0.2

# Analytical Standard Record

22K0503

Description:	1633- IIS Static 1ng/mL	Expires:	01/20/2023
Standard Type:	Internal Standard	Prepared:	11/28/2022
Solvent:	MeOH/62286	Prepared By:	Dipti Gokal
Final Volume (mL):	2	Department:	PFAS
Vials:	1	Last Edit:	11/28/2022 15:11 by DAG

Analyte	Parent	CAS Number	Concentration	Units
13C2-PFDA	22K0502	13C2-PFDA	0.001	ug/mL
13C2-PFHXA	22K0502	13C2-PFHxA	0.001	ug/mL
13C3-PFBA	22K0502	13C3-PFBA	0.001	ug/mL
13C4-PFOA	22K0502	13C4-PFOA	0.001	ug/mL
13C4-PFOS	22K0502	13C4-PFOS	0.001	ug/mL
13C5-PFNA	22K0502	13C5-PFNA	0.001	ug/mL
18O2-PFHXS	22K0502	18O2-PFHXS	0.001	ug/mL

**Parent Standards used:**

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mL)
22K0502	PFAS IIS 7C 40ng/mL	11/28/2022	In house	*	01/20/2023	11/28/2022 15:10 by DAG	0.05

# Analytical Standard Record

**22L0020**

Description:	MPFAC-HIF-ES 20.0ng/mL	Expires:	05/30/2023
Standard Type:	Surrogate Spike	Prepared:	12/01/2022
Solvent:	MeOH/62244	Prepared By:	Andonios Karas
Final Volume (mls):	10	Department:	PFAS
Vials:	1	Last Edit:	12/01/2022 17:40 by ABK
Comments:	Half the concentration of previous EIS solution used for 1633/B-15. Double the spiking volume from 100 uL to 200 uL		

Analyte	Parent	CAS Number	Concentration	Units
13C2-4:2FTS	22K0055	13C2-4:2FTS	0.04	ug/mL
13C2-6:2FTS	22K0055	13C2-6:2FTS	0.04	ug/mL
13C2-8:2FTS	22K0055	13C2-8:2FTS	0.04	ug/mL
13C2-PFDOA	22K0055	13C2-PFDOA	0.01	ug/mL
13C2-PFTEDA	22K0055	13C2-PFTEDA	0.01	ug/mL
13C3-HFPO-DA	22K0055	13C3-HFPO-DA	0.08	ug/mL
13C3-PFBS	22K0055	13C3-PFBS	0.02	ug/mL
13C3-PFHXS	22K0055	13C3-PFHXS	0.02	ug/mL
13C4-PFBA	22K0055	13C4-PFBA	0.08	ug/mL
13C4-PFHPA	22K0055	13C4-PFHPA	0.02	ug/mL
13C5-PFHXA	22K0055	13C5-PFHXA	0.02	ug/mL
13C5-PFPEA	22K0055	13C5-PFPEA	0.04	ug/mL
13C6-PFDA	22K0055	13C6-PFDA	0.01	ug/mL
13C7-PFUhA	22K0055	13C7-PFUJA	0.01	ug/mL
13C8-PFOA	22K0055	13C8-PFOA	0.02	ug/mL
13C8-PFOS	22K0055	13C8-PFOS	0.02	ug/mL
13C8-PFOSA	22K0055	13C8-PFOSA	0.02	ug/mL
13C9-PFNA	22K0055	13C9-PFNA	0.01	ug/mL
D3-NMEFOSA	22K0055	D3-NMEFOSA	0.02	ug/mL
D3-NMEFOSAA	22K0055	D3-NMEFOSAA	0.04	ug/mL
D5-NETFOSA	22K0055	D5-NETFOSA	0.02	ug/mL
D5-NETFOSAA	22K0055	D5-NETFOSAA	0.04	ug/mL
D7-NMEFOSE	22K0055	D7-NMEFOSE	0.2	ug/mL
D9-NETFOSSE	22K0055	D9-NETFOSSE	0.2	ug/mL

**Parent Standards used:**

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mls)
22K0055	MPFAC-HIF-ES-EIS	07/20/2022	Wellington Laboratories	MPFACHIFES0822	08/02/2025	11/04/2022 12:15 by DAG	0.4

# Analytical Standard Record

**22L0117**

Description:	MPFAC-HIF-ES 20.0ng/mL	Expires:	06/05/2023
Standard Type:	Surrogate Spike	Prepared:	12/07/2022
Solvent:	MeOH/62244	Prepared By:	Dipti Gokal
Final Volume (mls):	10	Department:	PFAS
Vials:	3	Last Edit:	12/07/2022 10:55 by DAG
Comments:	Half the concentration of previous EIS solution used for 1633/B-15. Double the spiking volume from 100 uL to 200 uL		

Analyte	Parent	CAS Number	Concentration	Units
13C2-4:2FTS	22K0097	13C2-4:2FTS	0.04	ug/mL
13C2-6:2FTS	22K0097	13C2-6:2FTS	0.04	ug/mL
13C2-8:2FTS	22K0097	13C2-8:2FTS	0.04	ug/mL
13C2-PFDOA	22K0097	13C2-PFDOA	0.01	ug/mL
13C2-PFTEDA	22K0097	13C2-PFTEDA	0.01	ug/mL
13C3-HFPO-DA	22K0097	13C3-HFPO-DA	0.08	ug/mL
13C3-PFBS	22K0097	13C3-PFBS	0.02	ug/mL
13C3-PFHXS	22K0097	13C3-PFHXS	0.02	ug/mL
13C4-PFBA	22K0097	13C4-PFBA	0.08	ug/mL
13C4-PFHPA	22K0097	13C4-PFHPA	0.02	ug/mL
13C5-PFHXA	22K0097	13C5-PFHXA	0.02	ug/mL
13C5-PFPEA	22K0097	13C5-PFPEA	0.04	ug/mL
13C6-PFDA	22K0097	13C6-PFDA	0.01	ug/mL
13C7-PFU <sub>n</sub> A	22K0097	13C7-PFU <sub>n</sub> A	0.01	ug/mL
13C8-PFOA	22K0097	13C8-PFOA	0.02	ug/mL
13C8-PFOS	22K0097	13C8-PFOS	0.02	ug/mL
13C8-PFOSA	22K0097	13C8-PFOSA	0.02	ug/mL
13C9-PFNA	22K0097	13C9-PFNA	0.01	ug/mL
D3-NMEFOSA	22K0097	D3-NMEFOSA	0.02	ug/mL
D3-NMEFOSAA	22K0097	D3-NMEFOSAA	0.04	ug/mL
D5-NETFOSA	22K0097	D5-NETFOSA	0.02	ug/mL
D5-NETFOSAA	22K0097	D5-NETFOSAA	0.04	ug/mL
D7-NMEFOSE	22K0097	D7-NMEFOSE	0.2	ug/mL
D9-NETFOSAE	22K0097	D9-NETFOSAE	0.2	ug/mL

**Parent Standards used:**

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mls)
22K0097	MPFAC-HIF-ES-EIS	07/20/2022	Wellington Laboratories	MPFACHIFES0822	08/02/2025	11/04/2022 12:17 by DAG	0.4



# Analytical Standard Record

**22L0269**

Description:	PFAS - MIX 1633 10ng/mL	Expires:	06/12/2023
Standard Type:	Analyte Spike	Prepared:	12/14/2022
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	10	Department:	PFAS
Vials:	1	Last Edit:	12/14/2022 12:00 by DAG

Analyte	Parent	CAS Number	Concentration	Units
11CL-PF3OUDS	22J0552	763051-92-9	0.0189	ug/mL
3:3FTCA	22J0552	113507-82-7	0.04	ug/mL
4:2FTS	22J0552	757124-72-4	0.0375	ug/mL
5:3FTCA	22J0552	914637-49-3	0.04	ug/mL
6:2FTS	22J0552	27619-97-2	0.038	ug/mL
7:3FTCA	22J0552	812-70-4	0.04	ug/mL
8:2FTS	22J0552	39108-34-4	0.0384	ug/mL
9CL-PF3ONS	22J0552	756426-58-1	0.0187	ug/mL
ADONA	22J0552	919005-14-4	0.0189	ug/mL
HFPO-DA	22J0552	13252-13-6	0.02	ug/mL
NETFOSA	22J0552	4151-50-2	0.04	ug/mL
NETFOSAA	22J0552	2991-50-6	0.01	ug/mL
NETFOSE	22J0552	1691-99-2	0.04	ug/mL
NFDHA	22J0552	151772-58-6	0.02	ug/mL
NMeFOSA	22J0552	31506-32-8	0.04	ug/mL
NMeFOSAA	22J0552	2355-31-9	0.01	ug/mL
NMeFOSE	22J0552	24448-09-7	0.04	ug/mL
PFBA	22J0552	375-22-4	0.04	ug/mL
PFBS	22J0552	375-73-5	0.00885	ug/mL
PFDA	22J0552	335-76-2	0.01	ug/mL
PFDOA	22J0552	307-55-1	0.01	ug/mL
PFDOS	22J0552	79780-39-5	0.0097	ug/mL
PFDS	22J0552	335-77-3	0.00965	ug/mL
PFEESA	22J0552	113507-82-7	0.0178	ug/mL
PFHPA	22J0552	375-85-9	0.01	ug/mL
PFHPS	22J0552	375-92-8	0.00955	ug/mL
PFHXA	22J0552	307-24-4	0.01	ug/mL
PFHXS	22J0552	355-46-4	0.00915	ug/mL
PFMBA	22J0552	863090-89-5	0.02	ug/mL
PFMPA	22J0552	377-73-1	0.02	ug/mL
PFNA	22J0552	375-95-1	0.01	ug/mL
PFNS	22J0552	68259-12-1	0.0096	ug/mL
PFOA	22J0552	335-67-1	0.01	ug/mL
PFOS	22J0552	1763-23-1	0.0093	ug/mL
PFOSA	22J0552	754-91-6	0.01	ug/mL
PFPEA	22J0552	2706-90-3	0.02	ug/mL
PFPEs	22J0552	630402-22-1	0.0094	ug/mL
PFTEDA	22J0552	376-06-7	0.01	ug/mL
PFTRDA	22J0552	72629-94-8	0.01	ug/mL
PFUnA	22J0552	2058-94-8	0.01	ug/mL

# Analytical Standard Record

**22L0269****Parent Standards used:**

<b>Standard</b>	<b>Description</b>	<b>Prepared</b>	<b>Prepared By</b>	<b>Lot Nbr</b>	<b>Expires</b>	<b>Last Edit</b>	<b>(mls)</b>
22J0552	PFAS - MIX 1633 200ng/mL	10/31/2022	In house	x	01/11/2025	10/31/2022 15:40 by DAG	0.5

# Analytical Standard Record

**22L0272**

Description:	MPFAC-HIF-ES 20.0ng/mL	Expires:	06/12/2023
Standard Type:	Surrogate Spike	Prepared:	12/14/2022
Solvent:	MeOH/62244	Prepared By:	Andonios Karas
Final Volume (mls):	10	Department:	PFAS
Vials:	3	Last Edit:	12/14/2022 13:55 by ABK
Comments:	Half the concentration of previous EIS solution used for 1633/B-15. Double the spiking volume from 100 uL to 200 uL		

Analyte	Parent	CAS Number	Concentration	Units
13C2-4:2FTS	22K0095	13C2-4:2FTS	0.04	ug/mL
13C2-6:2FTS	22K0095	13C2-6:2FTS	0.04	ug/mL
13C2-8:2FTS	22K0095	13C2-8:2FTS	0.04	ug/mL
13C2-PFDOA	22K0095	13C2-PFDOA	0.01	ug/mL
13C2-PFTEDA	22K0095	13C2-PFTEDA	0.01	ug/mL
13C3-HFPO-DA	22K0095	13C3-HFPO-DA	0.08	ug/mL
13C3-PFBS	22K0095	13C3-PFBS	0.02	ug/mL
13C3-PFHXS	22K0095	13C3-PFHXS	0.02	ug/mL
13C4-PFBA	22K0095	13C4-PFBA	0.08	ug/mL
13C4-PFHPA	22K0095	13C4-PFHPA	0.02	ug/mL
13C5-PFHXA	22K0095	13C5-PFHXA	0.02	ug/mL
13C5-PFPEA	22K0095	13C5-PFPEA	0.04	ug/mL
13C6-PFDA	22K0095	13C6-PFDA	0.01	ug/mL
13C7-PFU <sub>n</sub> A	22K0095	13C7-PFU <sub>n</sub> A	0.01	ug/mL
13C8-PFOA	22K0095	13C8-PFOA	0.02	ug/mL
13C8-PFOS	22K0095	13C8-PFOS	0.02	ug/mL
13C8-PFOSA	22K0095	13C8-PFOSA	0.02	ug/mL
13C9-PFNA	22K0095	13C9-PFNA	0.01	ug/mL
D3-NMEFOSA	22K0095	D3-NMEFOSA	0.02	ug/mL
D3-NMEFOSAA	22K0095	D3-NMEFOSAA	0.04	ug/mL
D5-NETFOSA	22K0095	D5-NETFOSA	0.02	ug/mL
D5-NETFOSAA	22K0095	D5-NETFOSAA	0.04	ug/mL
D7-NMEFOSE	22K0095	D7-NMEFOSE	0.2	ug/mL
D9-NETFOSSE	22K0095	D9-NETFOSSE	0.2	ug/mL

**Parent Standards used:**

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mls)
22K0095	MPFAC-HIF-ES-EIS	07/20/2022	Wellington Laboratories	MPFACHIFES0822	08/02/2025	11/04/2022 12:16 by DAG	0.4

# Analytical Standard Record

**22L0359**

Description:	MPFAC-HIF-ES 20.0ng/mL	Expires:	06/19/2023
Standard Type:	Surrogate Spike	Prepared:	12/21/2022
Solvent:	MeOH/62244	Prepared By:	Dipti Gokal
Final Volume (mls):	10	Department:	PFAS
Vials:	3	Last Edit:	12/21/2022 10:46 by DAG
Comments:	Half the concentration of previous EIS solution used for 1633/B-15. Double the spiking volume from 100 uL to 200 uL		

Analyte	Parent	CAS Number	Concentration	Units
13C2-4:2FTS	22K0096	13C2-4:2FTS	0.04	ug/mL
13C2-6:2FTS	22K0096	13C2-6:2FTS	0.04	ug/mL
13C2-8:2FTS	22K0096	13C2-8:2FTS	0.04	ug/mL
13C2-PFDOA	22K0096	13C2-PFDOA	0.01	ug/mL
13C2-PFTEDA	22K0096	13C2-PFTEDA	0.01	ug/mL
13C3-HFPO-DA	22K0096	13C3-HFPO-DA	0.08	ug/mL
13C3-PFBS	22K0096	13C3-PFBS	0.02	ug/mL
13C3-PFHXS	22K0096	13C3-PFHXS	0.02	ug/mL
13C4-PFBA	22K0096	13C4-PFBA	0.08	ug/mL
13C4-PFHPA	22K0096	13C4-PFHPA	0.02	ug/mL
13C5-PFHXA	22K0096	13C5-PFHXA	0.02	ug/mL
13C5-PFPEA	22K0096	13C5-PFPEA	0.04	ug/mL
13C6-PFDA	22K0096	13C6-PFDA	0.01	ug/mL
13C7-PFU <sub>n</sub> A	22K0096	13C7-PFU <sub>n</sub> A	0.01	ug/mL
13C8-PFOA	22K0096	13C8-PFOA	0.02	ug/mL
13C8-PFOS	22K0096	13C8-PFOS	0.02	ug/mL
13C8-PFOSA	22K0096	13C8-PFOSA	0.02	ug/mL
13C9-PFNA	22K0096	13C9-PFNA	0.01	ug/mL
D3-NMEFOSA	22K0096	D3-NMEFOSA	0.02	ug/mL
D3-NMEFOSAA	22K0096	D3-NMEFOSAA	0.04	ug/mL
D5-NETFOSA	22K0096	D5-NETFOSA	0.02	ug/mL
D5-NETFOSAA	22K0096	D5-NETFOSAA	0.04	ug/mL
D7-NMEFOSE	22K0096	D7-NMEFOSE	0.2	ug/mL
D9-NETFOSSE	22K0096	D9-NETFOSSE	0.2	ug/mL

**Parent Standards used:**

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mls)
22K0096	MPFAC-HIF-ES-EIS	07/20/2022	Wellington Laboratories	MPFACHIFES0822	08/02/2025	11/04/2022 12:16 by DAG	0.4